

DEIRS Ltr#	Cmt#	Comment	Response
1600	1	<p>The California Sportfishing Protection Alliance (CSPA) worked closely with the Environmental Water Caucus (EWC) in developing their comments and incorporates by reference into these comments both submittals by the EWC on all issues related to BDCP. We also incorporate by reference the submittal by Michael Jackson on behalf of CSPA, California Water Impact Network and AquAlliance, as well as the individual comments submitted by AquAlliance. We further incorporate by reference the submittals by the County of San Joaquin, South Delta Water Agency, Central Delta Water Agency, Restore the Delta, Earth Law Center and Friends of the River.</p>	<p>Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A is also the NEPA Preferred Alternative, a designation that was not attached to any of the alternatives presented in the 2013 Public Draft EIR/EIS. Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p> <p>Please refer to all responses to submitted comments related to BDCP in which CSPA joins.</p>
1600	2	<p>The BDCP and the EIR/EIS inexplicably fail to acknowledge, analyze or discuss the presence of juvenile delta smelt in the western Delta during summer and fail to acknowledge, analyze or discuss the preferred Alternative's potential adverse impacts on juvenile delta smelt in July and August. Consequently, the BDCP and EIR/EIS are deficient and fail to comply with minimum CEQA and NEPA requirements for an environmental review document.</p> <p>Since the start of Delta export pumping by the State Water Project in 1967, California Department of Fish and Wildlife (CDFW) Fall Midwater Trawl abundance indices for delta smelt, striped bass, longfin smelt, American shad and threadfin shad have declined 95.6, 99.6, 99.8, 90.9, 98.5, 97.8 percent, respectively. The five-year abundances between 1967-1971 and 2009-2013 for delta smelt, striped bass, longfin smelt, American shad and threadfin shad have declined 89.8, 98.8, 99.4, 87.7 and 98.1 percent, respectively. The abundance indices of CDFW's Summer Towntet Survey for delta smelt and striped bass declined 94.2 and 98.2 percent, respectively, between 1967 and 2013 and the five year average decline between 1967-1971 and 2009-2013 for delta smelt and striped bass was 93.8 and 98.1 percent, respectively.</p> <p>Of these pelagic species, delta smelt are likely at serious risk of short-term extinction. Last year the Fall Midwater Trawl abundance index for delta smelt was the second lowest in history, indistinguishable from the lowest. This year CDFW's 20-mm Survey 9 collected the fewest delta smelt in history. Inexplicably, the BDCP and EIR/EIS virtually ignore the critical juvenile life-stage of delta smelt in the summer months.</p> <p>While there is extensive discussion of the impacts of entrainment (understating risks to eggs and sensitive life stages and impingement), predation (ignoring the project's creation of habitat favoring predators) and habitat area (based upon flawed optimistic projections of expanded habitat acreage) we could find no discussion regarding the significant impacts of near-lethal or lethal July-August temperatures and low June-August Delta outflows, with respect to juvenile life stages of delta smelt. We also could not find substantial discussion of effects of low outflow during drier years and how low outflow, coupled with water exports, draws the low salinity zone (LSZ) into the western Delta. This omission is apparently based on the assumption that, since habitat conditions in the western Delta during the summer are not good for delta smelt, they are not there. Almost twenty years of 20-mm surveys demonstrate that this is simply not true. Low outflow conditions, coupled with exports, draw the LSZ and delta smelt into the western Delta. At times, the majority of juvenile delta smelt is in the western Delta in late June and early July.</p>	<p>The effects analysis cites various published sources documenting the link between delta smelt population performance and abiotic habitat factors, principally water temperature, water clarity, and salinity. The BDCP effects analysis reflects best available science related to potential effects of the proposed BDCP on covered fish species, including delta smelt; in so doing, for juvenile delta smelt it focuses on the fall period identified in the USFWS (2008) Biological Opinion as being important for subadult delta smelt. The effects analysis for the BDCP's public draft reflected the best available science regarding important environmental attributes for juvenile delta smelt.</p> <p>Impact AQUA-5, Effects of Water Operations on Rearing Habitat for Delta Smelt, in the final EIR/EIS includes an expanded discussion of Main Uncertainties, Potential Research Actions, and Link to Adaptive Management and Monitoring associated with summer and fall flow conditions for delta smelt. This will include the relevance of the Collaborative Science and Adaptive Management Program (CSAMP); the Collaborative Adaptive Management Team's work plan for the Fall Outflow Management element of the CSAMP includes investigation of under what circumstances the survival of delta smelt through the fall is related to survival or growth rates in previous life stages, focused on the summer. As such and also within adaptive management for Alternative 4A with respect to achievement of objectives, adjustments may be made to operational criteria. Please also see Master Response 44 related to the Decision Trees process, Master Response 33 related to adaptive management and Master Response 17 for discussion of impacts to smelts and Chapter 11 of the final EIR/EIS.</p>

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1600	3	<p>The EIR/EIS acknowledges that outflow will decrease in summer months. Chapter 11, Fish and Aquatic Resources, Section 11.0.2.8, Alternative 4-Summary of Effects, states,</p> <p>"SWP and CVP exports in summer months would increase and result in lower outflow under all four scenarios compared to No Action Alternative." Page 11-52, lines 23-25.</p> <p>The four evaluated operating scenarios of the preferred alternative included or excluded enhanced flows in spring or fall. Protective summer outflows were essentially ignored.</p>	<p>Please refer to the response to comment 2 of this letter for information on how the Final EIR/S discusses summer conditions in the Delta under Alternative 4A.</p>
1600	4	<p>In discussing Impact AQUA-4: Effects of Water Operations on Spawning and Egg Incubation Habitat for Delta Smelt, the EIR/EIS states,</p> <p>"CEQA Conclusion: As described above, operations under Alternative 4 would not reduce abiotic spawning habitat availability or change water temperatures for spawning delta smelt under any of the proposed flow scenarios. Consequently, the impact would be less than significant, and no mitigation is required." Page 11-1295, lines 29-32</p> <p>However, we could find no discussion regarding summer juvenile rearing impacts, except for a brief mention in the EIR/EIS's discussion of Impact AQUA-5; Effects of Water Operation on Rearing Habitat for delta smelt, which states,</p> <p>"They also concluded that water temperature was not a predictor of delta smelt presence in the fall, although it has been shown to be important during summer months (Nobriga et al. 2008)." Page 11-1296, Lines 11-13.</p>	<p>Please refer to the response to comment 2 of this letter for information on how the Final EIR/S discusses summer conditions in the Delta under Alternative 4A.</p>
1600	5	<p>Chapter 5 of BDCP Effects Analysis seems to imply that delta smelt cannot be found in areas of the Delta where key habitat attributes are not met. It states;</p> <p>"During summer, water temperatures can reach stressful if not lethal levels in parts of the estuary (Nobriga et al. 2008), a trend that is anticipated to worsen given projected climate warming (Brown et al. 2013). Further, the interaction of water temperature and prey density is a widely agreed-upon constraint on delta smelt (Kimmerer 2008; Mac Nally et al. 2010; Maunder and Deriso 2011; Miller et al. 2012; Rose et al. 2013a, 2013b). However, low water salinity and transparency contribute to delta smelt's occurrence at Liberty Island and the adjacent reach of the Sacramento Deep Water Shipping Channel in the Cache Slough subregion (e.g., Nobriga et al. 2005). In addition, the trawl survey sampling grids are large enough to have robustly documented that delta smelt cannot be expected to occur in large numbers where the key abiotic habitat attributes (low salinity/low turbidity, and low water temperature in the summer) are not met (Feyrer et al. 2007; Nobriga et al. 2008; Kimmerer et al. 2009; Feyrer et al. 2011; Sommer and Mejia 2013)." Page 5.5.1-19, lines 14-24.</p> <p>The assumption that significant numbers of delta smelt are not expected to be in waters that potentially jeopardizes their existence apparently is the basis for the U.S. Fish and Wildlife (USFWS) Biological Opinion that provides no protection for delta smelt in July and August and why the State Water Resources Control Board (SWRCB), with the concurrence of state and federal agencies, reduced Delta outflow requirements in July of this year and allowed the salinity compliance point at Emmaton to be moved upstream to Three Mile Slough. Unfortunately, as we document below, it is simply not accurate.</p> <p>This belief is apparently why the U.S. Fish and Wildlife (USFWS) Biological Opinion provides no protection for delta smelt in July and August and why the State Water Resources Control</p>	<p>As the commenter notes, the effects analysis cites various published sources documenting the link between delta smelt distribution and abiotic habitat factors, principally water temperature, water clarity, and salinity. The BDCP effects analysis reflects best available science related to potential effects of the proposed BDCP on covered fish species, including delta smelt; in so doing, for juvenile delta smelt it focuses on the fall period identified in the USFWS (2008) Biological Opinion as being important for subadult delta smelt. The uncertainty related to the effectiveness of habitat restoration and other conservation measures in conserving delta smelt in the study area is the reason for the inclusion of the BDCP's adaptive management element (please also see Master Response 33 for additional information regarding adaptive management).</p>

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		<p>Board (SWRCB), with the concurrence of state and federal agencies, reduced Delta outflow requirements in July of this year and allowed the salinity compliance point at Emmaton to be moved upstream to Three Mile Slough. This belief is apparently why BDCP and the EIR/EIS virtually ignored and failed to discuss juvenile delta smelt and the impacts of lethal temperatures and low outflow during summer periods and failed to consider protective outflows in summer.</p> <p>Given the decades-long collapse of smelt populations amid the astonishing array of Biological Opinions, water quality control plans, water rights decisions and adaptive management programs and habitat restoration projects, no professional deference can be accorded to the agencies involved in the planning, management, analysis or approval of BDCP. These agencies have literally escorted delta smelt to the brink of extinction. And no deference or benefit-of-doubt can be accorded to the speculative claims and assurances that habitat restoration projects and adaptive management efforts will be more successful and result in different outcomes this time around. Especially, given agencies' historical track record of failure.</p>	
1600	6	<p>Contrary to the assumptions of BDCP and the EIR/EIS, large percentages of delta smelt juveniles are in the western Delta in late June and early July and probably August, especially in drier years. In fact, 100% of the delta smelt identified in the recently completed Survey 9 of the 20-mm survey are at the southern end of Sherman Island and not in Suisun Bay where the BDCP and the EIR/EIS seem to assume they are. In 2013, more than 60% of delta smelt juveniles were in the western Delta.</p> <p>Over centuries, delta smelt evolved within salinity parameters for various life stages. They cannot magically change their habitat needs simply because it inconveniences water exporters. Low Delta outflow, coupled with excessive water exports, shifts the low salinity zone (LSZ) and juvenile delta smelt eastward into the western Delta where smelt are exposed to near-lethal and lethal water temperatures during heat waves similar to what occurred in July 2013 and is occurring in July 2014.</p>	Please see response to comment 5 of this letter regarding discussion of delta smelt distribution in relation to environmental parameters.
1600	7	<p>The California Sportfishing Protection Alliance (CSPA) report titled The Summer of 2013, the demise of delta smelt under D-1641 Delta Water Quality Standards [ATT2], chronicles conditions in 2013 when Delta outflow was suddenly reduced and water exports by the state and federal project facilities dramatically increased. The low salinity zone (LSZ) and juvenile delta smelt were drawn into the western Delta where they encountered lethal water temperatures. As predicted, the 2013 Fall Midwater Trawl delta smelt Index plunged to its second lowest on record, statistically indistinguishable from the lowest.</p> <p>Delta Smelt on the Scaffold [ATT1] contains:</p> <ul style="list-style-type: none"> <li>- CSPA developed indexes that reveal that, based on CDFW 20-mm survey data, abundances of juvenile delta smelt reached their lowest level in history in late June and early July 2014. Survey 9, of the 20-mm Survey collected only two delta smelt in 141 separate trawls at 40 locations stretching from Cache Slough to San Pablo Bay.</li> <li>- Examination of the startling difference between the calculated Net Delta Outflow Index (NDOI), relied upon by the State Water Resources Control Board (SWRCB), U.S. Bureau of Reclamation (USBR), and Department of Water Resources (DWR) to measure compliance with D-1641 outflow requirements, and the actual tidally filtered data collected by the U.S. Geological Survey's (USGS) stations at Rio Vista, Three Mile Slough, San Joaquin River at</li> </ul>	<p>Please see response to comment 5 regarding discussion of delta smelt distribution in relation to environmental parameters.</p> <p>As described in Chapter 5, Water Supply, the EIR/EIS analyses assume continued implementation of regulatory requirements in accordance with the requirements under the CEQA definition of Existing Conditions and under the NEPA definition of the No Action Alternative. Changes in the regulatory requirements would only occur following detailed analyses, including separate engineering studies, project-specific CEQA and NEPA analyses, and project-specific ESA and CESA analyses. Following adoption of changes to the regulatory requirements by the State and federal governments, DWR and Reclamation would need to determine if changes in the SWP and CVP would be necessary. These changes are considered to be speculative and are not included in the No Action Alternative, action alternatives, or Cumulative Impact Analysis.</p>

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		<p>Jersey Point and Dutch Slough. The USGS gaged results of Delta outflow better correlate with salinity intrusion than the NDOI.</p> <p>- Late June and early July 20-mm surveys for delta smelt between 1998 and 2014.</p> <p>Together, they establish, contrary to conclusions in the BDCP and the EIR/EIS, that juvenile delta smelt are in the western Delta during June, July and potentially August, where they are at risk from lethal temperatures. They also establish that the NDOI relied upon to determine compliance with water quality and flow standards established by the SWRCB are flawed and overestimate actual outflow.</p> <p>Consequently, any assumptions, analyses, conclusions or determinations contained in the BDCP or the EIR/EIS that rely on the NDOI as representing actual Delta outflow are inaccurate. Likewise, any assumptions, analyses or conclusions that compliance with D-1641's flow and water quality standards are protective of identified beneficial uses are similarly flawed.</p>	
1600	8	BDCP and the EIR/EIS are inadequate and violate CEQA and NEPA by failing to disclose these facts and analyze the project's potential adverse impacts to juvenile delta smelt in summer.	<p>Please refer to the response to comment 2 of this letter for information on how the Final EIR/S discusses summer conditions in the Delta under Alternative 4A.</p> <p>Please refer to the response to comment 5 regarding discussion of delta smelt distribution in relation to environmental parameters.</p> <p>Please refer to the response to comment 7 regarding discussion of information cited in the comment as "these facts"</p>
1600	9	[ATT1: Report describing low levels of juvenile delta smelt in 2014. "Delta Smelt on the Scaffold" by Thomas Cannon and Bill Jennings. July 2014.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	10	<p>[From ATT1:]</p> <p>During the summer of 2013, reductions in outflow, coupled with increased water exports, drew the low salinity zone (LSZ) and delta smelt eastward into the western Delta where smelt encountered lethal water temperatures. That situation was chronicled in a California Sportfishing Protection Alliance (CSPA) report titled The Summer of 2013, the demise of delta smelt under D-1641 Delta Water Quality Standards, which predicted that the smelt population would plunge. [Footnote 1: <a href="http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf">http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf</a>] As we predicted, the following Fall Midwater Trawl's delta smelt abundance index was the second lowest level on record, statistically indistinguishable from the absolute lowest.</p> <p>In 2014, the State Water Resources Control Board has significantly relaxed flow and water quality standards protecting the estuary. Delta outflow is below levels in recent memory. Exports and water transfers are being approved with little environmental review because state and federal agencies claim that delta smelt are not in the Delta in late June and July. As we show below, this is simply not true. Low outflows have drawn delta smelt into the Delta where they are at risk from lethal temperatures. Further, outflows are significantly less than being reported by the agencies. Delta smelt populations are headed for new record lows. The point of no return, i.e., the level where the population cannot recover, is</p>	<p>The BDCP effects analysis reflects best available science related to potential effects of the proposed BDCP on covered fish species, including delta smelt; in so doing, for juvenile delta smelt it focuses on the fall period identified in the USFWS (2008) Biological Opinion as being important for subadult delta smelt. Alternative 4A, the new preferred alternative that is no longer an HCP, includes a Collaborative Science and Adaptive Management Program that would develop and use new information and insight gained during the course of project construction and operation to inform and improve the operation of the water conveyance facilities under the Section 7 biological opinion and 2081b permit. As such, the proposed Collaborative Science and Adaptive Management Program may draw on information gained during the existing Collaborative Science and Adaptive Management Program (CSAMP) resulting from the existing USFWS (2008) and NMFS (2009) BiOps; the Collaborative Adaptive Management Team's work plan for the Fall Outflow Management element of the CSAMP includes investigation of under what circumstances the survival of delta smelt through the fall is related to survival or growth rates in previous life stages, focused on the summer.</p> <p>Please also refer to Master Response 17 on biological resources regarding operational criteria, real-time monitoring, flow/salinity relationships, timing of fish migration, and adaptive management.</p>

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		<p>unknown. But, that point is likely approaching.</p> <p>The California Department of Fish and Wildlife (DFW) conducts four primary surveys of delta smelt in the Bay-Delta: Smelt Larval Survey, 20-mm Survey, Summer Towntnet and Fall Midwater Trawl. Each survey provides an annual index of abundance for specific life stages of delta smelt. The 20-mm survey monitors post-larval-juvenile delta smelt and comprises nine separate surveys. However the 20-mm index is based on initial surveys in March/April and do not reflect conditions in late June and early July, as smelt are drawn into the Delta by low outflow and export pumping and exposed to high temperatures. DFW's Smelt larval &amp; 20-mm survey indices are not published.</p> <p>Because DFW's 20-mm index does not reflect what happens to delta smelt in June and July, CSPA took DFW's 20-mm survey data and developed indices for early June, late June and early July between 1996-2014. Our method simply stacks average densities from survey areas for each survey on a bar graph to derive an index. Our index demonstrates changes over the three survey periods and the relative contribution of the six different Delta regions. It is not weighted by the area or volume of the regions and includes the northern population of smelt and includes stations in Cache Slough and the Sacramento Deep Water Ship Channel that were added to the 710s group in the past decade.</p> <p>The two methods provide similar indices and patterns of indices over the years. The early June smelt index was the second lowest in history but the late June and early July indexes were, by a significant margin, the lowest in history. Astonishingly, DFW's early July 2014 20-mm survey managed to capture only 2 smelt in 147 separate trawls. The early July index pattern over the years is also similar to the Fall Midwater Trawl (FMWT) Indices, which is an alarming indication of likely results from this fall's upcoming FMWT index.</p> <p>Following are the California Sportfishing Protection Alliance (CSPA) delta smelt indexes for June and July 2014, DFW's June/July 2014 survey results, a discussion concerning the inadequacies of DWR, U.S. Bureau of Reclamation (USBR) Delta outflow calculations and the DFW 20-mm surveys between 1996 and 2014.</p> <p>[Early July:] Only 2 delta smelt were collected in 141 trawls (3 trawls at each of 47 locations).</p> <p>[Late June:] Only 18 delta smelt were collected in 120 trawls (3 trawls at each of 40 locations).</p> <p>[Early June:] Only 24 delta smelt were collected in 141 trawls (3 trawls at each of 47 locations).</p> <p>This pattern is replicated in the annual abundance indices of the Fall Midwater Trawl, which illustrates the continued decline of delta smelt since the State Water Project began exporting water in 1967.</p> <p>The decline of Delta fisheries is not limited to delta smelt but encompasses the entire range of pelagic species. [Footnote 6:  <a href="http://calsport.org/news/wp-content/uploads/St-Bd-Drought-Wkshp1.pdf">http://calsport.org/news/wp-content/uploads/St-Bd-Drought-Wkshp1.pdf</a>]</p> <p>The problem has been exacerbated in recent years by excessive water exports from the Delta coupled with extremely low outflow to the Bay and relaxed or ignored flow and water quality standards. This combination low flow and exports draws the crucial low salinity zone (LSZ) into the Delta where pelagic species are subjected to entrainment in the massive</p>	

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		export pumps and lethal summer water temperatures. Last year was bad as a combination of low outflows and high exports hammered delta smelt. [Footnote 7: <a href="http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf">http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf</a> ] This year is likely to be much worse and delta smelt are literally on the brink of extinction.	
1600	11	[ATT1: att1: Graph of California Sportfishing Protection Alliance Index by Catch and Sampled Area, 20mm California Department of Fish and Wildlife Survey 8, Early July, 1996-2014, no survey 2001-2002.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	12	[ATT1: att2: California Department of Fish and Wildlife 20mm Delta Smelt Survey 9, 7-10 July 2014 Chart weighted by volume of area sampled.]  [Footnote 2: <a href="http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp">http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp</a> ]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	13	[ATT1: att3: Graph of California Sportfishing Protection Alliance Index by Catch and Sampled Area, 20mm California Department of Fish and Wildlife Survey 8, Late June, 1996-2014.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	14	[ATT1: att4: California Department of Fish and Wildlife 20mm Delta Smelt Survey 8, 23-26 June 2014 Chart weighted by volume of area sampled.]  [Footnote 3: <a href="http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp">http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp</a> ]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	15	[ATT1: att5: Graph of California Sportfishing Protection Alliance Index by Catch and Sampled Area, 20mm California Department of Fish and Wildlife Survey 8, Early June, 1996-2014.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	16	[ATT1: att6: California Department of Fish and Wildlife 20mm Delta Smelt Survey 8, 6-12 June 2014 Chart weighted by volume of area sampled.]  [Footnote 4: <a href="http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp">http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp</a> ]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	17	[ATT1: att7: Graph of California Department of Fish and Wildlife: Delta Smelt Fall Midwater Trawl Indices 1967-2013.]  [Footnote 5: <a href="http://www.dfg.ca.gov/delta/projects.asp?ProjectID=FMWT">http://www.dfg.ca.gov/delta/projects.asp?ProjectID=FMWT</a> ]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	18	[ATT1: att8: Table showing decline of delta smelt and other pelagic species.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	19	[From ATT1:]  The estimates of Delta outflow by USBR and DWR are simply wrong!  U.S. Bureau of Reclamation (USBR) and California Department of Water Resources (DWR) claim that Net Delta Outflow Index (NDOI) averaged 3170 cubic feet per second (cfs) between 1 July and 11 July 2014. [Footnote 8: <a href="http://www.usbr.gov/mp/cvo/vungvari/doutdly.pdf">http://www.usbr.gov/mp/cvo/vungvari/doutdly.pdf</a> ] However, the NDOI, which is a complicated computation that guesses at net Delta channel depletion, is simply wrong.  The U.S. Geological Survey (USGS) maintains four state-of-the-art UVM flow gages on the	For the analyses in the Draft BDCP EIR/EIS, the CALSIM II model incorporates Delta outflow indices developed for the Existing Conditions, No Action Alternative, and the action alternatives, as described in Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions. The approach of using an index in the monthly planning model is appropriate to provide an evaluation of the changes in conditions under the alternatives as compared to the Existing Conditions and the No Action Alternative.  DWR and Reclamation also use indices with gauge data to operate the SWP and CVP, respectively, in accordance with the requirements of the State Water Board and the 2008 USFWS BO and 2009 NMFS BO.  The State Water Resources Control Board (SWRCB) defines the Delta Outflow requirement and how to calculate it. SWRCB Decision 1641 is the latest version of the Bay-Delta standards that the State Water

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		<p>Sacramento and San Joaquin Rivers and Three-mile and Dutch Sloughs that, cumulatively, record total Net Delta Outflow (NDO). Examination of tidally filtered outflow data from these gages reveals that the outflows reported by USBR and DWR are seriously inflated in low water conditions.</p> <p>Retired USGS Engineer, Pete Smith, prepared the above comparison [ATT1: att9] of NDO versus NDOI that was recently reported in the California Spigot. [Footnote 9: <a href="http://www.californiaspigot.blogspot.com">http://www.californiaspigot.blogspot.com</a>]</p> <p>California Sportfishing Protection Alliance (CSPA) fishery consultant and biostatistician, Thomas Cannon, also prepared an assessment for CSPA that analyzed the NDOI index and discovered that it seriously overestimates actual Delta outflow. Mr. Cannon calculated that the actual Delta outflow in May 2014 was a minus 45 cfs, instead of the positive 3805 cfs claimed by USBR and DWR. He also discovered that DWR had long aware been of the discrepancy. [Footnote 10: <a href="http://calsport.org/news/wp-content/uploads/CSPA-NDO-v-NDOI-2.pdf">http://calsport.org/news/wp-content/uploads/CSPA-NDO-v-NDOI-2.pdf</a>]</p> <p>Dr. Michael L. MacWilliams, of Delta Modeling Associates, in a presentation to the Delta Science Program’s workshop on Delta outflows and related stressors, observed that NDOI estimates during the fall of 2013 were more than double the USGS measured outflows.</p> <p>Dr. MacWilliams testified that, based on measured data for salinity intrusion and X2, the NDOI estimates appeared to be clearly incorrect. [Footnote 11: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/10-Outflow-Workshop-MacVilliams-02-10-14-Final.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/10-Outflow-Workshop-MacVilliams-02-10-14-Final.pdf</a>]</p> <p>During the first ten days of July 2014, the NDOI was reported as a positive outflow averaging 3170 cfs. However, examination of the four USGS tidally filtered stations at Rio Vista, Threemile Slough, Jersey Point and Dutch Slough reveals that outflow had become negative, beginning around 4/5 July. Inflow from the Bay approached 7000 cfs by 8 July. This was reflected in sharply increasing salinity (EC--electrical conductivity) levels in the Delta, which could not have occurred under a positive NDOI outflow.</p> <p>Real time data from the USGS [Footnote 12: <a href="http://waterdata.usgs.gov/ca/nwis/current/?type=flow&amp;group_key=basin_cd">http://waterdata.usgs.gov/ca/nwis/current/?type=flow&amp;group_key=basin_cd</a>] and California Data Exchange Center (CDEC) [Footnote 13: <a href="http://cdec.water.ca.gov/staMeta.html">http://cdec.water.ca.gov/staMeta.html</a>] can be accessed online.</p> <p>The final report of the expert panel observed that, "Although a precise estimate of the accuracy of the measured outflow is not known, the measured values should be more accurate than the NDOI as long as the four monitoring stations used in the calculations are operating properly." The panel asked, "why the measured outflows (rather than NDOI) aren't used for the specific outflow standards during the July-to-January period, and also why they aren't used as the alternative flow compliance option in the springtime X2 standard." [Footnote 14: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Outflows-Report-Final-2014-05-05.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Outflows-Report-Final-2014-05-05.pdf</a>]</p> <p>The California Spigot quoted State Water Resources Control Board engineer, Rick Satkowski, as saying, in light of these findings, the State Board will be looking at, "possible changes in</p>	<p>Project (SWP) and Central Valley Project (CVP) must comply with. The SWRCB calculation provides a simple mass balance: Delta Outflow = Delta Inflow – Net Use of Water in the Delta (which includes assumptions on net channel depletions). The weakness of this calculation is in the uncertainty of the net channel depletions; otherwise it is a fairly robust way to estimate outflow</p> <p>Delta Outflow is intended to be a quantitative measurement of the total amount of freshwater flowing out of the Delta (i.e. Delta inflow minus all uses) that is available to repel salinity intrusion from the Pacific Ocean via the San Francisco Bay system. However, the precise quantification of that amount is extremely difficult because of the influence of tides on the Delta.</p> <p>The difficulty is twofold: 1) the instantaneous tidal flows at the western end (exit) of the Delta, commonly known as Chipps Island, are very large. USGS stations at Rio Vista, Three Mile Slough, Jersey Point, and Dutch Slough have been used in the past to estimate Delta outflow, but it has been shown that these gages can have a significant error and bias due to the large rivers and limitations in the measurement equipment. Using an order of magnitude comparison, instantaneous tidal flows at Chipps Island are approximately 300,000 to 500,00 cfs. As a measured Delta Outflow must time average these huge tidal flows over an entire tidal cycle to arrive at a time-averaged or “residual” amount which is often less than 10,000 cfs, the “noise” in measuring instantaneous tidal flows is commonly more than the net, time-averaged amount. This significant complicates the calculation of the Delta outflow amount. 2) In addition, the mean or half-tide value is “rising” or “falling” over a two-week period, which means that the Delta is actually storing or releasing water respectively over the two weeks.</p> <p>Both factors adversely affect direct measurements of Delta Outflow. At the present time, considering current technology, it is not feasible to calculate Delta Outflow accurately from direct measurements. Thus, the “simplified” mass balance approach remains the best way to calculate “actual” Delta Outflow at this time.</p> <p>A DWR report (see <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/ndo_report_march2016.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/ndo_report_march2016.pdf</a>) to the SWRCB on calculating Net Delta Outflow (NDO) describes the various issues in much more detail and elaborates on the pros and cons associated with each method.</p>

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		<p>determining outflow.["]</p> <p>USBR and DWR have long known of the difference between measured net Delta outflow (NDO) and the calculated net Delta outflow index (NDOI). They have long known that they do not have reliable data on in Delta channel depletions. They have long known that not all inflow into the Delta from tributary streams is accurately gaged. But they are also aware that if NDO, instead of the NDOI, is used as the standard of net delta outflow, more water will have to be directed to outflow and less to exports, especially in dry years.</p> <p>USBR and DWR are committed to maximizing water deliveries to contractors, even if it sends the delta smelt, once the most abundant fish in the Delta, toward extinction. That is unacceptable!</p>	
1600	20	[ATT1: att9: Graph comparing NDO (Net Delta Outflow) and NDOI (Net Delta Outflow Index) April 30, 2014 to July 1, 2014.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	21	[ATT1: att10: Graphs by Thomas Cannon: Net Delta Outflow in May 2014 and NDO vs. NDOI.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	22	[ATT1: att11: Figure comparing outflow between Dayflow Estimates and Observed U.S. Geological Survey Stations.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	23	[ATT1: att12: Graphs showing outflow at four U.S. Geological Survey stations in early July 2014.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	24	<p>[From ATT1:]</p> <p>Contrary to USBR and DWR Claims, delta smelt are in the Delta in June, July and August.</p> <p>The USFWS Biological Opinion for delta smelt provides no protection in July and August because the service claims that there are no delta smelt in the Delta during those months. On that basis, U.S. Bureau of Reclamation (USBR) and California Department of Water Resources (DWR), with U.S. Fish and Wildlife Service (USFWS) concurrence, provided no protection for smelt during water transfers. Earlier this year, the State Water Board, again with USFWS concurrence, lowered the Delta outflow criteria, contained in D-1641, from 4000 cubic feet per second (cfs) to 3000 cfs during the months of May and July. However, they are simply wrong!</p> <p>Last year, as chronicled in the California Sportfishing Protection Alliance's (CSPA) report titled "The Summer of 2013, the demise of delta smelt under D-1641 Delta Water Quality Standards", [Footnote 15: <a href="http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf">http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf</a>] reductions in outflow, coupled with increased water exports, drew delta smelt into the western Delta where they encountered lethal water temperatures. Abundance levels plunged.</p> <p>Delta smelt are in the Delta. They should not be. During late June and July, delta smelt</p>	Please refer to response to comment 5 of this letter regarding discussion of delta smelt distribution in relation to environmental parameters.

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		<p>should be in the low salinity zone (LSZ) in Suisun Bay, protected from the lethal 76-77 degrees water temperatures frequently found in the Delta during summer. However, a combination of low outflow and excessive exports draws the LSZ and delta smelt into the Delta during drier years.</p> <p>There is also a small population of smelt that spawn in the Cache Slough-Sacramento Ship Channel area. However, they become trapped and unable to migrate back to the LSZ and seek to survive in the stratified waters of the deep water in the ship channel. Extended heat waves pose a severe threat to that population, as the coldwater pool will ultimately dissipate. In 2009, the California Department of Fish and Wildlife (CDFW) conducted supplemental monitoring at six sites in the ship channel and found that smelt populations decreased through July and virtually disappeared by August. The USFWS's 2008 Biological Opinion does not suggest that the Cache Slough- Sacramento Ship Channel area provides a viable temperature refuge for delta smelt when their only recognized habitat -- the LSZ in the Delta -- has been rendered unsuitable for survival.</p> <p>Below are the CDFW's late June and early July 20mm delta smelt surveys from 1996 to 2014. The 20mm surveys are comprised of three separate trawls conducted at 40 sites in the Delta. They demonstrate that in all but the wettest years, delta smelt are in the Delta during late June and early July. In drier years, a significant percentage of delta smelt, perhaps the majority of juveniles, are in the Delta.</p>	
1600	25	<p>[ATT1: att13: 17 maps from California Department of Fish and Wildlife showing result of 20mm Delta Smelt Surveys, Late June 1996-2014 (with percentages)]</p> <p>[Footnote 16: <a href="http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp">http://www.dfg.ca.gov/delta/data/20mm/CPUE_map.asp</a>]</p>	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	26	<p>[ATT1: att14: 15 maps from California Department of Fish and Wildlife showing results of 20mm Delta Smelt Surveys, Early July 1996-2013, except 2001 and 2002 (with percentages)]</p>	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1600	27	<p>[From ATT1:]</p> <p>During the summer of 2013, reductions in outflow, coupled with increased water exports, drew the low salinity zone (LSZ) and delta smelt eastward into the Delta where smelt encountered lethal water temperatures. That situation was chronicled in a California Sportfishing Protection Alliance (CSPA) report titled "The Summer of 2013, the demise of delta smelt under D-1641 Delta Water Quality Standards", which predicted that the smelt population would plunge. [Footnote 17: <a href="http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf">http://calsport.org/news/wp-content/uploads/CSPA-Cannon-Summer-2013-6.pdf</a>] As predicted, the following Fall Midwater Trawl's delta smelt abundance index was the second lowest level on record, statistically indistinguishable from the absolute lowest.</p> <p>The California Department of Fish and Wildlife (DFW) conducts a series of 20-mm delta smelt trawls monitoring post-larval-juvenile smelt. DFW does not publish their 20-mm delta smelt indices, which are based on the initial surveys that begin in March of each year. CSPA took DFW 20-mm data and developed a series of indexes focused on the critical late June early July, when delta smelt are drawn into the Delta be a combination of low outflow and export pumping. Those smelt are at risk of encountering lethal water temperatures. In 2014, juvenile delta smelt were hammered by a combination of critically low outflow, water</p>	This comment and 27 above assert the position of the commenter without raising an issue not otherwise already addressed in the responses above or analysis available in Chapter 11 of the EIR/EIS

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		<p>exports and lethal water temperature, as they were in 2013.</p> <p>The previous low in 2009 was followed by a slightly better water year (below normal on the Sacramento and above normal on the San Joaquin) and smelt populations experienced a small rebound. This year, delta smelt are being subjected to another year of critically dry conditions on both rivers. And this year, the State Water Board seriously weakened Delta flow and water quality standards. Delta outflow is below levels in recent memory and delta smelt populations are at historic lows. Yet exports continue and water transfers are being approved with little environmental review.</p> <p>The next Fall Midwater Trawl will almost surely find delta smelt populations at new record lows. Population abundance levels over the last few years make the numbers of delta smelt during the Pelagic Organism Decline (POD) in the early 2000s look robust. The POD years generated an enormous outcry. Myriad meetings were conducted, numerous studies funded and an array of programs launched. Today, the agencies that were so concerned about the POD are silent and have embraced measures they know will be disastrous for the species.</p> <p>The point of no return, i.e., the level where the population cannot recover, is unknown. But, that point is likely approaching. A species that existed in this estuary for thousands of years and was the most abundant fish in the Delta is on the scaffold. Perhaps, the greatest tragedy is that our trustee agencies charged with the protection of delta smelt; the U.S. Fish and Wildlife Service, CDFW and the State Water Board have escorted it there.</p>	
1600	28	[ATT2: Report describing effects of D-1641 water quality standards on delta smelt in 2013. "The Summer of 2013, the Demise of Delta Smelt under D-1641 Delta Water Quality Standards" by Thomas Cannon. August 2013.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1601	1	<p>Issue:</p> <p>Because of the unreasonably large document size and too brief a period for the public to reasonably review and comment, our (Central Delta Water Agency) comments have been almost exclusively oriented to the Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) and EIR/EIS Proposed Action.</p> <p>Comment:</p> <p>If after the Public Draft EIR/EIS, the Federal Lead agencies select a different alternative than the Proposed Project, the document needs to be reissued to the public so that it can comment on this other project. The Federal Lead Agencies are allowed to select their preferred project prior to the final EIR/EIS, but due to the extreme burden on the public from the large document size and too brief a review period, the Public Draft should be reissued after the Federal Lead Agencies have selected their preferred project so that the public can focus their review and comments on that alternative.</p>	<p>Due to the highly technical and complex nature of the proposed project and the importance of the Delta as a natural resource and to the California water supply, the 2013 draft EIR/EIS and the 2015 RDEIR/SDEIS contains considerable amounts of information. In drafting the BDCP, its EIR/EIS, the 2015 RDEIR/SDEIS, and the Final EIR/EIS, the lead agencies focused on presenting information in plain language and in a clear format with emphasis on information that is useful to the public, agencies, and decisionmakers. The EIR/EIS combines the informational requirements of CEQA and NEPA, summarizes relevant information, focuses on the significant environmental impacts of the alternatives and mitigation measures to avoid or substantially reduce those impacts, avoids duplication, and utilizes technical appendices to avoid including highly technical analysis in the text of the EIR/EIS. This approach balances the need for technical information and readability of the EIR/EIS and is fully consistent with the procedural and informational requirements of CEQA and NEPA.</p> <p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p> <p>Please see Master Response 38 and 39 for more information regarding the length of the document and the public review period. For information on public outreach efforts, please see Master Response 40.</p> <p>Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A is also the NEPA Preferred Alternative, a</p>

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			<p>designation that was not attached to any of the alternatives presented in the 2013 Public Draft EIR/EIS. Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts. Note that the lead agencies provided a partially recirculated draft EIR/supplemental Draft EIS to accommodate public review of the new preferred alternative, as requested in the comment. Please also Master Response 5 for information about the BDCP.</p>
1601	2	<p>Issue:</p> <p>The BDCP made a commitment for no new water supplies being delivered as a part of the objectives of the project.</p> <p>Comment:</p> <p>Since the project says that it will not result in any additional quantities of water being diverted, it should make a commitment in the Joint Operating Agreement and Joint Operating Authority that the facility will never be modified to increase the amount of water that is being diverted and delivered beyond the amount addressed in this project. If the BDCP will not make this commitment then it is clear that it intends to do just that which is peicemealing. [sic]</p>	<p>The range of potential water deliveries for the proposed project has been analyzed in this EIR/EIS. These water deliveries are consistent with both the existing SWP and CVP contracts and are about the same as average deliveries in recent years. The actual amount delivered in any year depends on hydrology, water rights conditions, the requirements under the Biological Opinions, and other applicable SWP/CVP operating conditions. Any agreements relating to operation of the facilities will be consistent with these operating requirements.</p> <p>For information on water rights, please see Master Response 32. Please also see Master Response 26, Area of Origin. Regarding the project being analyzed as a whole, please see Master Response 8.</p>
1601	3	<p>Issue:</p> <p>Public funding should not be used to create facilities that will result in profits for private parties.</p> <p>Comment:</p> <p>Since a large part of the project is proposed be paid for by public funds (habitat restorations) and without those public funds the project would not be permissible, the project should commit within its document, Joint Operating Agreement and Joint Operating Authority that the project will never wheel water or deliver water that is sold for a private entity profit. If the BDCP will not make this commitment then it is clear that it intends to do just that which is using public funds to subsidize private party profits.</p>	<p>For information regarding funding sources for the BDCP, please see Master Response 5.</p> <p>Please also see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. The originally proposed habitat restoration measures would not be included as part of Alternative 4A, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b).</p>
1601	4	<p>Issue:</p> <p>Habitat restoration actions that are part of the No Action condition are included as Conservation Actions in the BDCP proposed project.</p> <p>Comment:</p> <p>Habitat restoration actions that are required from the 2009 Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are included in the description and scope of the Proposed Project Conservation Measures. Almost 5 years after the Reasonable and Prudent Actions (RPAs) of the OCAP BOs became the law, DWR and Reclamation have made no tangible progress at all in implementing these measures. The BDCP has correctly included some of</p>	<p>As already stated in response to comment 1601-3, the originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b).</p> <p>Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the</p>

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		<p>the RPAs into their No Action definition, but left other RPAs out, e.g. reoperate Shasta flood reserve and fish passage at all dams. The BDCP definition of their conservation measures includes the scope of some of the RPA, e.g. CM2 and CM5. The scopes of these conservation measures are inclusive of the requirements of the RPAs, but are not the same as the RPAs. The BDCP has muddled the comparison of the Proposed Project to the No Action by incorporating No Action restorations into the Proposed Project. To make a clean and appropriate comparison, the BDCP should have excluded the RPAs from their Proposed Project. The BDCP should have made a category of "Current Project Obligations Not Yet Implemented". This way the No Action impacts could be clearly separated from the Proposed Project Impacts. The way the BDCP has done their comparison, the impacts from the No Action RPAs are included in both the No Action and the Proposed Project. The impacts from the No Action RPAs cancel out, but their inclusion makes the identification of the magnitude of the Proposed Project less clear and not correctly isolated for comparison and analysis. The current inclusion of the No Action RPAs in the Proposed Project makes it difficult to determine the magnitude of benefits to the species that are attributable to the Proposed Project as opposed to those that occur with the No Action. Since the No Action are existing obligations for the CVP/SWP operations, the cost to implement those actions should not be borne by the taxpayer as is proposed by the BDCP. The BDCP should redo the project analysis with the No Action RPAs separate from the Proposed Project so the impacts from the project are correctly identified, characterized, quantified and disclosed.</p>	<p>California Resources Agency and implemented under the California Water Action Plan</p> <p>Proposition 1 funds and other state and public dollars will be directed exclusively for public benefits unassociated with any regulatory compliance responsibilities.</p> <p>Additional priority restoration projects will be identified through regional and locally-led planning processes likely facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process for integrated planning in the Yolo Bypass is underway. The Delta Conservancy will lead implementation of identified restoration projects, in collaboration with local governments and with a priority on using public lands in the Delta.</p> <p>For more information regarding Environmental Baselines please see Master Response 1. For information on funding for the BDCP, please see Master Response 5.</p>
1601	5	<p>Issue:</p> <p>The BDCP impact analysis does not include the CVP/SWP reservoir operational impacts.</p> <p>Comment:</p> <p>The BDCP Proposed Project does result in a reoperation of the CVP/SWP reservoirs, so the impact analysis that omits those effects is incomplete and deficient. Further, because of this omission, the incidental take permits and covered activities should not cover reservoir operations, maintenance or their related impacts.</p>	<p>Regarding upstream reservoir effects, please see Master Response 25.</p> <p>Information on operational criteria and adaptive management can be found in Master Response 29 and Master Response 33, respectively. Please also see Master Response 17, Biological Resources.</p> <p>Please also see response to comment 1601-1.</p>
1601	6	<p>Issue:</p> <p>The limited and artificially constrained geographic scope of the BDCP does not match the CVP/SWP impacts to the proposed covered species.</p> <p>Comment:</p> <p>The geographic scope of the potential actions by the BDCP should extend to the entire geographic range of the species that are affected by the project.</p>	<p>The lead agencies disagree that the geographic scope is smaller than the range of effects. The EIR/S represents a comprehensive analysis of all species and locations that could be affected.</p>
1601	7	<p>Issue:</p> <p>The BDCP never provides any rationale for the inclusion of terrestrial species in their proposed covered species for a project that is all about water.</p> <p>Comment:</p> <p>Covered species should not include terrestrial species as the CVP/SWP project and operations do not materially affect these species. Any impact to these species from</p>	<p>The EIR/S represents a comprehensive analysis of all species and locations that could be affected. This includes terrestrial species. Please see Chapter 12 of the Final EIR/EIR, Terrestrial Biological Resources, for more information.</p>

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		construction footprint should just be mitigated.	
1601	8	<p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that the covered activities are only "in the Sacramento-San Joaquin Delta (Delta) and vicinity."</p> <p>Comment:</p> <p>Either the BDCP covered activities are only in the Sacramento-San Joaquin Delta (Delta) and vicinity or the BDCP is in direct conflict with the Federal Register Notice. The CVP/SWP conveyance and facilities in the San Joaquin Valley, Central Coast, South Sierra Foothills and Tehachapi's and south cannot be considered in the vicinity of the Delta and therefore the proposed covered BDCP activities do not address the maintenance and operations in these areas. Without coverage for operations and maintenance activities in these areas, the BDCP will still be in violation of the permitting requirements for the project. The lead and responsible agencies should not issue permits for the CVP/SWP for operations and maintenance in these service areas that are specifically excluded in the covered activities area according to the Federal Register Notice.</p>	<p>The BDCP Plan Area is defined by the boundaries of the legal Delta with the addition of the Suisun Marsh area. The EIR/EIS project area includes the Plan Area, upstream of the Delta region and the SWP and CVP export Service Areas because some of the effects of implementing the BDCP or its alternatives would extend beyond the BDCP Plan Area. The analysis in the EIR/EIS includes impacts to Delta outflows, which ultimately reach the San Francisco Bay. More information on how the San Francisco Bay was considered in the EIR/EIS are provided in Master Responses 14 and 17.</p> <p>For a discussion of the EIR/EIS Project Area please also see section 1.5 in Chapter 1 of the Final EIR/EIS.</p> <p>For a discussion of permitting, please see Master Response 45.</p>
1601	9	<p>Issue:</p> <p>Take permits should only be issued for geographic areas in which the effects analysis was conducted.</p> <p>Comment:</p> <p>Since the effects analysis does not include the CVP/SWP reservoir operational impacts from the BDCP, the take permits and covered activities should not cover reservoir operations, maintenance or their related impacts.</p>	<p>The Lead Agencies will make the final decisions regarding the selection of an alternative (and therefore, an operational scenario) for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see Section 4.1.2, Description of Alternative 4A, RDEIR/SDEIS for additional information on Proposed Project operations.</p> <p>Please see Master Response 28 and 29 for more information regarding operational scenarios and compliance with ESA respectively.</p> <p>More information on permitting can be found in Master Response 45.</p>
1601	10	<p>Issue:</p> <p>The proposed permit duration is too long.</p> <p>Comment:</p> <p>A 50 year duration for the incidental take permits (ITPs) is too long given the level of certainty of the conservation measures, climate change and other sources of impacts to these species that could substantially alter their conditions and the relative needs for conservation from this project.</p>	<p>The lead agencies felt that 50 years was a reasonable permit term given the environmental and economic commitments they were willing to take on. However, please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A.</p>
1601	11	<p>Issue:</p> <p>The Biological Goals and Objectives are not specific enough to support the use of adaptive management.</p> <p>Comment:</p> <p>The Independent Scientific Review Panel (ISRP) identifies this repeatedly in their Phase 3</p>	<p>The biological goals and objectives were developed over several years of input with resource agencies. Under the new Proposed Alternative, all biological goals and objectives are considered. For more information on the biological goals and objectives for the BDCP, please see Master Response 5.</p> <p>Considerable scientific uncertainty exists regarding the Delta ecosystem, including the effects of CVP and SWP operations and the related operational criteria. To address this uncertainty, DWR, Reclamation, DFW, USFWS, NMFS, and the public water agencies will establish a robust program of collaborative science, monitoring, and adaptive management. It is assumed the Collaborative Science and Adaptive Management Program (AMMP) developed for Alternative 4A would not, by itself, create nor contribute to any new</p>

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		report.	<p>significant environmental effects; instead, the AMMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A.</p> <p>Collaborative science and adaptive management will support the proposed action by helping to address scientific uncertainty where it exists, and as it relates to the benefits and impacts of the construction and operations of the new water conveyance facility and existing CVP and SWP facilities.</p> <p>The collaborative science effort is expected to inform operational decisions within the ranges established by the biological opinion and 2081b permit for the proposed action. However, if new science suggests that operational changes may be appropriate that fall outside of the operational ranges evaluated in the biological opinion and authorized by the 2081b permit, the appropriate agencies will determine, within their respective authorities, whether those changes should be implemented. An analysis of the biological effects of any such changes will be conducted to determine if those effects fall within the range of effects analyzed and authorized under the biological opinion and 2081b permit. If NMFS, USFWS, or DFW determine that impacts to listed species are greater than those analyzed and authorized under the biological opinion and 2081b Bay Delta Conservation Plan/California WaterFix permit, consultation may need to be reinitiated and/or the permittees may need to seek a 2081b permit amendment. Likewise, if an analysis shows that impacts to water supply are greater than those analyzed in the EIR/EIS, it may be necessary to complete additional environmental review to comply with CEQA or NEPA.</p> <p>For more information on adaptive management, please see Master Response 33. Information on operational criteria can be found in Master Response 28.</p>
1601	12	<p>Issue:</p> <p>Methods proposed to measure habitat and species population conditions are not accurate enough to measure the improvements that are set in the biological goals and objectives.</p> <p>Comment:</p> <p>The Independent Scientific Review Panel (ISRP) identifies this repeatedly in their Phase 3 report. As an example, you cannot measure with a statistically defensible reliability, a 75% fish survival from salvage operations or a 2% increase in juvenile salmonid escapement.</p>	<p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p> <p>Please see the response to comment 1601-11 regarding biological goals and objectives.</p>
1601	13	<p>Issue:</p> <p>The project is implementing a number of conservation measures simultaneously that are intended to benefit the same species that the project proposes to adaptively manage.</p> <p>Comment:</p> <p>Even if the project could measure the biological performance of these measures, how does it propose to determine which of the conservation measures are working and which ones have failed and are not contributing to conservation and recovery?</p>	<p>Please see Appendix 3.D, Monitoring and Research Actions, of the 2013 Draft BDCP document for information about monitoring of conservation measures. There are several metrics that are identified that can distinguish effects between conservation measures. Please also see the 2013 Draft BDCP document, Section 3.4, Conservation Measures, which discusses adaptive management and monitoring for each conservation measure. Please see Master Responses 5 and 33 regarding BDCP conservation measures and the adaptive management and monitoring program, respectively.</p> <p>Note that Alternative 4A alters the structure of the adaptive management and monitoring program relative to the BDCP proposal.</p> <p>Also see response to comment 1601-11.</p>
1601	14	<p>Issue:</p> <p>Intertidal habitat restoration plan level of detail is insufficient as to depth, channel complexity, turbidity, food base, hydraulic characteristics of tidal interchange, time requirements for habitat functionality and hydraulic complexity development (habitats are not immediately functional and channel and vegetation equilibrium will not be reached for</p>	<p>The analysis for CMs 2-21 was completed at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis, of the 2013 Draft EIR/EIS. For more information on project level versus program level analysis please see Master Response 2.</p> <p>Regarding habitat restoration and Alternative 4A, please see response to comment 1601-4.</p>

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		<p>years or even decades) to allow meaningful assessment as to the environmental impacts (e.g. methylization of Hg and other water quality impacts) or the value of these actions toward conserving each proposed covered species.</p> <p>Comment:</p> <p>The Independent Scientific Review Panel (ISRP) identifies this repeatedly in their Phase 3 report.</p>	
1601	15	<p>Issue:</p> <p>The timing, sequence and combination of potential habitat restoration has been left too vague to be functional to determine impacts or benefits to specific species. As an example, if all of the intertidal habitat restoration were to occur in the Cache Slough complex all at one time, it would have a very different impact on water quality and value to specific species than if the same amount of intertidal habitat was implemented in the eastern Delta.</p> <p>Comment:</p> <p>The Independent Scientific Review Panel (ISRP) identifies this repeatedly in their Phase 3 report.</p>	<p>Please see the response to comment 1601-14. For information on water quality, please see Master Response 14.</p>
1601	16	<p>Issue:</p> <p>Incidental take permits (ITPs) should be issued with specific expectations about the timing, magnitude, location and characteristics of habitat restorations.</p> <p>Comment:</p> <p>If the implementation of the project does not conform to the scenario of habitat restoration that was analyzed and the impacts disclosed for, then the agencies would not be justified in the issuance of take permits.</p>	<p>Please see the response to comment 1601-4 and response to comment 1601-14 regarding habitat restoration. For information on permitting, please see Master Response 45. Master Response 29 discusses the Endangered Species Act.</p>
1601	17	<p>Document Section: Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>All of the BDCP proposed near-term habitat restoration conservation measure actions are actually existing CVP/SWP obligations from the current National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs).</p> <p>Comment:</p> <p>The OCAP BO RPAs for 8,000 acres of intertidal and 17,000 acres of flood plain should not be identified as contributory to species conservation as they are part of the baseline. Since all of the BDCP near-term conservation measures are fulfillment of existing obligations of the CVP/SWP, these actions cannot be considered to contribute to species conservation as compared to the No Action condition. Once the environmental analysis separates the fulfillment of existing obligations from new actions that actually have the potential to contribute to species conservation it becomes clear that the BDCP project does not actually start contributing to species conservation for a number of years. I would be more specific in</p>	<p>Please see the response to comment 1601-4 and response to comment 1601-14 regarding habitat restoration. Please also see response to comment 1601-36 regarding existing obligations of the CVP/SWP.</p>

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		<p>my comment, but the BDCP has not even committed to a detailed timeline of when the next increments of habitat restoration after the near-term would occur in which these first actions contributing towards conservation would occur nor the type, quantity, location or even target species that are supposed to benefit from these undefined actions. It is clear that the BDCP intends that these restoration actions that would be the first real contributions to conservation of species would not be implemented prior to the completion of the conveyance. How long is it before the first project element that is identified as contributory to conservation is completed and functional? Incidental take permits (ITPs) should not be issued until the first real net positive contributions to conservation (above the existing obligations) are realized by the BDCP and the conveyance construction should not be allowed to be initiated until a magnitude of contribution to recovery has been achieved that is at least sufficient to offset the impacts of the construction of the conveyance are completed. Otherwise, the BDCP would result in a net negative amount and quality of habitat and species condition than under the No Action condition and that would certainly not warrant issuance of ITPs or construction-related permits.</p>	
1601	18	<p>Issue:</p> <p>It is not reasonable for the incidental take permits (ITPs) to be effective until a targeted amount of species conservation and recovery have been accomplished and documented for the project.</p> <p>Comment:</p> <p>If the project does, then the agencies would not be justified in the issuance of take permits.</p>	<p>Incidental take permits take effect on the date of permit issuance. If an HCP alternative is selected for implementation, the USFWS and NMFS will conduct an internal ESA section 7 consultation prior to issuance of an Section 10(a)(1)(B) permit for the Proposed Action. These federal agencies will coordinate the ESA consultation process and other environmental review processes, such as the National Environmental Policy Act (NEPA), consistent with federal regulations. In addition, the USFWS and NMFS will consult with the United States Bureau of Reclamation to complete biological opinions or a joint biological opinion prior to federal action to carry out the proposed project.</p> <p>If a non-HCP alternative is selected for implementation, the USFWS and NMFS will complete an ESA section 7 consultation with the United States Bureau of Reclamation to complete biological opinions or a joint biological opinion prior to issuance of incidental take permits (ITPs).</p> <p>For more information regarding permitting please see Master Response 45. More information on compliance with the Endangered Species Act can be found in Master Response 29.</p>
1601	19	<p>Issue:</p> <p>Top agency representatives in charge of the preparation of the BDCP EIR/EIS do not believe the project will achieve the habitat restoration goals in the Delta.</p> <p>Comment:</p> <p>Jerry Meral, California Department of Natural Resources (DNR) (in charge of the BDCP EIR for DNR and directing DWR in the preparation of the EIR/EIS) has been quoted in the Sacramento Bee as saying, the Bay Delta Conservation Plan "is not about, and has never been about saving the Delta. The Delta cannot be saved." -- Stokely says: "Meral, the guy in charge of the BDCP HCP/NCCP, does not believe the plan will accomplish its dual goals." So the top state official in charge of the project says that the project is not to save the Delta which is one supposedly co-equal goals of the project. So if that is not goal of the project then the project is only about, and has only ever been about, a water grab for selected parties benefit.</p>	<p>Please see the response to Comment 1601-1 regarding the change in preferred alternative to Alternative 4A. Alternative 4A was developed to meet the rigorous standards of the federal and state Endangered Species Acts; as such it is intended to be environmentally beneficial, not detrimental. By establishing a point of water diversion in the north Delta and new operating criteria the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility. Please see Master Response 3 for more information on the purpose and need for the project. Also see chapter 2 of the Final EIR/EIS, Project Objectives and Purpose and Need.</p> <p>Please also see response to comment 1601-4 for information on habitat restoration.</p>
1601	20	<p>Issue:</p> <p>At no time should the project be allowed to degrade or reduce the amount or quality of</p>	<p>The Alternative 4A implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Alternative 4A would result in no significant and unavoidable impacts to aquatic or terrestrial biological resources.</p>

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		<p>habitat or reduce species populations in the course of the implementation of the project.</p> <p>Comment:</p> <p>The document does not address the timing of development of species benefits on a timescale that is useful to assess whether or not the overall species habitat availability/quality ever is reduced below the level that existed prior to the implementation of the project. The analysis needs to be revised to include a realistic temporal accounting of the destruction and creation of habitat and provide an analysis that demonstrates that at no time does the project result in less habitat than the no action or existing conditions. Until it can provide this assurance, the BDCP should not be awarded any permits.</p>	<p>Please refer to Chapter 11, Fish and Aquatic Resources, and Chapter 12, Terrestrial Biological Resources, for more detail.</p>
1601	21	<p>Issue:</p> <p>The BDCP plan materially conflicts with other habitat conservation plans (HCPs) that are in various planning and implementation phases in the same locations/areas and same terrestrial species that BDCP proposes.</p> <p>Comment:</p> <p>The BDCP is proposing to restore many of the same lands that are currently part of HCPs being developed by the Delta counties:</p> <p>Sacramento, San Joaquin, Yolo, Contra Costa and Solano. The BDCP's plan is in direct and significant conflict with these other local and regional plans. These other HCPs were initiated first, are more developed/further along the approval process, have more specific plans (not just the nebulous and programmatic undefined future to be defined later proposals of the BDCP) and are closer in timing to implementation and contribution to the conservation of these species. The BDCP is disrupting the efforts and plans of these other HCPs to protect and conserve the many of the same terrestrial species as the BDCP proposed covered species. Because of this BDCP direct conflict with the other plans, the BDCP is actually reducing the overall near- and mid-term conservation of these species. This conflict with other HCPs and the resulting reduction in conservation for the BDCP proposed covered species was not adequately discussed or disclosed in the BDCP EIR/EIS. This significant direct impact to habitat that would have otherwise been created and implemented by these other HCPs was not identified, quantified, characterized, or disclosed in the BDCP EIR/EIS. These significant impacts from the BDCP proposed project have not had measures implemented to avoid, minimize or mitigate them and therefore the current BDCP EIR/EIS is incomplete and deficient. The BDCP EIR/EIS document should be revised to provide a detailed accounting of the locations, quantity and types of habitat restoration conflict with existing and in-progress local and regional plans and policies. This revision would be a material change that would require the BDCP recirculate the EIR/EIS for an additional round of public comment. The BDCP can avoid this conflict by dropping the terrestrial species from the proposed covered species. The Purpose and Need statement does not provide any justification for including the terrestrial species anyway. If the BDCP does not drop the terrestrial species from the covered species list, in order to minimize this significant impact on the other pre-existing HCPs, the BDCP Proposed Project needs to include a plan/commitment not to implement restorations on any of the areas/locations previously identified by the other HCPs. Given the conflict between the BDCP and the plans of other pre-existing HCPs, there is also a reasonable doubt of sufficient remaining suitable lands for the BDCP proposed conversion to specific species habitat restoration. As an</p>	<p>Please see RDEIR/SDEIS Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions, for more information regarding descriptions of programs, projects, and policies considered for Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Analysis for the proposed project, including the HCPs noted in the comment.</p> <p>Also see response to comment 1601-4.</p>

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		example, once San Joaquin, Sacramento and Yolo and Solano counties have implemented their planned habitat conservation for Giant Garter Snake (GGS), there will be little suitable habitat available for the 3:1 habitat loss mitigation and habitat restoration as a contribution to conservation for the BDCP to implement. This scarcity of suitable GGS habitat to conserve and/or restore is illustrative of the conflict of the BDCP with the other pre-existing conservation plans and also calls into question the ability of the BDCP to fulfill its habitat conservation goals in the future. The limitations on available habitat to convert in competition with the other HCPs demonstrates the level of uncertainty of the BDCP achieving conservation goals and therefore the BDCP should not be awarded incidental take permits with this level of uncertainty.	
1601	22	Issue:  The conveyance facilities and operations should not be called a "conservation measure" unless they actually contribute to conservation.  Comment:  The document does not conclude that the conveyance and operations result in a reduction in take, so it does not seem to meet the test of what should be called a conservation measure.	For information on why new conveyance facilities and operations were considered a conservation measure, please see Master Response 5.
1601	23	Issue:  Some of the other stressor conservation measures would be implemented by third parties.  Comment:  Since the BDCP cannot guarantee the function, overall funding or even future existence of these third parties, the CMs implemented by these third parties do not meet the test of certainty and the potential benefits from these CMs should not be relied upon in determining contribution to conservation and justification for issuance of the incidental take permits (ITPs).	Conservation measures are not included in the Section 7 consultation for Alternative 4A/California WaterFix. It will be decided by the resource agencies whether to issue take permits for the project based on the Biological Assessment and 2081 permit application. Please see response to comment 1601-18 for more information.  For HCP alternatives, those conservation measures that use third parties are not relied upon for contributions to conservation. Instead, the EIR/EIS discloses potential adverse/significant effects of these conservation measures. For more information on conservation measures, please see Master Response 5.
1601	24	Issue:  Habitat restorations are the majority contributor to the conservation of the species that justify the take permits that are the objective of the project and allow the SWP to operate.  Comment:  The beneficiaries of the project, the SWP water contractors should have to pay for the habitat restoration project, not the public through the public trust resource agencies.	The Alternative 4A implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Please also see response to comment 1601-18 discussing incidental take permits. Please see Master Response 5 regarding costs and funding.
1601	25	Issue:  The timing, sequence and combination of potential habitat restoration has been left too vague to be functional to determine impacts or benefits to specific species.  Comment:  As an example, if all of the intertidal habitat restoration were to occur in the Cache Slough	The analysis for CMs 2-21 was completed at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis, of the 2013 Draft EIR/EIS.  Please see Master Response 2 for more information on project level versus program level analysis. Please also see response to comment 1601-4 regarding habitat restoration.

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		<p>complex all at one time, it would have a very different impact on water quality and value to specific species than if the same amount of intertidal habitat was implemented in the eastern Delta. In order for an adequate evaluation of the impacts of the proposed project aquatic habitat restorations, to characterize the effects on and interactions with those restorations on CVP/SWP operations and determine the temporal distribution of contributions to conservation by species, the BDCP EIR/EIS document is deficient, should be revised to include and analyze this level of detail and should be recirculated after these material changes have been made.</p>	
1601	26	<p>Issue:</p> <p>Incidental take permits (ITPs) should be issued with specific expectations about the timing, magnitude, location and characteristics of habitat restorations.</p> <p>Comment:</p> <p>If the implementation of the project does not conform to the scenario of habitat restoration that was analyzed and the impacts disclosed for, then the agencies would not be justified in the issuance of take permits.</p>	Please see response to comment 1601-18.
1601	27	<p>Issue:</p> <p>The incidental take permits (ITPs) should not be effective until a targeted amount of species conservation and recovery have been implemented and the function and contribution to recovery verified through monitoring and evaluation of the project.</p> <p>Comment:</p> <p>A commitment by the BDCP does nothing to actually benefit the species until the related actions are implemented and verified as successful in contributing at their planned level of contribution to conservation of the proposed covered species. The Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) for the CVP/SWP (not yet implemented by DWR and Reclamation) are designed to avoid jeopardy for the current CVP/SWP project and operations. Until the BDCP delivers the actual planned conservation benefits to the proposed covered species, there is no justification for the agencies issuing ITPs.</p>	Please see response to comment 1601-18.
1601	28	<p>Document Section: Adaptive Management</p> <p>Issue:</p> <p>The Biological Goals and Objectives are not specific enough to support the use of adaptive management and there are no specific quantitative threshold condition triggers for adaptive management changes.</p> <p>Comment:</p> <p>The BDCP proposes goals for various conservation measures and monitoring programs, but there are no meaningful or functional triggers for adaptive management either to end a program, modify a program or escalate a program. The goals the BDCP proposes, such as juvenile salmonid escapement improvements or improvements in reduction of predation related to the south Delta operations are levels of improvement and survival that are not</p>	Please see response to comment 1601-11.

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		<p>practical to monitor at a level of accuracy that is scientifically defensible. There is not a single study that has ever been published on juvenile escapement survival that is statistically defensible to a population or survival rate within a margin of error of plus or minus 10% or less. Yet BDCP goals and adaptive management program criteria are proposed for levels of improvement that are less than this. These BDCP adaptive management proposals are unimplementable at the level of detail, resolution and statistical defensibility. The BDCP should revise their conservation measure goals and adaptive management triggers such that they are practicably monitorable in a statistically defensible and accurate manner so that there is some level of certainty in the success of the conservation measures and in the function of adaptive management. Without these, the level of success of the conservation measures is unknown, uncertain and adaptive management remains nebulous, unfunctional and unreliable in its ability to provide any certainty of contribution to conservation.</p>	
1601	29	<p>Issue:</p> <p>Methods proposed to measure habitat and species population conditions are not accurate enough to measure the improvements that are set in the biological goals and objectives.</p> <p>Comment:</p> <p>As an example, it is infeasible to measure with a statistically defensible reliability, a 75% fish survival from salvage operations or a 2% increase in juvenile salmonid escapement.</p>	Please see the response to comment 1601-11 and response to comment 1601-12.
1601	30	<p>Issue:</p> <p>The project is implementing a number of conservation measures simultaneously that are intended to benefit the same species that the project proposes to adaptively manage.</p> <p>Comment:</p> <p>Even if the project could measure the biological performance of these conservation measures, how does it propose to determine which concurrently implemented conservation measures are working and which ones have failed and are not contributing to conservation and recovery? Unless this question can be answered, the BDCP cannot successfully adaptively manage the proposed project actions and therefore the credit attributed to the adaptive management of these actions for contribution to conservation should be discounted and not contribute to the justification for the issuance of incidental take permits (ITPs).</p>	Please see response to comment 1601-13 and response to comment 1601-18.
1601	31	<p>Issue:</p> <p>Adaptive management of conservation actions has been repeatedly identified by the BDCP as a (false) assurance of an conservations measures construction to conservation. [sic]</p> <p>Comment:</p> <p>The potential adaptive management changes to the conservation measures were not sufficiently defined as allow analysis of those contingencies nor did the BDCP EIR/EIS include an analysis of the impacts of those adaptive management programs. Near term habitat restoration conservation measures are proposed by the BDCP and they seek construction level permits to implement them, but they do not analyze the potential adaptive management impacts of those actions. This means these near-term actions have not been</p>	Please see response to comment 1601-14 regarding habitat restoration. Regarding adaptive management, please see response to comment 1601-11 and 1601-13. For information on permitting please see Master Response 45.

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		<p>fully analyzed and do not warrant issuance of construction level permits. Since the adaptive management measures are core to the BDCP assurances of achieving contribution to conservation, the adaptive management measures should not be subject to analysis in a subsequent environmental document unless the permits related to implementing the conservation measure are also dependent upon that subsequent environmental document. In order to remedy this deficiency of the current document, the BDCP should provide adequate level of detail of adaptive management measures for these near and mid-term habitat restoration conservation measures and fully analyze, characterize, quantify and disclose the impacts associated with them.</p>	
1601	32	<p>Issue:</p> <p>The BDCP proposed project is unclear on if a conservation measure fails to meet objective if the program is terminated or not.</p> <p>Comment:</p> <p>There are environmental impacts from continuing programs and there are losses of benefits from discontinuing programs even if they are only partially successful. The BDCP has not defined how, when, why or any other details regarding the cessation of conservation measures that are purportedly adaptively management. The BDCP does not define how (what methods of measurement or analytical tools), why (what metrics or performance measures) or when (duration, rate of improvement, etc.) that would define when a program would or would not be terminated or adapted so none of the required elements for adaptive management have been defined in the BDCP plan. Saying there is adaptive management without defining any of the required components to implement adaptive management is not a plan and these measures should not give any credit for contributing to conservation or providing any level of assurance of performance of the proposed conservation measures.</p>	Please see the response to comment 1601-13.
1601	33	<p>Issue:</p> <p>The level of detail (and lack thereof) describing potential adaptive management actions and specific triggers (and lack thereof) for adaptive management implementation do not provide a sufficient level of certainty sufficient to support permitting.</p> <p>Comment:</p> <p>The BDCP proposed project does make it possible for them to cancel many of the proposed conservation measures even though they failed to provide clear triggers for this. With the possible cancelation of so many of the proposed conservation measures the agencies must evaluate how much contribution to recovery would remain for each proposed covered species if the BDCP were to terminating all of the conservation measures that the plan would allow them to do. If they were to cancel all of the conservation measures the BDCP proposed project allows them to there would be little remaining to contribute to species conservation and no justification for the agencies to issue incidental take permits (ITPs). Since this is a possible or even likely outcome given the uncertainties of the performance of the proposed conservation measures and the limitations to the accuracies of the proposed performance monitoring methods, the agencies cannot be justified in issuing the ITPs.</p>	<p>Please see response to comment 1601-14 regarding habitat restoration. Regarding adaptive management, please see response to comment 1601-11 and 1601-13. For information on permitting please see Master Response 45.</p> <p>If an HCP alternative is selected for implementation, the USFWS and NMFS will conduct an internal ESA section 7 consultation prior to issuance of an Section 10(a)(1)(B) permit for the Proposed Action. These federal agencies will coordinate the ESA consultation process and other environmental review processes, such as the National Environmental Policy Act (NEPA), consistent with federal regulations. In addition, the USFWS and NMFS will consult with the United States Bureau of Reclamation to complete biological opinions or a joint biological opinion prior to federal action to carry out the proposed project.</p> <p>If a non-HCP alternative is selected for implementation, the USFWS and NMFS will complete an ESA section 7 consultation with the United States Bureau of Reclamation to complete biological opinions or a joint biological opinion prior to issuance of incidental take permits (ITPs).</p>

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1601	34	<p>Issue:</p> <p>The level of certainty of funding is insufficient to justify the agencies issuing permits on the project.</p> <p>Comment:</p> <p>The BDCP sources of funding for large parts of the project (bond issuance from each of the water agencies for the construction and operations of the conveyance, and funding from tax payers and public resource agencies for habitat restorations) are uncertain and unreliable. There has been no tax proposed or funding source identified for the public resource agencies to pay for the habitat restorations. If any of the water agency or public resource agency funding sources fail, then the project will fail to meet its commitments and a level of species conservation that would warrant issuance of incidental take permits will not occur. Given the number of water agencies and public resource agencies involved in the funding and each one critically responsible, there will be at least 50 opportunities for funding to not be successful. Only if all of the funding efforts were successful would the BDCP fulfill its commitments. Given this simple math, it is far more likely that the BDCP will fail to raise all the funding to implement the project as planned than it is that they will be 100% successful. The BDCP has not even proposed contingency funding back-up plans such as the water agencies guaranteeing that if public or resource agency funding is not successful that they will fill in the capital shortfalls. Given the lack of reasonable certainty of funding, the agencies should not issue incidental take, environmental or construction permits for the BDCP plan as it is currently planned to be funded. Any change in the funding plan at this stage of the environmental review would be a material change that would warrant recirculation of the documents.</p>	<p>Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. Please see Master Response 5 regarding the proposed project's funding strategy.</p>
1601	35	<p>Issue:</p> <p>"The Jarvis group, in its letter, asked the state to produce a detailed financing plan, specifying how much individual water agencies would have to pay to support the project. The taxpayers group also wants the state to specify how costs would be reallocated, or how the project would be redesigned, if water users are unwilling to bear their share of the costs and to clarify who bears the financial risk for project shortfalls. Nancy Vogel, director of public affairs for California's Department of Water Resources, says it's too early to delve into that level of detail. "The financing plan comes later. We're trying to get (environmental) permits first," she says. "Those questions are premature.""  <a href="http://www.businessweek.com/articles/2014-04-18/californias-governor-wants-water-tunnels-dot-antitax-group-want-to-know-who-pays">http://www.businessweek.com/articles/2014-04-18/californias-governor-wants-water-tunnels-dot-antitax-group-want-to-know-who-pays</a></p> <p>Comment:</p> <p>Reasonable assurances of funding are a requirement that must be satisfied before incidental take permits (ITPs) can be issued. DWR Director Vogel's comments are incorrect and misleading. The funding must be reasonably assured before permits can be issued and as Director Vogel indicated, as of April 18, 2014 they have not been done yet. Therefore, the wildlife agencies cannot issue take permits in the absence of these reasonable assurances of funding.</p>	<p>Please see response to comment 1601-34.</p>
1601	36	<p>Issue:</p>	<p>The commenter is incorrect that "almost all" of the conservation measures proposed in the 2013 BDCP are already the responsibility of the state and federal water contractors under the OCAP Biological Opinions</p>

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		<p>Funding for BDCP Conservation Actions that are existing obligations of the CVP/SWP through the still in full force and affect Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) should be paid for by the water contractors as part of the costs of water delivery.</p> <p>Comment:</p> <p>Almost all of the habitat improvement conservation actions included in the BDCP Proposed Project are existing obligations of the CVP/SWP under the OCAP BO RPAs for the on-going operation of the CVP/SWP to avoid jeopardy to listed species. The BDCP proposes that the habitat improvements conservation actions should be funded by the public. Since these conservation actions are current obligations of the CVP/SWP project that are a result of historical and on-going project are the only component of the Proposed Project that contribute to conservation, the water rate payers should be financially responsible for these habitat conservation actions. The facilities and operations do not contribute to conservation of the proposed covered species, so why should BDCP get a take permit out of this project unless they are the ones who pay for the habitat improvements. Since the OCAP BO RPAs (and costs implement and maintain them) are to mitigate effects of the current water deliveries, Water Code 11912 determines that the costs of these actions should be paid for by the CVP/SWP water rate payers, not the public as is currently proposed.</p>	<p>issued by the US Fish and Wildlife Service and National Marine Fisheries Service. In fact, a small fraction of the BDCP conservation measures overlap with OCAP mitigation requirements. For example, 12.3% of Conservation Measure 4, Tidal Wetland Natural Community Restoration, is a requirement of the OCAP Biological Opinion (8,000 acres of 65,000 acres proposed in BDCP). Portions of Conservation Measure 2 (Yolo Bypass Fisheries Enhancement) were also included in the OCAP Biological Opinion from NMFS, but the actions were almost entirely undefined in the Biological Opinion. BDCP Conservation Measures 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, and 21 were not included in any form in the OCAP Biological Opinions. All or most of these conservation measures are intended to contribute to the recovery of the covered species (beyond mitigation), so it is appropriate that the public pay for a share of these conservation measures.</p> <p>Please see Master Responses 4 and 5 for additional detail on the BDCP and the alternatives involving an HCP component. Please also see Master Response 5 regarding the proposed project’s funding strategy.</p>
1601	37	<p>Issue:</p> <p>Natural resource agencies do not have funding identified or authorization for the habitat restoration component of the project costs.</p> <p>Comment:</p> <p>The habitat restorations are the majority contributor to the conservation of the species that would justify the take permits that are the objective of the project and allow the SWP to operate. The beneficiaries of the project, the SWP water contractors, should have to pay for the habitat restoration project, not the general public through the public trust resource agencies.</p>	<p>For information about funding under BDCP, please see Master Response 5. Also see response to comment 1601-36.</p>
1601	38	<p>Issue:</p> <p>Funding requirements to close out the project at the end of the 50-year project period has not been defined by the BDCP or provided for in the funding plan.</p> <p>Comment:</p> <p>BDCP failed to provide a plan and funding for how the facilities and habitat restorations are disposed of at the end of the 50-year program. Levees constructed by the BDCP need to either be removed and land restored or the levees maintained in perpetuity. Facilities not utilized after the 50-year period cannot just be abandoned to be public nuisance. The BDCP must provide a plan as to how the facilities, infrastructure, land physical modifications and land use modifications are restored at the end of the project period. The BDCP cannot just assume the project will be approved for additional time periods after the project period permitted based on the EIR/EIS 50 year period. The BDCP must not only provide the project close down plan, but also the funding for the removal of these project artifacts or guarantee (and provide evidence of) their maintenance funding in perpetuity.</p>	<p>Under any alternative that includes an HCP, all habitat protection and restoration will be acquired and maintained in perpetuity. Land will not be abandoned at the end of the 50-year permit term. The 2013 public draft BDCP includes, in Chapter 8, Conservation Measure 11 provisions to fund management of the reserve system in perpetuity (see page 8-34). Management in perpetuity would be paid for by a non-wasting endowment that would be created during the 50-year permit term. When the permit expires, management would be funded by the interest from the endowment.</p> <p>Please also see Master Response 5 regarding the proposed project’s funding strategy.</p>

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1601	39	<p>Issue:</p> <p>Adaptive management is incompletely described and is not functional in this current form.</p> <p>Comment:</p> <p>Adaptive management as described in the HCP does not provide an adequate level of certainty that the species benefits from the plan will be achieved and maintained over the life of the project.</p>	Please see response to comment 1601-11 regarding adaptive management.
1601	40	<p>Issue:</p> <p>Funding assurances are inadequate.</p> <p>Comment:</p> <p>Funding as described in the HCP does not provide an adequate level of certainty as to the funding sources and their reliability to fund the plan implementation, maintenance and on-going program costs over the life of the project.</p>	Please see response to comment 1601-38.
1601	41	<p>Issue:</p> <p>The environmental planning process has already cost more than thirteen times more than originally budgeted and the planning process is only at the public draft stage.</p> <p>Comment:</p> <p>If the state and federal agencies cannot do an accurate estimate for the cost of the planning stage, why should we believe any cost estimates for the construction of the conveyance facilities and habitat restorations? Given the project's cost estimation performance to date, it would be necessary to multiple the costs estimates provided by the project by at least thirteen times in order to have a reasonable assurance that costs would be in a range. Funding assurances for this cost variance need to be provided by the project before there is reasonable certainty for the agencies to base an issuance of a permit upon.</p>	Please see Master Response 5 regarding the conservative nature of the cost estimate and the proposed project's funding strategy.
1601	42	<p>Issue:</p> <p>The BDCP document claims construction costs would only be \$25 Billion</p> <p>Comment:</p> <p>Westlands Water District (a project proponent) has reported that the true cost of the facilities will be between \$51 and \$67 Billion. See San Jose Mercury news article by Paul Rogers dated 12/26/13 - <a href="http://www.mercurynews.com/politics-government/ci_24795356/Delta-tunnels-plans-true-price-tag-much-67">http://www.mercurynews.com/politics-government/ci_24795356/Delta-tunnels-plans-true-price-tag-much-67</a></p>	Please see response to comment 1601-41.
1601	43	<p>Issue:</p> <p>Mark Cowin, DWR Director says, "We're going to have to add a lot more detail to our finance plan".</p>	Please see response to comment 1601-41.

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		<p>Comment:</p> <p>See San Jose Mercury news article by Paul Rogers dated 12/26/13 - <a href="http://www.mercurynews.com/politics-government/ci_24795356/Delta-tunnels-plans-true-price-tag-much-67">http://www.mercurynews.com/politics-government/ci_24795356/Delta-tunnels-plans-true-price-tag-much-67</a>. Cowin says that he does not know when additional budget details will be forthcoming so there is definitely insufficient certainty of funding as a basis for the agencies to issue permits on this plan.</p>	
1601	44	<p>Issue:</p> <p>Water agencies are expected to pay for approximately 70% of the plan, but the water agencies have not made any commitments to issue revenue bonds that would be needed for their funding.</p> <p>Comment:</p> <p>See San Jose Mercury news article by Paul Rogers dated 12/26/13 - <a href="http://www.mercurynews.com/politics-government/ci_24795356/Delta-tunnels-plans-true-price-tag-much-67">http://www.mercurynews.com/politics-government/ci_24795356/Delta-tunnels-plans-true-price-tag-much-67</a>. Since the majority of the project budget does not have commitments for funding from the water agencies, so there is definitely insufficient certainty of funding as a basis for the agencies to issue permits on this plan.</p>	Please see response to comment 1601-41.
1601	45	<p>Issue:</p> <p>The Cost Benefit Analysis conducted by the BDCP should be re-evaluated based on the \$51-\$65 Billion Cost estimated by Westlands Water District in their November 20, 2013 District Workshop presentation.</p> <p>Comment:</p> <p>This cost results in water that costs \$238-\$337/acre-feet (AF). At this cost, the cost of water will be uneconomic for most farm crops. Where is the benefit in a water supply that is too expensive for the intended beneficiaries to use? The cost/benefit analysis must be redone with consideration of the real cost of water from the proposed project and how it will benefit those parties that can economically afford to use the water at those costs.</p>	<p>The construction of the water delivery facilities is estimated to cost \$14.9 billion, an amount that would be paid for by the state and federal water contractors who rely on Delta exports. The range of costs for water vary widely among contractors south of the Delta. Costs depend on the source of water, transport facilities, energy requirements, among other factors. For the agricultural customers of the CVP, prices range from \$100 per acre-foot to more than \$400 per acre-foot. The Metropolitan Water District of Southern California, which buys water from the SWP, estimates that the cost of the proposed project would translate into about \$5.00 extra per household, per month in its service area. The final cost of water from the new conveyance facilities would be determined by numerous factors. A number of these significant factors, such as the project yield and allocation of costs, have yet to be determined. Please see Master Response 5 for information regarding funding.</p> <p>For information on water rights, please see Master Response 32.</p>
1601	46	<p>Issue:</p> <p>Assuming that all current water rights the BDCP is supposed to fulfill will or can be fully exercised at the projected cost of water that will result from the BDCP project is a fundamental flaw in the logic of the size of the BDCP facilities required.</p> <p>Comment:</p> <p>The water costs resulting from the BDCP are too expensive for most agricultural crop producer water rights holders to use the BDCP water supplies. These uneconomic water rights that are currently calculated as part of the total water supply that would be put through the BDCP facilities need to be corrected to omit those volumes that will no longer be economically viable at the BDCP costs of water. Once the future demand is corrected for the water rights that can be supplied by the cost of water that the BDCP will provide, the size of the facilities will be proportionately reduced and the construction and operational impacts will need to be reanalyzed. The alleged need for the proposed project will be</p>	Please see response to comment 1601-45.

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		eliminated. The BDCP EIR/EIS document must be revised to reflect the decreased demand for water from the water contractors due to the increased cost of water supply resulting from the BDCP costs.	
1601	47	Issue:  The independent science panel is not independent.  Comment:  All of the members of the panel are paid either by the state or federal government which are the project proponents. Input from this group should therefore be tempered as potentially biased and greater reliance should be placed on the utilization of the preponderance of relevant published literature.	The comment does not raise any issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1601	48	Issue:  Security lighting at the intakes and tunnel headworks facility will confuse greater sandhill cranes that are found in high population concentrations immediately adjacent to the east Stone Lakes National Wildlife Refuge.  Comment:  With the increase in fog from the intermediate forebay reducing visibility and the new hazard of the power lines installed for the intake and tunnel headwork pumps and facilities in combination with the navigational hazard of the security lighting, an increase in the take of this species should have been anticipated by the project.	Since issuance of the 2013 Draft EIR/EIS, the proposed project has been modified to address concerns of impacts to Sandhill Cranes on Staten Island. Specifically, the project has been modified minimize construction activities on Staten Island by removing: tunnel launch facilities, large reusable tunnel material storage areas, a barge landing site, and high voltage power lines. Furthermore, the avoidance and mitigation measures that address sandhill cranes have been substantially modified (see RDEIR/SDEIS, Appendix A, Appendix 3B). For more information regarding sandhill crane mitigation please see Master Response 17.
1601	49	Issue:  The Tunnel headworks platform and forebay will redirect flood impacts.  Comment:  Under existing conditions, if there is a levee breach anywhere upstream on the tract that is just south of the town of Hood and north of Pierson Tract, the flood waters would be directed toward the lower elevations at the southern end of the tract and the flood waters would breach the levee near the confluence of Railroad Cut and Snodgrass Slough. The flood waters would then most likely be carried in whole or in their majority down Snodgrass Slough where the flood pressures would be dissipated and naturally distributed. The downstream secondary breaching of a flooded island is the normal way that flood pressure is released from inside of an island and the location and orientation of Snodgrass Slough is a result of the fluvial geomorphic processes from the flood pressure release process. The BDCP places large elevated forebay levees that block this natural release of flood pressures and redirects those impacts to the west so that the flood pressures would breach into Pearson Tract and Randall Island. Those redirected flood impacts will inundate thousands of acres of land that may have otherwise been spared had the natural flood pressure release down Snodgrass Slough not been disrupted by the project. Included in those thousands of acres at much higher risk of flooding with the implementation of the project include, the town of Courtland (population 600+), hundreds of additional rural residences, Highway 160, Bates Elementary School, Courtland Fire Department, a regional telephone switching center, microwave communication relays, 2 regional TV transmission towers, natural gas wells and	Alternative 4A includes a substantially smaller Intermediate Forebay (approximately 37 acres) on the Glannvale Tract. The entire 131-acre site established for the Intermediate Forebay would provide buffer areas to store additional flows and reduce effects of high water flows. The Intermediate Forebay concept was modified based on this and similar comments received on the 2013 Draft EIR/EIS.  The California Department of Water Resources' Levee Repairs and Floodplain Management Office is responsible for administering levee repairs and Floodplain Management Office is responsible for administering levee repairs through evaluation and direct rehabilitation of structural deficiencies in California's levee system. Overall levee repairs and improvement programs administered by DWR will continue with available funding. For additional information on the relationship between the proposed project and Flood protections in the Delta, please see EIR/EIS Appendix 6A BDCP/California WaterFix Coordination with Flood Management Requirements.

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		<p>pipelines, both of the only local cold storage plants for refrigerating pears and apples (the loss of these would affect all of the pear and apple production in the Delta), all three pear and apple packing houses in the Delta (the loss of these would affect all of the pear and apple production in the Delta), the only regional scale hay storage and transshipping facility (loss would affect forage production in all of northern California) and numerous other businesses.</p>	
1601	50	<p>Issue:</p> <p>Fortification of so much of the east side levees of the Sacramento River in the intake reach (estimated at 35-40% of the levee length in this reach) above the current standards reduces the risk of failure of the levees on the east side of the river.</p> <p>Comment:</p> <p>A reduction in the flood risk of the east side of the river results in an increase in the flood risk on the west side of the same reach of the river (especially with backwater affects from the intakes). Increased risk of flooding on the west side of the Sacramento River in the intake reach includes Merritt Island, Netherlands and New Holland Tracts (including the town of Clarksburg 600+ residents), hundreds of rural residents, Clarksburg Elementary, Delta High School, Clarksburg Fire Department, a dozen wineries and other local businesses and the tracts upstream of Netherlands affected by intake #1. Since there is no flood cutoff from Netherlands to the upstream tract and breach anywhere in this area would flood the entire area from West Sacramento where Jefferson Rd comes down the Sacramento Deep Water Ship Channel to the Freeport Bridge and from Elk and Sutter Sloughs across to the deep water ship channel all the way down past Courtland Rd to Minor Slough on the south end. This area of increased flood risks from the redirected flood impacts of the project comprises a significant portion of the entire area of the statutory Delta.</p>	<p>Please see Appendix 6A, FEIR/EIS, for a discussion on DWR consistency with the State Plan of Flood Control (SPFC) and for information on project consistency with USACE, CVFPB, and DWR flood standards and regulations.</p>
1601	51	<p>Issue:</p> <p>Intake 3 takes out the historic building, Rosebud Mansion.</p> <p>Comment:</p> <p>Intake 5 either takes out or significantly compromises the setting and aesthetic values of the Hemly Victorian manor at the head end of Randall Island. These two Delta landmarks are the most prominent, visible and well maintained examples of early Delta heritage and the project takes out both of them. This impact will greatly adversely affect the character of the community.</p>	<p>Please see Master Response 20 regarding the adequacy of the analysis for cultural resources impacts</p>
1601	52	<p>Issue:</p> <p>Highway 160 is designated a California Scenic Highway.</p> <p>Comment:</p> <p>With 3 large intake facilities that destroy the rural ambiance, no one could argue that this reach of the scenic highway would be designated scenic after the project is implemented.</p>	<p>Chapter 17, in the 2013 Draft EIR/EIS and Final EIR/EIS, analyzes impacts to visual character under Impact AES-1, scenic vistas under Impact AES-2, and scenic roadways under Impact AES-3 and accounts for impacts to the existing setting that would be seen from local roadways.</p> <p>The analysis addresses how the scenic route would be affected by the proposed project and its alternatives and concludes that there will be significant and unavoidable impacts to the scenic route because of the negative visual effects that would occur. Even if the realignments were not proposed, impacts would still be significant and unavoidable due to the proposed intake facilities that would require tree removal and the introduction of built structures that would negatively affect views from the scenic route. These actions, alone, could affect the scenic highway designation without a realignment of SR 160. Therefore, the only way</p>

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			<p>to ensure SR 160 remains in compliance with the State Scenic Highway Program and the County Circulation Element would be if these changes (i.e., the proposed project) would not occur. Visual mitigation provides measures to lessen the visual appearance of the proposed project and improve project aesthetics as much as possible but cannot substantially lessen the significant adverse impacts to SR 160 because of the nature of the project, which is why the impacts are significant and unavoidable.</p> <p>Please also see Master Response 9 regarding significant and unavoidable impacts.</p>
1601	53	<p>Issue:</p> <p>Intakes 1 - 3 are on sections of the river that would naturally have the thalweg of the river against the bank at the location selected for the intake.</p> <p>Comment:</p> <p>Juvenile emigrating fish follow the thalweg flow of the river when actively emigrating, so the location of those intakes puts the fish population at greater exposure to the fish screens and their associated elevated predation rates than if the intakes were located outside of the thalweg of the river.</p>	<p>The bases for intake locations are presented in Appendix 3F, Intake Location Analysis, of the Final EIR/EIS. One of the key objectives from this analysis was to locate the intakes within the straight reaches to extent possible to avoid complex flow patterns, scour, and sediment issues. However, the Sacramento River has many bends; and another objective was to locate the intakes just below an outside bend due to the presence of deeper water, higher sweeping flow velocities, and lower sedimentation potential (Section 3F.9 of the appendix).</p>
1601	54	<p>Issue:</p> <p>All of the intake screens are depicted as encroaching on the channel cross section of the Sacramento River.</p> <p>Comment:</p> <p>Any reduction of the cross channel of the river from the construction of the intakes will result in a backwater effect which will raise the stage elevation of the water upstream of those facilities. An increase of stage elevation during flood flow conditions of just an inch can make the difference of an island flooding or not. This localized reduction in flood flow capacity and redirected flood impact is unacceptable and should not be permitted.</p>	<p>As discussed in the FEIR/EIS, Appendix 3F Paragraph 3F.8, DWR performed preliminary hydraulic modeling to evaluate potential impacts of proposed intake structures for CM1 along the Sacramento River on river hydraulics. The modeling results indicated on-bank intakes, as proposed under the BDCP/CWF, would have minimal impacts on river hydraulics. As part of future engineering, additional hydraulic modeling will be performed to accommodate design refinements and to comply with U.S.C. Title 33 – Navigation and Navigable Waters Section 408 and other permitting requirements.</p>
1601	55	<p>Issue:</p> <p>All of the intakes are located at sections of the river either at or in close proximity to bends in the river.</p> <p>Comment:</p> <p>These locations are hydraulically complex with lack of uniform velocities through the water column and across the river cross section. These location river velocities are particularly complex and dynamic during approaching tidal slack flows and reverse flows. Since the intakes are supposed to be operated to maintain a minimum sweeping velocity, the complex, dynamic, and un-uniform flow velocities make it uncertain that the facilities will uniformly comply with maintaining criteria sweeping velocities during operations. The BDCP failed to perform 2D or 3D modeling of velocities in the vicinity of the screens. This deficiency of the analysis which is required in order to understand the project specific impacts of the intakes on listed fish species, must be rectified.</p>	<p>Please see response to comment 1601-53. As described in Appendix 3F, two dimensional hydraulic modeling studies of potential intake locations were completed.</p>
1601	56	<p>Issue:</p>	<p>The commenter does not provide any indication as to what distance between intakes would be necessary to allow for adequate fish recuperation, which does not allow for assessment of whether the intakes might be</p>

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		<p>The fish screen intakes are too close in proximity to each other to allow for adequate fish recuperation prior to exposure to the next screen.</p> <p>Comment:</p> <p>Failure to consider reductions in swimming performance of fish from inadequate rest between screens means that fish impingement on the screens and take will be larger than calculated in the analysis.</p>	<p>too close in proximity to each other. It is unclear whether such information exists. Laboratory studies (Swanson et al. 2004. Transaction of the American Fisheries Society 133: 265-278) did note a relationship between injury rates and flow or screen contact, and impingement was rare. The effects analysis acknowledges that the laboratory environment does not necessarily translate into the effects that might occur in the field. The importance of loss associated with the north Delta intakes is recognized in the preferred alternative (Alternative 4A, California WaterFix) and, similar to the HCP alternatives which have stressor reduction targets, there is a performance standard of survival to be <math>\geq 95\%</math> of baseline survival in the reach where the north Delta intakes are proposed to be situated. Monitoring of this standard would occur, with adaptive management as necessary should monitoring indicate that the standard is not being met. For more information on adaptive management, please see Master Response 33.</p> <p>Note that the final design of the north Delta intakes and fish screens will be determined by NMFS, USFWS and CDFW based on results of eight Fish Facilities Technical Team (FFTT) preconstruction studies. The studies are catalogued in Section 3.4.8 of the California Water Fix Draft BA. A 2013 Fish Facilities Work Plan for implementing these studies can be accessed at:  <a href="http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/BDCP/fish-facilities-studies-work-plan.pdf">http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/BDCP/fish-facilities-studies-work-plan.pdf</a></p> <p>The work plan lists the studies as follows:</p> <ol style="list-style-type: none"> <li>1. Site Locations Lab Study - Optimize hydraulics and sediment transport issues at the selected sites.</li> <li>2. Site Locations Numerical Study - Develop site-specific numerical hydraulic models to characterize the tidal and river hydraulics and the interaction with the intakes under all proposed design operating conditions.</li> <li>3. Refugia Lab Study - Test and verify final recommendations for location, size, and configuration of refugia for the project.</li> <li>4. Refugia Field Study - Evaluate the effectiveness of using refugia as part of intake structure and fish screen design to provide holding habitat for juvenile fish passing the screen to recover from swimming fatigue and to avoid exposure to predatory fish.</li> <li>5. Predator Habitat Locations - Identify the locations and physical and biological characteristics for locations where predatory fish congregate, and develop design and management criteria that would serve to reduce predation risk at the proposed north Delta diversions.</li> <li>6. Predator Reduction Methods - Compile and synthesize information on effective methods to control predation on covered fishes by predatory fish, birds, and mammals.</li> <li>7. Flow Profiling Field Study - Characterize the water velocity distribution at river transects within the proposed river reach under varying flow conditions for calibration of the hydraulic models.</li> <li>8. Deep Water Screens Study - Identify the hydraulic characteristics for deep fish screen panels on the Sacramento River.</li> </ol> <p>Study #4 in particular will evaluate how fish may be able to recuperate from exposure to the screens.</p>
1601	57	<p>Issue:</p> <p>Reverse tidal flows in the area where the fish screen intakes are located will carry fish upstream repeatedly past the same screens.</p>	<p>Reverse tidal flows in the area where the fish screens are located are comparatively rare, and bypass flow constraints would limit potential for the north Delta intakes in such years. As previously noted, there is uncertainty in the extent of mortality that could occur as a result of the intakes; please see response to comment 1601-56 as it pertains to monitoring and adaptive management related to the survival</p>

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		<p>Comment:</p> <p>Instead of being exposed to however many number of screens are included in the project scenario, emigrating juvenile fish or resident fish could be exposed to the screens multiple times. The analysis showing just a single exposure of a fish to a screen and calculating the level of take from that is clearly under counting the true fish exposure to the screens and therefore the true level of take from the screens.</p>	<p>performance standard.</p>
1601	58	<p>Issue:</p> <p>The maps show areas designated "reusable tunnel materials".</p> <p>Comment:</p> <p>The plan does not disclose the exact composition of the tunnel spoil materials. Geotechnical boring samples have not been conducted along the entire length of the planned tunnel route, so the evaluation does not really know what the nature of the tunnel spoil material will be and its suitability for "reuse". Selenium, mercury and arsenic are endemic materials that have been deposited in areas of the Delta from upstream tributaries, marine sediments and local soil parent materials. As an example, Cache Slough is one of the largest naturally occurring mercury sources in the state and mercury from that drainage has been transported into the Delta from that source since the Coastal Range was formed geologically. Selenium has been also been transported into the Delta from the San Joaquin River system since the Coastal Range was formed geologically. The size, shape and drainage patterns in the Delta have changed dramatically since the geologic formation of the Coastal Range so it is very possible that those two specific sources of toxics could have deposited substantial contaminant loads in the areas that the tunnels are planned to excavate. Until the project has completed sufficiently dense geotechnical borings over the entire length of the planned tunnel route, the environmental document conclusion that the tunnel spoils will be reusable (and not a Class 1 hazardous material) is unsupported conjecture. If there are concentrations of contaminants in the tunnel spoils there will be substantial impacts that the document has failed to disclose. Large amounts of Class 1 tunnel spoil material could shorten the useful lifespan of the Kettleman City Dump (the only Class 1 material dump site in California).</p>	<p>California Department of Water Resources (DWR) completed a preliminary laboratory testing program to evaluate the feasibility of excavated tunnel materials (also known as reusable tunnel material, RTM) for potential reuses including construction fill. The laboratory test results indicate that the RTM would comply with requirements of Title 23 of California Code of Regulations (Title 23) for levee fill materials. A copy of the RTM testing report is available on the BDCP website:  <a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx</a></p> <p>In this report, several samples were taken in the Cache Slough area. Design-level geotechnical studies would be conducted prior to construction to assess site-specific hazards and appropriate mitigation measures would be implemented.</p> <p>Monitoring of mercury and selenium will be further defined in site specific monitoring and management plans. The lead agencies have committed to environmental commitments including developing and implementing detailed and extensive Stormwater Pollution Prevention Plans (SWPPPs); Spill Prevention, Containment, and Countermeasure Plans (SPCCPs); Hazardous Materials Management Plans (HMMMPs); and site-specific pre-dredge sampling and analysis plan (SAP) which would all result in a less than significant impact determination.</p> <p>For more information please see Master Response 12, Reusable Tunnel Material.</p>
1601	59	<p>Issue:</p> <p>The tunnel spoil disposal area on Andrus Island disrupts the main Reclamation District drainage and irrigation supply ditch.</p> <p>Comment:</p> <p>These ditches are Giant Garter Snake habitat.</p>	<p>Alternative 4A relies on the Modified Pipeline/Tunnel alignment, which does not have any facilities on Andrus Island.</p> <p>As disclosed in the EIR/EIS, the action alternatives that rely on the West Alignment (Alternatives 1C, 2C, and 6C) would affect habitat on Andrus Island. Use of several of the TBM disposal areas would fill aquatic habitat for giant garter snake. Those habitat losses would be mitigated as described in the FEIR/FEIS in Chapter 12.</p>
1601	60	<p>Issue:</p> <p>The BDCP still lacks its Implementing Agreement (IA), leaving major gaps in project implementation, mitigation and responsibility for costs.</p> <p>Comment:</p> <p>Public comment on BDCP and its EIR/EIS should not close without a meaningful opportunity</p>	<p>The Draft Implementing Agreement for the proposed project was made available for public review on May 30, 2014.</p> <p>As described in the May 5, 2014 posting to the BDCP website, the delayed publication of the draft Implementing Agreement was related to availability of key individuals whose drought response duties required significant time commitments, resulting in delays in finalizing the draft Implementing Agreement.</p> <p>Implementing agreements are a requirement under the California Natural Community Conservation</p>

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		to study the IA and comment on its consequences. Elements of the IA will affect the reliability of the implementation of conservation measures as well as management and implementation of monitoring, mitigation and adaptive management plans. The public must be provided the opportunity to comment on the EIR/EIS regarding IA interdependencies and effects on the assurances provided in the EIR/EIS document.	Planning Act (NCCPA), and are routinely executed under the ESA Section 10 (HCP) permitting process. Since the current proposed project (Alternative 4A) is no longer a NCCP or HCP, an implementing agreement was not released with the RDEIR/SDEIS or final EIR for the project.  For more information on the Implementing Agreement, please see response to comment 5, BDCP.
1601	61	Issue:  The unreasonable size of the EIR/EIS document forced the public review to select what sections of the document they would have time and resources to review.  Comment:  Because of the unreasonably large document size and too brief a period for the public to reasonably review and comment, our comments have been almost exclusively oriented to the Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) and EIR/EIS Proposed Action. If after the Public Draft EIR/EIS, the Federal Lead agencies select a different alternative than the Proposed Project, the document needs to be reissued to the public so that it can comment on this other project. The Federal Lead Agencies are allowed to select their preferred project prior to the final EIR/EIS, but due to the extreme burden on the public from the large document size and too brief a review period, the Public Draft EIR/EIS should be reissued after the Federal Lead Agencies have selected their preferred project so that the public can focus their review and comments on that alternative.	Please see Master Response 38 regarding the document's length and complexity and Master Response 39 regarding the Public Review Period length. Please also see Master Response 40 regarding public outreach efforts.
1601	62	Issue:  The public invested large amounts of time and resources in reviewing the administrative draft EIR/EIS.  Comment:  Since the document is so large, it would be very expeditious for the public that spent time reviewing the ADEIR/EIS to be able to review a red-line-strikeout version tracking for changes from the ADEIR/EIS to the PDEIR/EIS. The BDCP missed a clear opportunity to facilitate public review and comment by not providing a red-line-strike-out version of the public draft to show what changes had been made since the release of the administrative draft. The BDCP should still release this red-line-strikeout version so the public can see the magnitude and import of changes that were made between these two milestone representations of the project.	Since 2006, DWR has sought to include as many voices into the planning process as possible and has demonstrated that commitment with an unprecedented level of public involvement. More information on how DWR has developed the project in an open and transparent manner is provided in Master Response 41. More information about the public outreach conducted during the comment review periods for the DEIR/EIS and RDEIR/SDEIS is provided in Master Response 40.  For comments pertaining to the size and complexity of the document, please refer to Master Response 38.
1601	63	Issue:  The size, number and severity of comments made in this EIR/EIS public review should be interpreted by the BDCP as evidence of the level of incompleteness and the amount of errors and omissions in the draft document. If it takes longer for the BDCP to revise the EIR/EIS from draft to final than the public review period, then the BDCP should reissue the document as a revised public draft.  Comment:  The comments following are nearing 400 pages in this format. Even with the extended public review time, there is no lack of new problems being discovered and understood in	The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.  Please see Master Response 38 regarding document length and Master Response 39 regarding the duration of the public review period. More information on how DWR has developed the project in an open and transparent manner is provided in Master Response 41. Additionally, information on the comment response

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		<p>the review of the draft EIR/EIS. If the review period were doubled, then this would become 800 pages of comments. The volume of our comments is limited by the comment period duration and our personnel resource availability, not by the absence of additional substantive issues and problems with the EIR/EIS and Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) to comment on. Our comments herein are sincere, constructive, specific, and none of them are without substance or merit. You may think that these 400 pages of comments are substantial to have to review and respond to, but they represent only 1% of the volume of the EIR/EIS, HCP/NCCP and related documents that the public had to review in the comment period. In the current process, the EIR/EIS gets the privilege of deciding how much time it is going to take to respond to public comment before it issues the final EIR/EIS. If the time period between the BDCP receipt of public comments to the issuance of the final EIR/EIS is longer than the public review period was, then it is obvious that the BDCP has given itself a grossly unfair advantage over the public in the environmental review process. The length of time for the revision from draft to final is indicative of how flawed and incomplete the draft document was. If the BDCP takes longer between the end of the public review period to the issuance of the final EIR/EIS than the public review period was, then the BDCP should issue the revised document as a revised public draft and not as a final EIR/EIS.</p>	<p>process is detailed in Master Response 42.</p>
1601	64	<p>Issue:</p> <p>The organization of the document is poor.</p> <p>Comment:</p> <p>There are several topics introduced out of sequence so that later materials are introduced and discussed in preceding sections, e.g. water quality discussed in water supply and water supply coming before surface water. The document should be reorganized to a more logical sequence of introduction of topics.</p>	<p>The EIR/EIS is organized in a typical fashion for large CEQA and NEPA documents. Because of the interrelation of the issues, there are many references from a chapter or section to a different chapter or section. In general, references are to material presented earlier in the document. However, because of the complexity of the issues, it is not possible to discuss everything, such as all water issues, in a linear fashion. For more information regarding document length and complexity, please see Master Response 38.</p>
1601	65	<p>Issue:</p> <p>The document includes substantial amounts of material that are redundant or not necessary to include in the document.</p> <p>Comment:</p> <p>This makes the document much larger and harder to get through. The inclusion of these redundant and unnecessary materials is so prevalent, it is potentially a strategy of the project to make the environmental document too large and onerous for the public to get through and comment on.</p>	<p>The lead agencies undertook numerous steps to encourage public review and comment. The lead agencies posted online documents highlighting important aspects of the BDCP and the EIR/EIS. They produced 17 informational webinar episodes regarding the BDCP and EIR/EIS that were available online, and they distributed one-page factsheets throughout the comment period. In addition, both the BDCP and EIR/EIS contain executive summaries, and the most complex EIR/EIS chapters contain reader guides and summaries of impacts. For more information regarding document length and complexity, please see Master Response 38. Please also see Master Response 40 regarding public outreach efforts.</p>
1601	66	<p>Issue:</p> <p>The current review period of 180 days is too short.</p> <p>Comment:</p> <p>At approximately 40,000 pages of materials to review, the 180-day public review period requires a person to review and comment (with supporting analyses, references, etc.) on over 220 pages a day including weekends and holidays. There are 6 holiday days during the review period and over 45 days that are weekends, so excluding those a person would need</p>	<p>Please see Master Response 38 regarding the document's length and complexity and Master Response 39 regarding the Public Review Period length. Regarding public outreach, please see Master Response 40.</p>

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		<p>to review and comment on 310 pages per day. This pace of public review opportunity does not stand the test of reason. CEQA guidance says a large complex project EIR should be less than 300 pages. At the estimated 40,000 pages the BDCP documents are over 130 times larger than CEQA guidance recommends. A 300-page document and a standard 60-day review period per CEQA guidance result in an average of 50 pages per day for review and comment. 50 pages per day for review and comment is what we are requesting from the BDCP to allow an appropriate opportunity for public comment. 50 pages/working day (excluding weekends and holidays) for review and comment is the maximum that could be considered reasonable and not exclusive of the opportunity for the public to participate. At the current 40,000 pages and 50 pages per day review (excluding weekends and holidays), the public review and comment period should be well over 1,100 days.</p>	
1601	67	<p>Issue:</p> <p>The BDCP EIR/EIS has obviously taken on the strategy to baffle the public with unnecessary and distracting content and drown them in redundant and unnecessary ridiculously excessively large volumes of materials that they are hoping it will result in the public not being able to make substantive and comprehensive comments on the document and therefore they can get their deficient document through the environmental review process and their project implemented.</p> <p>Comment:</p> <p>Given the size of the document, it is shocking how many important topics have not been identified, evaluated, quantified or disclosed in this document (over a couple hundred) identify these omissions. In these cases where the EIR/EIS has failed to address these significant impacts, there are also no corresponding measures to avoid, minimize or mitigate these significant impacts. The BDCP EIR/EIS is incomplete and deficient.</p>	<p>Please see response to comment 1601-63. Please also see Master Response 40, Public Outreach Adequacy.</p>
1601	68	<p>Issue:</p> <p>The BDCP is seeking take permits which include coverage of the existing CVP/SWP operations and on-going impacts as "covered activities".</p> <p>Comment:</p> <p>These covered activities impacts of the current CVP/SWP operations and on-going impacts are part of the No Action condition. The reason that the BDCP is seeking permits for these covered activities of the No Action condition is that DWR and Reclamation have been operating the CVP/SWP without the necessary permits. By seeking permits for these covered activities under the BDCP proposed project, the BDCP has incorporated the No Action condition operating activity and on-going impacts of the CVP/SWP as part of the proposed project. Permit coverage of these current and on-going operational activities is one of the primary needs identified in the EIR/EIS for the BDCP project. This is fine, except the BDCP has not included any analysis of on-going impacts from the continued existence and operations of the CVP/SWP facilities which the BDCP is seeking coverage for. The BDCP also failed to identify avoidance, minimization or mitigation measures for any of the significant impacts that are occurring due to the current operations and on-going impacts of the CVP/SWP. The BDCP Proposed Project impact analysis is incomplete in its scope and does not address the No Action impacts in the Proposed Project. Some of the on-going impacts that the BDCP should have evaluated, but failed to include are (but are not limited</p>	<p>Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. The amount of water DWR can pump from the new north Delta facilities is set by Federal regulating agencies, ESA compliance and project design, and not by the water contractors. Operations for the proposed project would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 BiOps (RDEIR/SDEIS Executive Summary ES.2.2). In addition to permitting constraints on daily operations of the SWP and CVP, DWR must maintain proper performance and bypass flows across fish screens when endangered and threatened fish species are present within the north Delta facilities area. The intake fish screens drive the overall size of the intake structure on the riverbank, and have been numbered and sized to permit water to flow through the screens within a predetermined flow regime set by California Department of Fish and Wildlife and NMFS fish screen criteria (BDCP Appendix 5B Section 5.B.3.3).</p> <p>The level of analysis is sufficient to provide an appropriate comparison between the action alternative and the NAA and doing the deeper level of analysis would not help elucidate the impacts of the preferred alternative. Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects.</p> <p>For more information regarding existing conditions, no action alternative, no project alternative, and cumulative impact conditions please see Appendix 3D of the FEIR/EIS.</p>

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		<p>to): CVP/SWP reservoir operations impacts on reservoir fisheries (spawning success from dewatering of nests, blockage of upstream habitat from sediment wedge exposure as a fish passage barrier, and coldwater fisheries coldwater pool habitat quantity and quality), reduction in reservoir water supply and flood control storage from sediment accumulation; reservoir capture of upstream contributions of sediment, gravel and large woody debris and subsequent starvation of downstream reaches of these resources; alteration of the downstream food base from the dominance of different plankton types in reservoir vs. riverine habitats, altered downstream water temperature effects on fish habitat quality and quantity, altered flow effects on bank erosion and habitat (e.g. bank swallow); reduced downstream sediment load effects on nutrient availability, geomorphic process such as bench formation, disruption of downstream geomorphic processes (bench formation and scour hole formation) from reduced upstream large woody debris contributions, increased predation rates from reduced cover and habitat complexity, on-going blockage of the CVP/SWP dams of migratory fish to upstream habitat, on-going loss of genetic integrity of wild fish stocks from blockage of upstream habitat use which causes wild and hatchery fish to compete for spawning habitat, interbreeding or wild and hatchery and between different runs (e.g. spring-run and fall-run introgression, and superimposition causing productivity losses on earlier spawners, e.g. spring-run Chinook; soil and groundwater salt accumulation in CVP/SWP service areas, groundwater overdraft in CVP/SWP service areas resulting from CVP/SWP variations in water supply deliveries, as examples of a few of the on-going impacts that the BDCP EIR/EIS should have evaluated in order to justify issuance of take and other permits which purportedly would cover those impacts.</p> <p>There are comments provided on most of these identified on-going impacts for further information and clarification of this comment. The EIR/EIS document is deficient for not identifying and incorporating reasonable and feasible avoidance, minimization and mitigation measures for these significant impacts of the No Action/Proposed Project covered activities and on-going significant impacts of the CVP/SWP.</p>	<p>For more information regarding the no action alternative please see Chapter 3 of the FEIR/EIS.</p> <p>For more information regarding permitting please see Master Response 45.</p> <p>Also see Master Response 10 regarding significant and unavoidable impacts. Regarding environmental baselines, please see Master Response 1.</p> <p>For information on water rights, please see Master Response 32. Please see Master Response 28 for information on operational criteria and Master Response 33 for information on adaptive management.</p>
1601	69	<p>Issue:</p> <p>There are many sections of the document, especially the affected environment/environmental settings, which use materials from other sources, e.g. reservoir capacities, that are not referenced.</p> <p>Comment:</p> <p>It is clear that the authors did not do the original work (in this example to measure the size of the reservoirs), so clearly a reference to the source document is called for. If so many elements of the description of the project are not referenced, ability to check the accuracy of these representations in the public comments is dramatically diminished. Omission of these reference materials is a strategy of the BDCP to make the environmental document review and comment more onerous on the public.</p>	<p>Data sources for the EIR/EIS are cited extensively. Nearly every chapter contains a References Cited section and Chapter 34 is a 170-page compilation of all sources cited in the EIR/EIS. To avoid making the document overly cumbersome, EIR/EIS authors did not cite the sources for some widely known basic facts, such as the capacity of CVP and SWP reservoirs.</p>
1601	70	<p>Issue:</p> <p>The public draft EIS/EIR fails to utilize the best available science.</p> <p>Comment:</p> <p>The administrative draft EIS/EIR describes the water operations of the proposed project as</p>	<p>The modeling for the EIR/EIS is based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models), which were the state-of-the-art at the time, and formed the basis for all of the model runs analyzed in the EIR/EIS. However, in August 2011 several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS. This update was performed to verify if the compiled model improvements altered the incremental changes between the Action Alternative</p>

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		<p>being complex and dynamic with tidal interactions. The more complex the ecosystem interactions and the more profound the potential operational impacts on environmental resources, the more important the use of the best available analytical tools and application of rigorous and well supported modeling assumptions. CALSIM II is the mass balance system-wide hydrologic water supply modeling tool currently being utilized as the basis (input for other impact models) for many impact analyses in the EIS/EIR. The CALSIM II model output temporal resolution is monthly. Many of the operational changes proposed as part of the BDCP do not even show up as a statistically relevant change in the model results at this course model output temporal resolution. As an example, intertidal water operations at the intakes or water flows diverted to the Yolo Bypass for habitat do not show up on this model's results. CALSIM III, CALSIM II's replacement, has been in progress for years (under development since at least 2004), has effectively been completed and is ready for use. CALSIM III has a 15 minute model output temporal resolution that is absolutely required to understand and fairly evaluate the effects of proposed operations. CALSIM III represents the best available science for evaluating the mass balance system-wide hydrologic effects of the project. Another critical tool not employed by the BDCP environmental analysis that also fails the test of applying the best available science in the EIS/EIR is the use of Dissolved Oxygen (DO) models. The administrative draft EIS/EIR identifies low DO as an existing condition water quality impairment in many parts of the Delta and acknowledges that the proposed water operations will alter the flow patterns and rate of water turnover in the Delta. The administrative draft EIS/EIR states that DO (and other important water quality constituents such as nutrients (e.g. nitrogen and phosphorus) and heavy metals) will only be qualitatively addressed in the environmental analysis (Section 8.3.1, page 123, line 27). There is an existing and accepted DO model for the Stockton Deep Water Ship Channel that is available and ready to use. There are other DO models that exist that are capable of modeling the entire Delta; they just have not been calibrated to the Delta using historical Delta DO observations. DO models have been prepared and used successfully on similarly complex hydrologic systems including the Puget Sound, Mississippi River, Colorado River, Florida Everglades and others. The BDCP has already set the precedent on fisheries models that they can and will invest time and resources in developing and completing a model so that it can be utilized in the BDCP analysis. Since DO is an important habitat suitability characteristic for fish and the project will likely adversely alter designated critical habitat for listed fish species, it is imperative that the BDCP apply the best available science and utilize one of the existing quantitative DO models to evaluate this critical water quality parameter rather than just qualitatively waving a hand at it. DWR should ensure that the EIS/EIR utilizes the best available science and incorporates the use of CALSIM III and DO models in the effects evaluations.</p>	<p>1 and the Existing Conditions and the No Action Alternative relative to the 2010 models. The findings from the 2011 update showed that the incremental differences between Alternative 1 and the Existing Conditions and the No Action Alternative remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability throughout the Draft EIR/EIS. Similarly, when Alternative 4A was modeled using the 2013 baseline, the incremental changes in the operational results for Alternative 4A as compared to the No Action Alternative were similar to the prior incremental results between the 2010 modeling for the No Action Alternative and Alternative 4A. It should be noted that the modeling used in the EIR/EIS must be used in a comparative manner and not to define absolute values. As noted in the Appendix 5A of the EIR/EIS, an integrated suite of models was used to evaluate changes to conditions affecting resources within the Delta as well as effects to other upstream and downstream resources. A framework of integrated analyses including hydrologic, CVP/SWP operations, hydrodynamics, water quality, and particle tracking analysis were required to provide baseline and comparative information for water supply, surface water, aquatic resources and water quality assessments. This analytical framework was also useful to assess changes in the function of the alternatives under varying assumptions of future, non-project conditions such as climate change, future demands, and changes in Delta morphology.</p> <p>CALSIM II is the best tool to simulate CVP/SWP operations representative of the No Action Alternative as well as under the proposed changes to the facilities, regulatory and operations criteria of the action alternatives. It is appropriate to understand system-wide changes on a monthly time-step. However, for processes where a shorter time-step was important, other sub-analyses or models were used. For example, for the Sacramento River spills over the Fremont Weir, Sacramento Weir and North Delta Diversion, daily variation was considered as described in the Appendix 5A. In the Delta, where simulating flows is critical on a tidal timescale, DSM2 model, which runs on 15 min time-step was used in the analysis of the Alternatives. DWR and Reclamation are continuing to work on the development of CalSim III. It was not available at the time of Alternatives evaluation for the BDCP/CWF EIR/EIS. CalSim III is expected to simulate CVP/SWP operations on a monthly time-step consistent with CalSim II. Until CalSim III is available for public use, CalSim II is the best available tool for evaluating system-wide hydrologic effects. Regarding the dissolved oxygen assessment being conducted qualitatively, a dissolved oxygen model that addresses spatial and time scales of the assessment (16 year period DSM2 simulation) and would inform the dissolved oxygen discussions is not currently developed. Therefore, the qualitative assessment conducted for the EIR/EIS was the best available method for the impact assessment. As noted in the dissolved oxygen assessment (i.e., Chapter 8, Water Quality, Impact WQ-9/10), the impact analysis discusses the effects of the primary variables in the Delta that affect dissolved oxygen including water temperature, flow velocity, turbulence, oxygen demanding substances concentrations (e.g., organics), and rates of photosynthesis. As noted in the in the assessment of potential changes in these factors, most effects will be a result of climate change and not the effects of project alternatives. Residence time in the smaller Delta channels is not considered a major factor for dissolved oxygen dynamics, primarily because the hydrodynamics of daily tidal exchange would continue under project alternatives.</p> <p>For more information on modeling, please see Master Response 30.</p>
1601	71	<p>Issue:</p> <p>Reclamation has not followed its own project development and approval procedures for authorization and initiation of a project.</p> <p>Comment:</p> <p>We do not believe that Reclamation has completed the Feasibility Study that is a prerequisite for authorization to initiate a project. Reclamation should have completed this</p>	<p>The financial agreement between DWR and Reclamation was initiated to support completion of the EIR/EIS for the BDCP. Reclamation does not have construction authority for the new conveyance facilities and does not anticipate using the same agreements to fund design or engineering for California WaterFix.</p>

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		feasibility study and secured authorization prior to dedicating funds, resources and personnel to the BDCP/ Delta Habitat Conservation and Conveyance Program (DHCCP). Additional authorizations are required for Reclamation to fund engineering design for a project. DHCCP is engaging in engineering design activities which Reclamation should not be contributing funding towards without specific authorizations. Reclamation should withdraw from the BDCP project and request reimbursement for unauthorized and expropriated funds spent on the BDCP to date.	
1601	72	<p>Issue:</p> <p>Since the project says that it will not result in any additional quantities of water being diverted, it should make a commitment in the Joint Operating Agreement and Joint Operating Authority that the facility will never be modified to increase the amount of water that is being diverted and delivered beyond the amount addressed in this project.</p> <p>Comment:</p> <p>If the BDCP will not make this commitment to not increase the capacity of the conveyance in the future then it is clear that it intends to do just that which would show clear intent to piece meal the environmental impacts and EIR/EIS process which is illegal.</p>	Please see response to comment 1601-2.
1601	73	<p>Issue:</p> <p>Since a large part of the project is proposed be paid for by public funds (habitat restorations) and without those public funds the project would not be permissible, the project should commit within its document, Joint Operating Agreement and Joint Operating Authority that the project will never wheel water or deliver water that is sold for a private entity profit.</p> <p>Comment:</p> <p>If the BDCP will not make this commitment to wheel water for private parties then it is clear that it intends to do just that which is using public funds to subsidize private party profits.</p>	Please see response to comment 1601-3.
1601	74	<p>Issue:</p> <p>The geographic scope of the potential actions by the BDCP should extend to the entire geographic range of the species that are affected by the project.</p> <p>Comment:</p> <p>The current scope of the project impact analysis only addresses a small portion of geographic extent of many of the proposed covered species. Without addressing the entire range of their habitat conditions and life cycle, the BDCP cannot assess their overall contribution to conservation of those species. The BDCP analysis of species impacts and contributions to conservation must encompass the entire geographic range of all proposed covered species. Anything less is incomplete, deficient and cannot be relied upon for conclusions regarding conservation of the species.</p>	Please see response to comment 1601-6.
1601	75	Issue:	The RDEIR/SDEIS Executive Summary, ES.1, identifies and updates from the 2013 Draft EIR the lead and cooperating agencies that will use the EIR/EIS as part of their decision-making process. Reclamation will act as the sole federal Lead Agency of the proposed project (under NEPA) while DWR will continue to act as the

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		<p>CA Fish and Wildlife is only identified as a responsible agency for the BDCP project.</p> <p>Comment:</p> <p>CA Fish and Wildlife as the primary permitting authority for the Natural Community Conservation Plan (NCCP) therefore should be the State lead agency on the BDCP instead of DWR. DWR is proposed to be a part of the operating entity of the BDCP, but it will issue no permits for the project. CA Fish and Wildlife has the superior need from the EIR/EIS document to support their permit decision making and therefore should have been the state lead agency, not DWR. The EIR/EIS should be revised with CA Fish and Wildlife directing the document. CA Fish and Wildlife was not part of the agency review and selection of the current EIR/EIS contractor and the contracting process for the consultant selected to prepare the EIR/EIS should be redone by CA Fish and Wildlife. Once the contractor has been selected and engaged, CA Fish and Wildlife would direct the preparation of the EIR portions of the document.</p>	<p>state Lead Agency (under CEQA). The USFWS and NMFS will act as NEPA Cooperating Agencies. The regulatory agencies – USFWS, NMFS, CDFW, USACE, and the State Water Board – are participating to provide technical input and guidance in support of planning efforts to complete the proposed project.</p> <p>DWR operates and maintains the SWP and would continue to do so as part of the implementation of the proposed project related to the SWP. DWR's actions in the process will be to certify the EIR, adopt findings of fact, decide whether to approve the project and its implementation, and carry out obligations under the proposed project. CDFW will consider whether to approve the proposed project under CESA and issue permits under Section 2081 of the California Fish and Game Code. USFWS and NMFS will make a decision regarding the issuance of permits for the incidental take of federally listed species under ESA Section 7. For more information on compliance with the ESA please see Master Response 29.</p> <p>For more information on the governance structure of the BDCP, please see Master Response 5.</p>
1601	76	<p>Issue:</p> <p>Top agency representatives in charge of the preparation of the BDCP EIR/EIS do not believe the project will achieve the habitat restoration goals in the Delta.</p> <p>Comment:</p> <p>Jerry Meral, California Department of Natural Resources (in charge of the BDCP EIR for DNR and directing DWR in the preparation of the EIR/EIS) has been quoted in the Sacramento Bee as saying, the Bay Delta Conservation Plan "is not about, and has never been about saving the Delta. The Delta cannot be saved." -- Stokely says: "Meral, the guy in charge of the BDCP Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP), does not believe the plan will accomplish its dual goals."</p>	<p>Please see response to comment 1601-19.</p>
1601	77	<p>Issue:</p> <p>The EIR/EIS contractor is not preparing the EIR/EIS under the direction of the Federal lead agencies.</p> <p>Comment:</p> <p>DWR and the State Water Contractors and their representatives have dominated the direction and oversight of the development of the EIS. Letters from National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS) and Reclamation providing feedback on the Administrative Draft EIR/EIS make it clear that they had major problems with the analysis and presentation of materials and their conclusions at that stage of document development. Very little changed between the Administrative Draft and Public Draft of the EIR/EIS, so obviously the contractor preparing the document is not taking direction from the Federal Agencies. How many meetings does the contractor have with the state agencies vs. how many with the federal agencies? The Federal Agencies have a requirement to oversee the EIS and if they are not providing that oversight, they are failing to meet their responsibilities as the federal lead agencies. If the federal lead agencies cannot demonstrate that they have participated equally in directing and overseeing the development of the EIS, then they cannot approve the document and cannot rely upon it as support for decision making in issuing permits.</p>	<p>The federal agencies (Reclamation, NMFS and USFWS) have been a part of the BDCP/California WaterFix planning process since it began and have been heavily involved in preparation of the EIR/EIS. Please also see response to comment 1601-75 regarding the roles of the federal agencies.</p>

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1601	78	<p>Issue:</p> <p>Summary of impacts for Alternative 4 as compared to the No Action.</p> <p>Comment:</p> <p>In order for a project to be successful or desirable to implement, there must be a clear superiority of the Proposed Project over the No Action alternative. There is considerably greater risk and uncertainty in the outcome of the proposed project than there is with the No Action, so this is an additional consideration in the desirability of a proposed project as compared to the no action. Many of the criticisms of the Independent Scientific Review Panel phase 2 and 3 reports were directed at the magnitude of uncertainties of the impacts and benefits of the proposed project. The No Action is just a continuation of the current condition trends and policies so there is little guesswork and uncertainty in the outcome of the No Action. If there is not a clear superiority of the Proposed Project over the No Action condition then the significant impacts that remain from the Proposed Project after mitigation are not justifiable. Comparing the impacts of the No Action to the Proposed Project in the Executive Summary, it is clear that the No Action has more benefits and less Unavoidable Significant impacts than the Proposed Project. This superiority of the No Action over the Proposed Project becomes even more significant if the significant impact call errors on the No Action are corrected. Given the clear superiority of the No Action as compared to the Proposed Project, the No Action alternative must be selected as the Least Environmentally Damaging [Practicable] Alternative (LEDPA).</p>	<p>For information regarding purpose and need please see Master Response 3. For information on operational criteria, please see Master Response 28. For more information regarding significant and unavoidable impacts please see Master Response 10.</p> <p>For a discussion on determining the environmentally superior alternative under CEQA and the preferred alternative under NEPA please see Chapter 31, section 31.3, of the Final EIR/EIS. As discussed in section 31.3, the environmentally superior alternative is not the No Project Alternative.</p>
1601	79	<p>Issue:</p> <p>If a Proposed Project does not provide identifiable benefits related to the Purpose and Need identified as the justification for the project, then the project has failed and should be terminated.</p> <p>Comment:</p> <p>One of the primary purposes and needs identified in Chapter 2 is to improve water supply reliability (impact WS2). The impact summary table in the executive summary indicates that the improvement to water supply deliveries for the CVP/SWP is "No Determination". That means that the lead agencies cannot determine if there is a benefit or impact to the water supply from the proposed project. The BDCP has spent years and tens of millions of dollars on developing the project, operations and modeling and impact analysis of this very question. The significance of the failure of the BDCP to successfully address the primary purpose of the project cannot be overstated. Unless there is a resounding water supply improvement from the project then, why on earth would anyone agree to all of the impacts that the project would create? The improvement of water supply would be the only possible offsetting rationale that the project, and all of its other adverse impacts, could be in the greater public good and interest. Without this clear and definitively supported benefit the BDCP project is a failure and should be immediately terminated.</p>	<p>Chapter 5 (Water Supply) does not make impact determinations for water supply effects because changes in water deliveries are not considered effects to the environment. However, effects of changes to SWP/CVP export or deliveries could be relevant in determining the significance of physical environmental changes, such as changes in decisions by SWP/CVP agricultural water users to convert agricultural land to other uses; or indirect physical changes in the environment, such as the need to develop future water supplies. These types of environmental effects are addressed throughout the EIR/EIS in appropriate chapters (e.g. Chapter 30, Growth Inducement and Other Indirect Effects).</p> <p>While Delta exports under the preferred alternative, 4A, will be similar to exports under the No Action Alternative baseline (NAA), adding an additional point of diversion in the north Delta will help protect SWP and CVP exports against sea level rise and other consequences of climate change, in addition to increasing SWP and CVP resiliency to potential future seismic and levee failure events in the Delta. For more information on the BDCP/CWF purpose and need, please see Chapter 2 (Purpose and Need) of the EIR/EIS. Also, see Section 29.3 for an analysis on how the project alternatives would achieve the objective of increasing resiliency and adaptability to climate change.</p> <p>For more information regarding purpose and need of the proposed project please see response to comment 1601-78.</p>
1601	80	<p>Issue:</p> <p>Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe significant environmental impacts that cannot be avoided, including those effects that can be</p>	<p>For information regarding significant and unavoidable impacts please see Master Response 10. For more information regarding Environmental Commitments please see Appendix 3B of the FEIR/EIS. Also see Master Response 22 regarding mitigation measures.</p>

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		<p>mitigated but not reduced to a less-than-significant level.</p> <p>Comment:</p> <p>Many of the impacts identified by the BDCP Proposed Project that were "Significant Unavoidable" are actually fully mitigatable given a sufficient level of effort and commitment of resources. The BDCP avoidance, minimization and mitigation measures need to be completely over-hauled and given a much more substantial level of effort at avoiding, minimizing and mitigating impacts. Until the BDCP can meet the test that no significant avoidable impacts can be mitigated any further to achieve and less-than-significant impact, the document will remain deficient and non-compliant with CEQA.</p>	
1601	81	<p>Issue:</p> <p>The BDCP EIR/EIS document is incomplete; flawed; incorrect; does not identify or disclose significant impacts; and does not provide any measures to feasibly avoid, minimize or mitigate some of its significant impacts. Once the document materially revised to address these deficiencies, must be recirculated for another opportunity for public comment.</p> <p>Comment:</p> <p>Even with the ridiculously sized document and inadequate duration of review time, we have managed to contribute over 1,200 substantive comments on the deficiencies of the BDCP EIR/EIS document. None of these comments are without substance or merit and none are on trivial issues such as grammatical errors. All of these comments address deficiencies of the document and contain requests for the BDCP to provide material improvements to the environmental analysis and to address feasible mitigations. The volume and weight of our comments should be adequate evidence of the deficiency of the BDCP EIR/EIS and HCP documents. When the documents are materially revised to address these new issues not previously addressed by the document and other substantive comments, the document must be recirculated for public comment.</p>	<p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p> <p>Please see Master Response 38 regarding the length and the complexity of the document and Master Response 39 regarding the duration of the public review period. More information on how DWR has developed the project in an open and transparent manner is provided in Master Response 41. For information on public outreach, please see Master Response 40.</p>
1601	82	<p>Issue:</p> <p>There are numerous significant impacts from the Proposed Project that the BDCP EIR/EIS has failed to identify or implement reasonable and feasible measures to avoid, minimize and mitigate significant project impacts.</p> <p>Comment:</p> <p>Public Resources Code 21000 et seq. states that public agencies are prohibited from approving projects "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." There are a number of Proposed Project Significant and Significant Unavoidable impact calls that have no proposed measures to avoid, minimize or mitigate the project impacts. This is clearly in violation of the aforementioned code. The BDCP needs to identify, develop, evaluate, quantify and disclose the impacts that occur from these avoidance, minimization and mitigation measures. There should be no adverse impacts that do not have a full faith attempt to avoid, minimize and mitigate those impacts. Until the BDCP develops avoidance, minimization and mitigation measures for all of these impacts, the BDCP EIR/EIS will remain deficient, should not be approved and should not be used as a</p>	<p>CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Please see each resource area chapter and associated mitigation measures in each chapter of the Final EIR/EIS.</p> <p>For more information regarding significant and unavoidable impacts please see Master Response 10. Also see Master Response 22 regarding the adequacy of mitigation measures.</p> <p>Regarding Environmental Commitments please see Appendix 3B of the Final EIR/EIS.</p>

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		decision support document by the agencies.	
1601	83	<p>Issue:</p> <p>There are numerous significant impacts from the No Action that the BDCP EIR/EIS has failed to identify or implement reasonable and feasible measures to avoid, minimize and mitigate significant project impacts.</p> <p>Comment:</p> <p>Public Resources Code 21000 et seq. states that public agencies are prohibited from approving projects "if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects." The BDCP is seeking permits to cover current activities of the existing facilities. These current unpermitted activities that the BDCP seeks permit coverage for are part of the No Action Condition. The BDCP project is unusual in that every other project has already avoided, minimized and mitigated the impacts associated with the No Action. The BDCP therefore must identify, develop, and propose avoidance, minimization and mitigation measures for No Action impacts as well as for the Proposed Project. There are a number of No Action Significant and Significant Unavoidable impact calls that have no proposed measures to avoid, minimize or mitigate the project impacts. This is clearly in violation of the aforementioned code. The BDCP needs to identify, develop, evaluate, quantify and disclose the impacts that occur from these avoidance, minimization and mitigation measures for the No Action impacts. There should be no adverse impacts that do not have a full faith attempt to avoid, minimize and mitigate those impacts. Until the BDCP develops avoidance, minimization and mitigation measures for all of these No Action impacts, the BDCP EIR/EIS will remain deficient, should not be approved and should not be used as a decision support document by the agencies.</p>	<p>The level of analysis is sufficient to provide an appropriate comparison between the action alternative and the NAA and among action alternatives. Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects.</p> <p>Please also see response to comment 1601-82 for more information.</p>
1601	84	<p>Issue:</p> <p>Funding requirements to close out the project at the end of the 50-year project period has not been defined by the BDCP or provided for in the funding plan.</p> <p>Comment:</p> <p>BDCP failed to provide a plan and funding for how the facilities and habitat restorations are disposed of at the end of the 50-year program. Levees constructed by the BDCP need to either be removed and land restored or the levees maintained in perpetuity. Facilities not utilized after the 50-year period cannot just be abandoned to be public nuisance. The BDCP must provide a plan as to how the facilities, infrastructure, land physical modifications and land use modifications are restored at the end of the project period. The BDCP cannot just assume the project will be approved for additional time periods after the project period permitted based on the EIR/EIS 50 year period. The BDCP must not only provide the project close down plan, but also the funding for the removal of these project artifacts or guarantee (and provide evidence of) their maintenance funding in perpetuity.</p>	<p>Please see response to comment 1601-38.</p>
1601	85	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p>	<p>As already noted, the preferred alternative is now Alternative 4A and no longer includes an HCP. As such the action alternatives use two different No Action Alternative assumptions due to the different timeframes for evaluation, as discussed in Section 4.1.1, Timeframes for Evaluation, of the Final EIR/EIS. The HCP alternatives use the No Action Alternative Late Long Term (No Action Alternative or NAA), assumed at 2060,</p>

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		<p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Beneficial (before mitigation) - No Action Alternative (NAA)=8, Alt 4=73 - As you would expect, most of the beneficial impacts for Alt 4 are from Aquatic and Biological resources. The comparative score, however, is very misleading. First, Aquatic incorrectly uses different significance criteria for evaluating impacts of the No Action Alternative than for Alt 4. Using different significance criteria for NAA vs. alternatives impacts is grossly incorrect procedure. If Aquatic impacts for No Action had the same impact criteria used as it should have, then most of the benefits would have been identified for the No Action Alternative as most of the aquatic habitat restoration actions are part of the mandated baseline condition from the Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs). By the time appropriate credit is given to improvement in aquatic conditions from existing obligation/legal requirement aquatic habitat improvements that are part of the NAA, very few if any beneficial impacts for the Alternative 4 would remain. The rest of the beneficial impacts for Alt 4 are for biological resources and are largely correct as there are few if any existing OCAP BO RPAs obligations for terrestrial habitat improvements.</p>	<p>while the non-HCP alternatives use the No Action Alternative Early Long Term (NAA ELT), assumed at 2025. The NAA ELT assumptions include continued SWP/CVP operational assumptions used in CALSIM II modeling and on-going programs, projects and policies that would continue in the absence of action alternatives.</p> <p>Please refer to Master Response 1 and Appendix 3D (Defining Existing Conditions, the No Action/ No Project Alternative, and Cumulative Impact Conditions) of the Final EIR/EIS for a discussion of the environmental baselines used in the EIR/EIS. Also see Chapter 4, Approach to the Environmental Analysis. For more information regarding purpose and need please see Master Response 3. Updated comparison tables of all alternatives are included in the Executive Summary of the FEIR/EIS. For more information regarding significant and unavoidable impacts please see Master Response 10.</p> <p>For information on habitat restoration please see response to comment 1601-4.</p> <p>For a discussion on determining the environmentally superior alternative under CEQA and the preferred alternative under NEPA please see Chapter 31, section 31.3, of the Final EIR/EIS. As discussed in section 31.3, the environmentally superior alternative is not the No Project Alternative.</p>
1601	86	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>No Impact (before mitigation) - No Action Alternative (NAA)=159, Alt 4=59 - You can see from this score that the NAA affects many less resources than the highly disruptive Alternative 4.</p>	<p>Please see response to comment 1601-85 for information on the environmentally superior alternative.</p>
1601	87	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>No Determination (before mitigation) - No Action Alternative (NAA)=2, Alt 4=2 - "No Determination" is not a legitimate or accepted NEPA or CEQA impact call. The "No Determination" impact calls are for SW-2: Change in CVP/SWP water deliveries and SW-3: Change in reverse flow conditions in Old and Middle Rivers. The No Determination impact call for the No Action is a copout and a farce. With this impact call, the BDCP, DWR and Reclamation are saying that they are unable to determine if water supplies, under the existing conditions with the continuation of existing plans and policies, increase or decrease</p>	<p>Regarding the BDCP impact determinations, Section 2.1.4 in the RDEIR/EIS has info on why certain impact determinations were not made in the Public Draft EIR/EIS. CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Regarding SW-3, changes in OMR flows are not considered direct impacts to the environment and do not have impact determinations; however, indirect effects to fisheries and water quality are addressed in other resource chapters of this FEIR/FEIS. Determination of effects is discussed in section 6.3.2 of Chapter 6 in the FEIR/EIS.</p> <p>The existing operation of the SWP and CVP pumps in the south Delta can cause reversals in river flows, potentially altering salmon migratory patterns. The new system would reduce the ongoing physical impacts associated with sole reliance on the southern diversion facilities and allow for greater operational flexibility to better protect fish. Minimizing south Delta pumping would provide more natural east-west flow patterns (RDEIR/SDEIS Section 4.1). Overall reductions in OMR reverse flows under all flow scenarios for the proposed project would be beneficial with corresponding increase in net positive downstream flows, during the migration period of Chinook salmon through the interior Delta channels (Appendix B, Supplemental Modeling for Alternative 4A, Section B.7 (RDEIR/SDEIS Section 4.3.7). Operations would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board</p>

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		<p>or stay the same. There is nothing more fundamental to the planning and operations of the CVP/SWP than being able to determine water deliveries under current plans and potential scenarios. If DWR and Reclamation cannot make this core determination for the results of the No Action operation of the CVP/SWP then all impact analyses done from the modeling for the BDCP cannot be trusted and their validity is in serious question. Many impact analyses rely upon the CALSIM output on CVP/SWP water deliveries as input for subsequent modeling. These CVP/SWP water delivery dependent models include: groundwater, water supply, economics (e.g. IMPLAN), and others. Obviously none of the results from these CVP/SWP water delivery dependent models can be utilized as they are based on model results that cannot successfully determine if there is an increase or decrease in CVP/SWP water deliveries. The second "no determination" impact call is for reverse flows on old and middle rivers. This is also an indicator of a fundamental flaw in the BDCP modeling as an important CVP/SWP operating criteria are constraints on Old and Middle River reverse flows (Judge Wanger mandated limitations on reverse flow magnitudes at various times of year). The frequency, magnitude and duration of exceedances of limitations on reverse flow criteria are an important impact assessment of the ability of the No Action and proposed project (Alt 4). Because reverse flow constraints are a driving (and often limiting factor in operations), the standard processing outputs of the models include exceedance plots of reverse flows on Old and Middle River. The fact that the BDCP is claiming that they cannot make a determination on this important criterion, even though the data to do the analysis is readily available, is not credible and is obviously an attempt to hide impacts and operations criteria violations that are occurring under both the No Action and Proposed Project (Alt 4) scenarios.</p>	<p>Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 BiOps (RDEIR/SDEIS Executive Summary ES.2.2).</p> <p>Please also see response to comment 1601-85 regarding the environmentally superior alternative.</p> <p>For information on modeling, please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>
1601	88	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Less-than-significant (before mitigation) - No Action Alternative (NAA)=159, Alt 4=327 - The No Action has significantly less than half as many instances of impacts before mitigation than Alt 4.</p>	<p>Please see response to comment 1601-85 for information on the environmentally superior alternative.</p>
1601	89	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Significant (before mitigation) - No Action Alternative (NAA)=92, Alt 4=161 - Alternative 4 has almost twice as many significant impacts before mitigation than the No Action Alternative.</p>	<p>Please see response to comment 1601-85 for information on the environmentally superior alternative.</p>

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1601	90	<p>90</p> <p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Beneficial (after mitigation) - No Action Alternative (NAA)=19, Alt 4=144 - As you would expect, most of the beneficial impacts for Alt 4 are from Aquatic and Biological resources. The comparative score, however, is very misleading. First, Aquatic incorrectly uses different significance criteria for evaluating impacts of the No Action Alternative than for Alt 4. Using different significance criteria for NAA vs. alternatives impacts is grossly incorrect procedure. If Aquatic impacts for No Action had the same impact criteria used as it should have, then most of the benefits would have been identified for the No Action Alternative as most of the aquatic habitat restoration actions are part of the mandated baseline condition from the Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs). By the time appropriate credit is given to improvement in aquatic conditions from existing obligation/legal requirement aquatic habitat improvements that are part of the NAA, very few if any beneficial impacts for the Alternative 4 would remain. The change in NAA beneficial impacts prior to mitigation from 8 to 19 after mitigation indicates that some of the NAA significant impacts became beneficial after mitigation. This improvement is good, but nowhere in the document did we see any mitigation being proposed for No Action impacts. This was a serious criticism of ours of the EIR/EIS document as the BDCP is seeking permit coverage for on-going impacts and operations and yet had proposed no mitigations to address impacts that had never been mitigated under any previous environmental review process.</p>	<p>Please see response to comment 1601-85 for information on the environmentally superior alternative. For information on the adequacy of mitigation measures, please see Master Response 22.</p> <p>Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects.</p>
1601	91	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>No Impact (after mitigation) - No Action Alternative (NAA)=158, Alt 4=60 - You can see from this score that the NAA affects many less resources than the highly disruptive Alternative 4. There is one more No Impact call for after mitigation for both the No Action and Alt 4. This makes no sense as you don't mitigate for No Impact. The BDCP needs to explain how the number of No Impact calls changed from before to after mitigation.</p>	<p>CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Please see response to comment 1601-85 for information on the environmentally superior alternative.</p>
1601	92	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p>	<p>CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Please see response to comment 1601-85 for information on the environmentally superior alternative.</p>

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		<p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>No Effect (after mitigation) - No Action Alternative (NAA)=138, Alt 4=38 - The No Action has three and a half times more resources which are not affected by the project than Alt 4.</p>	
1601	93	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>No Determination (after mitigation) - No Action Alternative (NAA)=3, Alt 4=20 - "No Determination" is not an impact call - see preceding and related comments. The majority of the increase in the No Determination (non-) impact calls after mitigation as compared to before mitigation are for Alt 4 for aquatic resources (the rest are for biological resources). This increase in no determination impact calls after mitigation are because the EIR/EIS cannot determine if the mitigations will work or not. Given this high degree of uncertainty as to the function of these mitigations, the EIR/EIS and the public trust resource agencies are obligated to take the more conservative approach that if there is not certainty of benefit or function of the mitigations, that the agencies and the EIR/EIS must assume that they will not function as proposed and reassign these uncertain impacts to "Adverse" and "Significant" or "Less-than-Significant".</p>	<p>CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Please see response to comment 1601-85 for information on the environmentally superior alternative.</p>
1601	94	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Not Adverse (after mitigation) - No Action Alternative (NAA)=165, Alt 4=382 - Not Adverse is a NEPA impact call. Not Adverse is not as good as "Beneficial" or "No Effect" NEPA calls which the No Action outscores Alt 4 handily.</p>	<p>CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Please see response to comment 1601-85 for information on the environmentally superior alternative.</p>
1601	95	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the</p>	<p>CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Please see response to comment 1601-85 for information on the environmentally superior alternative. Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects. For more information on adequacy of mitigation measures, please see Master Response 22. Environmental Commitments, AMMs, and CMs are discussed in Appendix 3B of the Final EIR/EIS. For a discussion of significant and unavoidable impacts, please see Master Response 10.</p>

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		<p>Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Less-Than-Significant (after mitigation) - No Action Alternative (NAA)=147, Alt 4=415 - Here again the No Action is clearly vastly superior to the Proposed Project (Alt 4). This is despite the fact that the BDCP proposed no measures to avoid, minimize or mitigate the No Action Alternative impacts. The BDCP must propose measures to avoid, minimize and mitigate the impacts of the un-permitted operations of the CVP/SWP. The BDCP is seeking permits to cover the existing operations and impacts, but has utterly failed to propose avoidance, minimization and mitigation measures for the current and on-going impacts of the existing CVP/SWP operations and maintenance. If the BDCP wants permit coverage for the existing facilities operations and maintenance then they must include mitigations for the No Action impacts. If the BDCP were to have correctly included these No Action impacts mitigations, the less-than significant, significant, adverse and significant unavoidable impacts of the No Action would be significantly reduced and make the No Action even more superior as compared to Alt 4.</p>	<p>Information on permitting can be found in Master Response 45. Also see Master Response 32, Water Rights.</p>
1601	96	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Significant (after mitigation) - No Action Alternative (NAA)=87, Alt 4=22 - The NAA significant after mitigation impacts went down by 5 compared to before mitigation. It is clear that a few (very few) mitigations were included for some of the NAA significant impacts or this score could not otherwise have gone down. Looking at the impact summary table, no mitigations were identified for NAA significant impacts. What is clear is that the BDCP failed to provide avoidance, minimization and mitigation measures for most (87 out of 92) of the significant impacts of the NAA. The BDCP must propose and include avoidance, minimization and mitigation measures for all of the significant impacts of the NAA. This inconsistency in the treatment of significant impacts of the NAA is yet another example of how poorly executed and deficient the BDCP EIR/EIS document is. Once the BDCP EIR/EIS is revised to provide avoidance, minimization and mitigation measures for NAA Significant impacts, the NAA will become even more superior as compared to the Proposed Project (Alt4).</p>	<p>Please see response to comment 1601-95.</p>
1601	97	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Adverse (after mitigation) - No Action Alternative (NAA)=96, Alt 4=122 - Here again the No</p>	<p>Please see response to comment 1601-95.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Action is clearly superior to the Proposed Project (Alt 4). This is despite the fact that the BDCP proposed only a few measures to avoid, minimize or mitigate the No Action Alternative impacts. The BDCP must propose measures to avoid, minimize and mitigate the impacts of the un-permitted operations of the CVP/SWP. The BDCP is seeking permits to cover the existing operations and impacts, but has failed to consistently propose avoidance, minimization and mitigation measures for the current and on-going impacts of the existing CVP/SWP operations and maintenance. If the BDCP wants permit coverage for the existing facilities operations and maintenance then they must include mitigations for the No Action impacts. If the BDCP were to have correctly and consistently included these No Action impacts mitigations, the less-than significant, significant, adverse and significant unavoidable impacts of the No Action would be significantly reduced and make the No Action even more superior as compared to the impacts of Alt 4.</p>	
1601	98	<p>Document Section: Executive Summary - ES-61 through ES-132.</p> <p>Issue:</p> <p>The executive summary impact table (starting page ES-61) demonstrates that the No Action is superior in reduced impacts to all of the project alternatives, including specifically the Proposed Project (Alt 4). Following are comparisons of the No Action and Alt 4.</p> <p>Comment:</p> <p>Significant Unavoidable (after mitigation) - No Action Alternative (NAA)=8, Alt 4=52 - Here is another example of the clear superiority of the No Action Alternative to the Proposed Project (Alt 4). These types of impacts are not only still significant after mitigation, but their very nature makes their impacts so severe that theoretically mitigation is not possible. There are often catastrophic types of impacts which cause wholesale changes in resources rather than just impacts or degradations in conditions. If the NAA were to have been mitigated as it should have been, there would be none or only a couple significant unavoidable impacts. In the case of the BDCP Alt 4, the number of significant unavoidable impacts could have been substantially reduced with a significant application of level of effort and commitment of resources and funding that were commensurate with the scope, scale and costs of the proposed project.</p>	Please see response to comment 1601-95.
1601	99	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The economic impact calls (ECON-1 - ECON-18) in the EIR/EIS do not stand any test of reason or logic.</p> <p>Comment:</p> <p>ECON-1 impact call claims that there is No Impact on temporary regional economics during construction of the conveyance. The CEQA impact call before mitigation is no impact and then the BDCP proposes to mitigate that non-impact and yet the NEPA impact call is adverse. These calls are clearly in conflict. Obviously construction traffic, noise, no-boating zones, housing conflicts or construction workers with availability of housing for migrant farm workers and other Delta population will have an affect on Delta economics during conveyance construction. The CEQA impact calls have no creditability nor do they stand up</p>	<p>CEQA and NEPA have slightly different thresholds for impacts. As explained under Impact ECON-1 for Alternative 4A, the new preferred alternative, the total change in employment and income is not, in itself, considered an environmental impact under CEQA. Significant environmental impacts would only result if the changes in regional economics cause physical impacts. Such effects are discussed in other chapters throughout the EIR/EIS. Under NEPA, because construction of water conveyance facilities would result in an increase in construction-related employment and labor income, this would be considered a beneficial effect. However, these activities would also be anticipated to result in a decrease in agricultural-related employment and labor income, which would be considered an adverse effect. Mitigation Measure AG-1, described in Chapter 14, Agricultural Resources, Section 14.3.3.2, Impact AG-1, would be available to reduce these effects by preserving agricultural productivity and compensating off-site.</p> <p>As discussed under Impact ECON-2, the construction workforce would most likely commute daily to the work sites from within the five-county region; however, if needed, there are about 53,000 housing units available to accommodate workers who may choose to commute to on a workweek basis or who may choose to temporarily relocate to the region for the duration of the construction period, including the estimated 730 workers who may temporarily relocate to the Delta region from out of the region. In addition</p>

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		<p>to even the most cursory examination. ECON-2 CEQA impact call on Alt 4 claims no impact on Delta housing during construction of the conveyance. The BDCP must be guaranteeing that none of the construction workers will reside in the Delta during project construction or their impact call is bogus. ECON-3 impact call claims no impact and Adverse/Beneficial on changes in community character. These impact calls are also bogus. According to the BDCP, installing three 5 story tall half mile long intake facilities that are as noisy as a jet engine and have bright security lighting in a very rural area and scenic highway supposedly has no impact. The NEPA impact call of beneficial is also fallacious as the number of jobs created for maintaining the conveyance will not be nearly as many jobs as have been displaced by the conveyance and the labor skill sets are different, so the people getting the jobs would not be the same people as the ones displaced by the project. There would be a handful of new jobs for people that are outside of the Delta community and thousands of jobs lost by residents from the Delta. This can hardly be considered overall beneficial by anyone's accounting, no matter how biased. ECON-4 are claimed by the BDCP EIR/EIS as no impact even though thousands of acres will no longer be paying local and regional taxes because they have been converted from tax paying and tax revenue generating entities to state and federal properties that do not pay or generate those revenues. ECON-5 the EIR/EIS falsely claims no impact on recreation economics from construction of the conveyance even though there will be no boating zones in recreation areas for barge loading, in- water work and conveyance water crossings. ECON-6 is also falsely claimed as no impact on agricultural economics from construction of the conveyance even though thousands of acres will be converted from prime, unique and regionally important farmland into construction staging, construction footprint, forebay, pumping plant and other conveyance facilities. ECON-8, 9, and 10 - same comments as ECON-2, 3 and 4. ECON-11, same comment as ECON-5. ECON-12, same comment as ECON-6. ECON-13, same comment as ECON-3. ECON-14, same comment as ECON-2. ECON-15, same comment as ECON-3. ECON-16, same comment as ECON-4. ECON-17, same comment as ECON-4. ECON-18, same comment as ECON-6. The BDCP must change these grossly inaccurate and unsupported impact calls.</p>	<p>to the available housing units, there are recreational vehicle parks and hotels and motels within the five-county region to accommodate any construction workers.</p> <p>As discussed under Impact ECON-3, because changes in community character are social in nature, rather than physical, they are not considered impacts under CEQA.</p> <p>As discussed under Impact ECON-4, project proponents would make arrangements to compensate local governments for the loss of property tax or assessment revenue for land used for constructing, locating, operating, or mitigating for new Delta water conveyance facilities. Additionally, as discussed under Impact ECON-1, construction of the water conveyance facilities would be anticipated to result in a net temporary increase of income and employment in the Delta region. This would also create an indirect beneficial effect through increased sales tax revenue for local government entities that rely on sales taxes.</p> <p>Similarly, for Impact ECON-6, the reduction in the value of agricultural production is not considered an environmental impact. Significant environmental impacts would only result if the changes in regional economics cause physical impacts.</p> <p>For more information on the determination of effects, please see Section 16.3.2 in Chapter 16 of the Final EIR/EIS.</p>
1601	100	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>Many of the impact calls in the BDCP EIR/EIS document are incorrect.</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls consistently incorrectly identify the No Action Alternative (NAA) as having less-than-significant, significant and adverse impacts associated with Conservation Measures 1-22 even though the NAA does not include those actions. Examples of these erroneous impact calls include (but are not limited to): WQ-1 - WQ-31, SOILS-1 - SOILS-4, SOILS-6 - SOILS-9, AQUA-NAA1, AQUA- NAA8, AQUA-NAA9, AQUA-NAA16, BIO-1, BIO-4, BIO-6, BIO-9, BIO-12, BIO-15, BIO-18, BIO-21, BIO-24, BIO-27, BIO-29, BIO-34, BIO-37, BIO-40, BIO-50A, BIO-58, BIO-64, BIO-68, BIO-70, BIO-73, BIO-77, BIO-82, BIO-84, BIO-88, BIO-90, BIO-92, BIO-96, BIO-97, BIO-99, BIO-101, BIO-105, BIO-106, BIO-110, BIO-114, BIO-118, BIO-122, BIO-126, BIO-131, BIO-135, BIO-139, BIO-143, BIO-149, BIO-162, BIO 169, BIO-170, BIO-174, BIO-176, BIO-177, BIO-178, BIO-179, BIO-180, BIO-181, BIO-182, BIO-185, LU-1 - LU-6, AG-1 - AG-4, REC-1 - REC-12, AES-1 - AES-6, CUL-1 - CUL-7, TRANS-1 - TRANS-7, TRANS-10, UT-1 - UT-8, AQ-1 - AQ-9, AQ-14 - AQ-19, NOI-1 - NOI-4, HAZ-1 - HAZ-4, HAZ-7, PH-1, PH-3, PH-4, PH-5, PH-6, PH-7, MIN-1 - MIN-12, PALEO-1, and PALEO-2. This is a total of 194 impact calls that the BDCP has incorrectly determined that there would be impacts</p>	<p>The Executive Summary table and resource chapter impact analyses present the No Action Alternatives separately from the action alternatives based on assumptions disclosed about assumed projects and programs that could occur in the absence of action alternatives. The commenter has misinterpreted the summary table and action alternatives conclusions for the No Action Alternatives.</p>

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		under the No Action Alternative for project components that do not occur under the No Action Alternative condition. When comparing the other alternatives to the NAA, the NAA must have these erroneous impact calls corrected.	
1601	101	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP has aggregated many different actions into single impact calls, e.g. CM2 - CM22.</p> <p>Comment:</p> <p>By combining the impacts from so many BDCP actions, e.g. CM2 - CM22, into a single impact call on a resource, the BDCP EIR/EIS obscures the differences in the magnitude of impacts and the sources of the impacts. As an example, the BDCP EIR/EIS makes many Less than Significant (LTS), Significant (S) and Adverse (A) impact calls on the No Action Alternative for the implementation of CM1 and CM2 - CM22. The No Action may incorporate some small elements of activities that may correlate to one or two of the concepts that are incorporated into CM1 or CM2-CM22, but the magnitude and scope of those activities would be miniscule and only encompass a small portion of the actions the significance criteria is supposed to disclose. In these cases where there is some element of a CM in the No Action, it is misleading of the EIR/EIS to imply that the scope and magnitude of an LTS of the No Action is the same as for the other alternatives which would have all of the impacts from the entire proposed scope from all of the CMs. The BDCP must clarify the EIR/EIS disclosure by separating each of the impact calls by each conservation measure, i.e. WQ-2 CM4 separate from each other CM. By adopting this explicit CM by CM disclosure approach the EIR/EIS would avoid the current misrepresentation of the magnitude of impacts and would disclose the sources of the impacts. In this way, the best alternative with the least environmentally damaging impacts can be identified more clearly. The way impacts are currently represented in the EIR/EIS, almost all of the alternatives have exactly the same impacts for most of the impact calls. This lack of impact call differentiation for some very different alternatives is a clear indication that the way the BDCP EIR/EIS has approached the impact calls and aggregation of impacts has failed to appropriately disclose the project impacts. If there is an impact call for each CM, then there will be clear differentiation of the alternatives, the document would meet disclosure requirements and would provide the raw materials to do the Least Environmentally Damaging Practicable Alternative (LEDPA) analysis.</p>	<p>Table ES-9 is intended to summarize the impact conclusions for the NAA and action alternatives. For details regarding the impact analyses the commenter is directed to each of the resource chapters. Impacts related to CM2-22 in the Draft EIR/EIS are evaluated at a programmatic level as described in Chapter 4, Approach to the Environmental Analysis of the 2013 Public Draft EIR/EIS, and Master Response 2.</p> <p>Differences in impacts across alternatives are disclosed in alternative comparison tables in the Final EIR/EIS Executive Summary and individual resource chapters. Please refer to Master Response 4 related to EIR/EIS alternatives development.</p>
1601	102	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS treats the No Action Alternative (NAA) impacts the same as the alternative impacts.</p> <p>Comment:</p> <p>Impacts of the project alternatives are supposed to be compared to the No Action condition. The BDCP's impact summary tables treat the NAA impacts the same as the alternative impacts. In a correct comparison, the EIR/EIS should have presented that the impacts of the alternatives are in addition to those which occur under the No Action</p>	<p>CEQA and NEPA require establishing baseline conditions for the purpose of judging the changes associated with action alternatives. Existing conditions at the time of the NOP is normally the CEQA baseline. NEPA analyses use the No Action Alternative as the point of comparison for the action alternatives. CEQA requires disclosure of the No Project effects and NEPA requires disclosure of the No Action Alternative effects separate from the action alternatives. For the EIR/EIS, the No Project Alternative and the No Action are equivalent. All of the impact analyses have been prepared according to the requirements of CEQA and NEPA. Please also refer to Master Response 1, which describes the adequacy of the baseline approach, and to individual resource chapters which describe the analyses methodologies and how the significance of impacts are determined.</p> <p>Please also see response to comment 1601-101 and 1601-85.</p>

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		<p>condition. When the impacts of the alternatives are put into the correct perspective that the impacts are in addition to those which occur under the No Action, it is even more clear that the project alternative impacts are much worse for the proposed project (Alt 4) than under the No Action condition.</p>	
1601	103	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>Many of the NEPA and CEQA impact calls in the BDCP EIR/EIS document are in conflict.</p> <p>Comment:</p> <p>Some combinations of CEQA and NEPA impact calls are inherently in conflict. As an example, CEQA often has a less-than-significant impact after mitigation and NEPA has a Not Adverse impact call. So CEQA is saying something adverse is resulting as an impact with a Less than Significant (LTS) call and NEPA is saying that there is no adverse impact. These are clearly in conflict and there are dozens of impact calls with this specific conflict.</p>	<p>NEPA and CEQA use different significance thresholds and baselines, as described in Chapter 4, Approach to the Environmental Analysis, Section 4.2, of the Final EIR/EIS. In the case of NEPA conclusions, the options are Adverse, Not Adverse, No Effect and Beneficial. Under CEQA, the conclusions are either Significant and Unavoidable, Significant, Less than Significant, No Impact and Beneficial. When no substantial effects are identified NEPA effects are Not Adverse and CEQA effects are Less than Significant. Therefore these conclusions are not in conflict.</p>
1601	104	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes many impact calls that are "Significant and Unavoidable" that are significant impacts, but they are avoidable.</p> <p>Comment:</p> <p>The EIR/EIS is required to propose mitigations for significant project impacts. The BDCP has repeatedly claimed that there are no feasible mitigation measures to propose. Following are some examples of Significant impacts that the BDCP has not mitigated, but there are easy and feasible mitigation opportunities the BDCP has failed to propose.</p> <p>GW-8 - The BDCP could mitigate this impact by providing alternative water supplies to disrupted wells and could implement groundwater injection wells to mitigate for disruption of groundwater recharge. GW-9 - Groundwater quality can be protected by treating water prior to discharge to groundwater and affected groundwater can be pumped out, treated and then reinjected into the groundwater aquifer. There are many precedents for treating groundwater quality and reinjecting it into the groundwater. An example of this is the San Fernando Valley treatment of Methyl Tertiary Butyl Ether (MTBE) polluted groundwater.</p>	<p>The Impact GW-8 refers to potential depletion of groundwater supplies or interference with groundwater recharge in the SWP and CVP Export Service Areas. There are no adverse impacts to mitigate under Alternatives 1A, 1B, 1C: 2A, 2B, 2C: 3; 4H1, 4H2, 4H3; and 5 as compared to the No Action Alternative. There would be a reduction in groundwater recharge under 4H4 as compared to the No Action Alternative in SWP service areas and under Alternatives 6A, 6B, 6C; 7; 8; and 9 in SWP and CVP water service areas. The water users may be able to avoid these impacts with water management options developed under Existing Conditions. However, these impacts to the SWP and CVP water users located south of the Delta are considered to be significant and unavoidable because State and federal Water Contractors currently and traditionally have received variable water supplies under their contracts with DWR and Reclamation due to variations in hydrology and regulatory constraints and are accustomed to responding accordingly. Under standard state and federal water contracts, the risk of shortfalls in exports is borne by the contractors rather than DWR or Reclamation. As a result of this variability, many of the water contractors in water districts have complex water management strategies that include numerous options to supplement CVP and SWP 5 surface water supplies. As discussed in Appendix 5B, Responses to Reduced South of Delta Water Supplies, of the Final EIR/EIS adverse effects might be avoided due to the existence of various other water management options that could be undertaken in response to reduced exports from the Delta. In urban areas, these options include wastewater recycling and reuse, increased water conservation, water transfers, construction of new local reservoirs that could retain rainfall during wet years, and desalination in coastal areas. In agricultural areas, options for responding to reduced exports include changes in cropping patterns, improvements in irrigation efficiency, water transfers, and development of new local supplies.</p> <p>There would be reductions in groundwater recharge under the No Action Alternative and the action alternatives as compared to the Existing Conditions. Under most alternatives, these changes would be due to climate change and not due to the alternatives. Under Alternatives 4H4; 6A, 6B, 6C; 7; 8; and 9, the impacts would be considered significant and unavoidable for the same reasons cited above.</p> <p>The Impact GW-9 refers to potential groundwater quality degradation due to declining groundwater elevation that could result in lower quality groundwater migration into higher quality groundwater in the CVP and SWP Export Service Areas. There are no adverse impacts to mitigate under Alternatives 1A, 1B, 1C: 2A, 2B, 2C: 3; 4H1, 4H2, 4H3; and 5 as compared to the No Action Alternative. There would be an increase in groundwater pumping and an increased potential of groundwater degradation under 4H4 as compared to the No Action Alternative in SWP service areas and under Alternatives 6A, 6B, 6C; 7; 8; and 9 in SWP and CVP</p>

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			<p>water service areas. The highest potential for groundwater quality degradation would occur along the coast in the SWP service area in San Luis Obispo, Ventura, Los Angeles, Orange, and San Diego counties where increased groundwater pumping could increase sea water intrusion.</p> <p>For more information regarding groundwater impacts and the associated mitigation of the proposed project please see Section 4.3.3 Groundwater of Section 4 in the RDEIR/SDIES. Updated information on groundwater effects of water conveyance alternatives can be found in Appendix A Chapter 7 of the RDEIR/SDIES.</p> <p>Please see Master Response 10 regarding significant and unavoidable impacts and Master Response 22 regarding mitigation measures.</p>
1601	105	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes many impact calls that are "Significant and Unavoidable" that are significant impacts, but they are avoidable.</p> <p>Comment:</p> <p>The EIR/EIS is required to propose mitigations for significant project impacts. The BDCP has repeatedly claimed that there are no feasible mitigation measures to propose. Following are some examples of Significant impacts that the BDCP has not mitigated, but there are easy and feasible mitigation opportunities the BDCP has failed to propose.</p> <p>WQ-13 - Settling basins can be used to capture mercury and aeration to reduce methylization of mercury. WQ-14 - same as WQ-13. WQ-17 - the BDCP proposal to coordinate with other agencies is not a mitigation. A real mitigation is to 1) do water aeration (same as Stockton Deep Water Ship Channel Dissolved Oxygen (DO) restoration project), 2) not reduce water turnover rates from BDCP operations, and 3) water being discharged into the Delta can be treated prior to discharge to reduce nutrient loading. WQ-21 - Same as WQ-17 2 and 3. WQ-22 - Integrated Pest Management (IPM) has been implemented for 30 years, so the BDCP proposed mitigation is meaningless. WQ-25 - Developing a model is not a mitigation. Sources of Selenium can be treated and the BDCP operations can be modified such that Selenium concentration increases can be avoided and minimized.</p>	<p>The measures identified for Impacts WQ-13 and 14 were not determined to be feasible mitigation. The commenter is referred Chapter 8, Water Quality for detail regarding these impact analyses and why no feasible mitigation measures were identified for specific impacts. Please also see Master Response 10 regarding significant and unavoidable impacts and Master Response 22 regarding mitigation measures.</p>
1601	106	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes many impact calls that are "Significant and Unavoidable" that are significant impacts, but they are avoidable.</p> <p>Comment:</p> <p>The EIR/EIS is required to propose mitigations for significant project impacts. The BDCP has repeatedly claimed that there are no feasible mitigation measures to propose. Following are some examples of Significant impacts that the BDCP has not mitigated, but there are easy and feasible mitigation opportunities the BDCP has failed to propose.</p> <p>AQUA-NAA4 - There are all sorts of potential mitigations for this 1) increase amount of</p>	<p>Impact AQUA-67: "Effects of localized reduction of predatory fish on Chinook salmon", Impact AQUA-202: "Effects of water operations on spawning and egg incubation habitat for non-covered aquatic species of primary management concern" and Impact AQUA 203: "Effects of water operations on rearing habitat for non-covered aquatic species of primary concern" concluded that there would either be no impact on these resources or the impacts would be considered less than significant.</p> <p>For those aquatic impacts that were found to be significant and unavoidable, the lead agencies proposed mitigation, but concluded that the impact would remain significant even with that mitigation in place. As an example, Mitigation Measure Aquatic 96c indicates that the lead agencies will work with USFWS, NMFS, and CDFW to identify and implement feasible operational means to minimize significant operational impacts. If feasible measures were not identified the impact would remain significant and unavoidable.</p> <p>Master Response 22 provides an overview of the process for developing and implementing feasible mitigation measures. For more information regarding significant and unavoidable impacts please see Master</p>

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		<p>spawning habitat through gravel supplementation, 2) riparian vegetation plantings to increase streamside shading (same as is being done on the lower Feather River for Lake Oroville), and 3) controlled shutters on the dam intake to select and blend water from different strata of the reservoir to achieve water temperature objectives while conserving coldwater pool (same as is being implemented on Folsom Reservoir). AQUA-67 - The BDCP could have proposed restoration of lamprey rearing habitat. AQUA-202 - The BDCP could have proposed a threadfin shad hatchery as mitigation. AQUA- 203 - Same as AQUA-202.</p>	<p>Response 10.</p>
1601	107	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes many impact calls that are "Significant and Unavoidable" that are significant impacts, but they are avoidable.</p> <p>Comment:</p> <p>The EIR/EIS is required to propose mitigations for significant project impacts. The BDCP has repeatedly claimed that there are no feasible mitigation measures to propose. Following are some examples of Significant impacts that the BDCP has not mitigated, but there are easy and feasible mitigation opportunities the BDCP has failed to propose.</p> <p>BIO-185 - The BDCP could mitigate this by creating wildlife corridors as part of their proposed habitat restoration plans.</p>	<p>The commenter states that the significant and unavoidable Impact identified in the Executive Summary of the Draft EIR/EIS for Impact BIO-185 Effect of BDCP Conservation Measures on wildlife corridors fails to identify mitigation for these impacts. The commenter further states that the "BDCP has not mitigated" these effects. On page ES-109 of the Draft EIR/EIS, significant and unavoidable impacts are identified for alternatives 1B, 1C, 2B, 2C, 6B, and 6C but identifies all other alternatives, including the BDCP (Alternative 4), as having less than significant impacts on wildlife corridors.</p> <p>The purpose of the BDCP's conservation measures and associated biological goals and objectives are to maintain and improve wildlife movement through the Plan Area; however, the alternatives with significant and unavoidable impacts have lengthy canals that bisect portions of the Plan Area and create substantial barriers to movement. Construction of wildlife corridors over the canals would have their own impacts and could not feasibly accommodate all species (e.g., giant garter snake, western pond turtle).</p> <p>Please also see Master Response 10 regarding significant and unavoidable impacts and Master Response 22 regarding mitigation measures.</p>
1601	108	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes many impact calls that are "Significant and Unavoidable" that are significant impacts, but they are avoidable.</p> <p>Comment:</p> <p>The EIR/EIS is required to propose mitigations for significant project impacts. The BDCP has repeatedly claimed that there are no feasible mitigation measures to propose. Following are some examples of Significant impacts that the BDCP has not mitigated, but there are easy and feasible mitigation opportunities the BDCP has failed to propose.</p> <p>REC-1 - The BDCP could have proposed to replace the affected recreation facilities and avoid those recreation facilities through design and planning.</p>	<p>The project proponents have incorporated as much mitigation as feasible. Please refer to Chapter 15, Recreation, of the Final EIR/EIS for specific impact analyses, conclusions and mitigation measures.</p> <p>Please also see Master Response 10 regarding significant and unavoidable impacts and Master Response 22 regarding mitigation measures.</p>
1601	109	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes many impact calls that are "Significant and Unavoidable" that are significant impacts, but they are avoidable.</p> <p>Comment:</p> <p>The EIR/EIS is required to propose mitigations for significant project impacts. The BDCP has repeatedly claimed that there are no feasible mitigation measures to propose. Following are</p>	<p>Mitigation measures were not proposed for the No Action Alternative. On-going plans, projects and programs included in the No Action Alternative would be required to reduce impacts as part of a separate environmental review. Please see Master Response 20 regarding the adequacy of the analysis for cultural resources.</p> <p>Please also see Master Response 10 regarding significant and unavoidable impacts and Master Response 22 regarding mitigation measures.</p>

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		<p>some examples of Significant impacts that the BDCP has not mitigated, but there are easy and feasible mitigation opportunities the BDCP has failed to propose.</p> <p>CUL-1 - CUL-7 - The BDCP should have proposed the same mitigation measure for the No Action Alternative (NAA) as for the other alternatives.</p>	
1601	110	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes many impact calls that are "Significant and Unavoidable" that are significant impacts, but they are avoidable.</p> <p>Comment:</p> <p>The EIR/EIS is required to propose mitigations for significant project impacts. The BDCP has repeatedly claimed that there are no feasible mitigation measures to propose. Following are some examples of Significant impacts that the BDCP has not mitigated, but there are easy and feasible mitigation opportunities the BDCP has failed to propose.</p> <p>AQ-11 - The minimization measure is to do construction over a longer period and the mitigation is to use electric equipment rather than diesel equipment. AQ-13 - Same as AQ-11. AQ-17 - The BDCP could implement more efficient pumps to minimize this impact, pump on off-peak hours so they can use cleaner electricity sources and can mitigate by planting trees to absorb extra CO2 generated by the pumping. AQ-18 and 19 - A mitigation that is to develop a mitigation plan is not in and of itself a mitigation. The BDCP must propose mitigations for significant impacts. There are feasible measures to avoid, minimize and mitigate these impacts.</p>	<p>In developing environmental commitments and mitigation to avoid or lessen air quality impacts, the lead agencies considered all feasible measures. The general approach to mitigation was first to identify actions that could be taken onsite to eliminate or reduce emissions at the point of generation (see Appendix 3B, Environmental Commitments). If after application of all feasible onsite mitigation emissions still resulted in an air quality impact, available offsite measures, such as regional offsets, were pursued (see Mitigation Measures AQ-2a, 2b, 3a, 3b, 4a, and 4b).</p> <p>Extension of the construction schedule as proposed by the commenter was considered as a potential mitigation option. However, as discussed in Footnote 10 under Impact AQ-2, timely completion of the project is critical to ensuring these objectives are met. Consequently, construction activities cannot be extended over a longer time period to reduce daily emissions without jeopardizing the potential environmental benefits associated with the project. Likewise, extending the construction period would unduly increase project costs. Accordingly, extending the construction schedule does not represent a feasible mitigation option.</p> <p>With respect to energy efficient pumps and pumping operations, operation of the water conveyance facility would be managed to maximize efficient energy use, including off-peak pumping, use of gravity, and efficient equipment. Please refer to Chapter 21, Energy, of the Final EIR/EIS for additional detail.</p> <p>With respect to planting trees to offset CVP emissions, Impact AQ-23 estimates that displaced energy consumption could result in up to 36,300 metric tons of indirect GHG emissions per year (Alternative 1A). Sequestration rates vary greatly according to the age, composition, and location of the tree and types of soil. Assuming a sequestration rate of 0.0121 to 0.0521 metric tons carbon dioxide (CO2) /tree/year ("2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4"), approximately 700,000 to 3 million trees would be need to be planted and maintained to offset indirect CO2 emissions associated with Alternative 1A. This would require a considerable amount of space and resources, potentially leading to other environmental impacts and unduly costs. Moreover, as discussed in Impact AQ-23, it is unknown what type of power source (e.g., renewable, natural gas) would be substituted for CVP electricity. Since the indirect emissions would be caused by dozens of independent electricity users, monitoring to determine the actual indirect change in emissions as a result of BDCP actions would not be feasible.</p> <p>With respect to development of mitigation programs to avoid or lessen air quality impacts, all plans satisfy CEQA Guidelines Section 15126.4 with respect to the consideration and discussion of mitigation measures. Mitigation Measures AQ-20, AQ-24, AQ-25, and AQ-27 establish performance standards by which plan effectiveness will be measures. Likewise, all measures provide clear and enforceable means for ensuring the performance standards will be met. These requirements will be outlined in the Mitigation Monitoring Report Protocol (MMRP).</p> <p>Please also see Master Response 10 regarding significant and unavoidable impacts and Master Response 22 regarding mitigation measures.</p>
1601	111	<p>Document Section: Executive Summary</p> <p>Issue:</p>	<p>The Existing Conditions and No Action Alternative scenarios include the RPAs; therefore, there would be no significant impacts under existing conditions. However, when climate change is added to existing conditions (the NAA_ELT scenario), climate change would cause effects. Please see Appendix 3D of the Final EIR/EIS, Defining Existing Conditions, No Action Alternative, no project Alternative, and Cumulative Impact</p>

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		<p>The BDCP EIR/EIS has a number of No Action Significant Impacts without any proposed mitigation.</p> <p>Comment:</p> <p>The BDCP is seeking permits to cover the currently uncovered activities for existing facilities and operations. BDCP impacts of the No Action Alternative (NAA) must have mitigations included for them if the BDCP can cover existing and future no project impacts with new permits based on this EIR/EIS document. NAA significant impacts identified by the BDCP EIR/EIS that must have mitigations added include: San Joaquin Basin Flow, Tulare Basin Flow, Other portions of export service areas, WQ-11, SOILS-2, SOILS-7, AQUA-NAA5, BIO-4, BIO-6, BIO-9, BIO-12, BIO-15, BIO-18, BIO-21, BIO-24, BIO-29, BIO-31, BIO-32, BIO-35, BIO-38, BIO-46, BIO-49, BIO-52, BIO-55, BIO-57, BIO-62, BIO-69, BIO-70, BIO-72, BIO-75, BIO-76, BIO-80, BIO-83, BIO-84, BIO-87, BIO-88, BIO-90, BIO-91, BIO-95, BIO-96, BIO-99, BIO-100, BIO-104, BIO-105, BIO-106, BIO-109, BIO-113, BIO-117, BIO-121, BIO-122, BIO-125, BIO-130, BIO-134, BIO-138, BIO-139, BIO-142, BIO 148, BIO-152, BIO-155, BIO-158, BIO-160, BIO-162, BIO-164, BIO-169, BIO-170, BIO-171, BIO-172, BIO-173, BIO-175, BIO-176, BIO-177, BIO-178, BIO-179, BIO-180, BIO-181, BIO-184, AG-1 - AG-4, CUL-1 - CUL-7, AQ-1 - AQ-4, AQ-9 - AQ-13, AQ-15, AQ-17 - AQ-19, PALEO-1, and PALEO-2. This is a total of 102 Significant impacts in the No Action that were not minimized, avoided or mitigated in the BDCP EIR/EIS that must be addressed if the BDCP is to pursue permits to cover existing facilities and operations. When the BDCP mitigates these significant impacts then there will be 102 less significant impacts after mitigation for the No Action than the BDCP represented in the Executive Summary Impact Summary table.</p>	<p>Conditions, for more information. In order to make an apples-to-apples comparison of a scenario with and without the alternative, climate change must be removed. For more information on climate change and the proposed project, please see Master Response 19.</p> <p>The level of analysis is sufficient to provide an appropriate comparison between the action alternative and the NAA.. Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects.</p> <p>For more information regarding significant and unavoidable impacts please see Master Response 10. Also see Master Response 22 on mitigation measures.</p> <p>Permitting is discussed in Master Response 45.</p>
1601	112	<p>Document Section: Executive Summary</p> <p>Issue:</p> <p>Some of the impact calls in the summary table are just amazing in terms of their bias and inability to stand up to any level of scrutiny or logic.</p> <p>Comment:</p> <p>Here is a few examples of ludicrous BDCP EIR/EIS impact calls -- there are many more than just these examples. The EIR/EIS AQ-1 impact call finds the No Action has having Significant air quality impacts from the construction of the conveyance. The conveyance is not constructed in the No Action, so there cannot be any air quality impact. What is even more egregious is at the same time, they are saying all of the other alternatives that do have large amounts of construction activity will only have a less-than-significant impact. Here's another, the BDCP EIR/EIS says HAZ-3 AND MIN-1 No Action Alternative (NAA) is Less than Significant (LTS) while alternative 4 (and others) that actually have a construction footprint planned, have No Impact. So to paraphrase the BDCP EIR/EIS impact call on MIN-1, constructing a set of tunnels through a large natural gas well production and pipeline transmission area will have "No Impact" while not constructing any conveyance facilitates in the No Action would have a "less-than-significant impact". With impact calls that are so unbelievable as these, this document and the agencies and contractors that put it out have no credibility at all. When these and other clearly erroneous impact calls are fixed in the revision to the EIR/EIS, the superiority of the No Action compared to any of the other project alternatives will become even more significant and clear that the No Action the</p>	<p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p> <p>CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. For information regarding significant and unavoidable impacts please see Master Response 10.</p> <p>The commenter is directed to the impact analyses in the Chapters 22, 24, and 26 of the Final EIR/EIS for a discussion of the analysis methodology, determination of effects and specific information about the air quality, hazards and hazardous materials, and minerals.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		Least Environmentally Damaging [Practicable] Alternative.	
1601	113	<p>Document Section: Chapter 1 - Introduction</p> <p>Issue:</p> <p>The impact summary table is misleading in how it represents the impacts of the Proposed Project and Alternatives in comparison to the No Action.</p> <p>Comment:</p> <p>What this impact summary table misrepresents is that for the NEPA impact call, the Proposed Project is compared to the No Action so the Proposed Project impacts are in addition to (not equivalent to) the No Action impacts. If the impacts were the same in the Proposed Project as the No Action, even if there were impacts in the No Action, the Proposed Project impact would be No Impact and No Effect.</p>	<p>For more information regarding baselines, including comparisons to baselines, please see Master Response 1. Also see Appendix 3D of the Final EIR/EIS. Updated comparison tables of all alternatives are included in the Executive Summary of the FEIR/EIS.</p>
1601	114	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Does the Purpose statement wrongly and predecisionally attempts to constrain actions to the "Planning Area".</p> <p>Comment:</p> <p>U.S. Army Corps of Engineers (USACE) Guidance Papers for NEPA and Section 404 (February 1994) directs that the purpose and need "should not be made so specific that the range of alternatives is artificially constrained." The BDCP has artificially constrained the alternatives of the project to the "Planning Area", but the BDCP EIR/EIS has not provided any justification for this constraint in the purpose and need. Further, the USACE Guidance says, "it is important to guard against premature specificity such that the range of alternatives considered becomes artificially limited." The BDCP was prematurely specific in assuming that a new conveyance was the only type of alternative that could address the needs identified. In reality, additional upstream and/or downstream storage and/or a significant reengineering/fish screening of the existing south Delta pumps would have addressed all the "needs" identified. If these other alternatives were not precluded by the artificial and unsupported constraints of the purpose and need and if the alternatives defined not so narrow and predecisional in scope, the other alternatives for upstream and downstream storage would have easily been identified as the Least Environmentally Damaging [Practicable] Alternative (LEDPA) as they would impact a significantly less number of acres of the waters of the U.S than the current proposed BDCP conveyance and restoration actions. The BDCP has not provided any documentation or rationale that these other alternatives (upstream and downstream storage and south Delta replumbing) that equally (and in some cases, better) meet the purpose and need of the project (once the artificial constraints are removed and the unnecessary and predecisional specificity is removed) have any overriding severe environmental impacts which would warrant their dismissal from further consideration. The BDCP EIR/EIS purpose and need must be revised to remove these artificial and predecisional constraints that biased the development, screening and formulation of project alternatives. Once these inappropriate constraints are removed, the alternatives development and scoping process must be redone, the alternatives reevaluated</p>	<p>The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. Please see Master Response 4 for more information about alternatives development. For more information on the project's purpose and need, please see Master Response 3.</p>

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		and the EIR/EIS recirculated.	
1601	115	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>U.S. Fish and Wildlife (FWS) cannot issue Incidental Taker Permits (ITPs) on endangered plants, only California Department of Fish and Wildlife (DFG) can do this under the Natural Community Conservation Plan (NCCP).</p> <p>Comment:</p> <p>The purpose and need as well as the descriptions of regulatory roles and responsibilities in issuing permits did not correctly represent this issue with regards to permits for endangered plant species. The EIR/EIS must be revised to correct this misrepresentation.</p>	<p>If an HCP alternative is selected for implementation, the USFWS and NMFS will conduct an internal ESA section 7 consultation prior to issuance of an Section 10(a)(1)(B) permit for the Proposed Action. These federal agencies will coordinate the ESA consultation process and other environmental review processes, such as the National Environmental Policy Act (NEPA), consistent with federal regulations. In addition, the USFWS and NMFS will consult with the United States Bureau of Reclamation to complete biological opinions or a joint biological opinion prior to federal action to carry out the proposed project.</p> <p>If a non-HCP alternative is selected for implementation, the USFWS and NMFS will complete an ESA section 7 consultation with the United States Bureau of Reclamation to complete biological opinions or a joint biological opinion prior to issuance of incidental take permits (ITPs).</p> <p>For more information on compliance with the Endangered Species Act, please see Master Response 29. Information on permitting can be found in Master Response 45.</p>
1601	116	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The Purpose predecisionally concludes that new facilities are required in order to get a take permit.</p> <p>Comment:</p> <p>New facilities are not necessarily the only alternative to justifying a take permit. The through Delta (armored levees) alternative does not count as it modified channels in ways that predictably precipitated impacts that make the alternative environmentally unviable. The BDCP should have put forward an alternative with no conveyance modification, with south Delta intake improvements for fish protections; with upstream, in-Delta, and/or south of Delta storage, existing CVP/SWP canal and reservoir earthquake vulnerability engineering upgrades, and in-Delta and out of Delta habitat restorations as a project alternative. This alternative would have met all of the legitimate purposes and needs in the EIR/EIS, but would have had less impact than the current proposed project.</p>	Please see response to comment 1601-114.
1601	117	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The EIR/EIS objective says, "protect" ecosystem health, not "improve" and therefore "recovery" is not an objective.</p> <p>Comment:</p> <p>This is supposed to be a "habitat conservation project". Conserving species is not the same as to "protect" ecosystem health. The BDCP purpose should state that it is to "improve" and "restore" and "recover" species and habitat. By making none of these objectives or needs of the project, the BDCP makes it clear that the project is not about restoring the Delta and species, it is about grabbing water supply.</p>	Please see Chapter 2, Purpose and Need, in the Final EIR/EIS for information about the purpose of the project. In addition, please refer to Master Response 3.
1601	118	Document Section: Chapter 2 - Project Objectives and Purpose and Need	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

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		<p>Issue:</p> <p>From the BDCP EIR/EIS: 2.5.2 "Water Supply Reliability - The distribution of precipitation and water demand in California is unbalanced. Most of the state's precipitation falls in the north, yet substantial amounts of water demand are located south and west of the Delta, including irrigation water for southern Central Valley agriculture, and municipal and industrial uses in southern California and the Bay Area. This supply/demand imbalance led to development of two major water projects: the SWP and the CVP."</p> <p>Comment:</p> <p>The imbalance of the distribution of water supply in location of sources vs. location needs is in large part a result of the CVP/SWP projects.</p>	
1601	119	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The BDCP purpose focuses on the term "reliability" with regards to water supply, but never bothers to define what reliability is.</p> <p>Comment:</p> <p>The definition of "reliability" is: "able to be trusted; predictable or dependable". The project that the BDCP has proposed fails to address the most important aspects of water supply reliability. The BDCP mistakenly focuses on reliability as reducing risk against catastrophic engineering failure and from regulatory constraints to protect endangered species which conflict with water supply operations of the CVP/SWP. That is only a small part of the issue of water supply reliability. The real issue of water supply reliability that the BDCP did not deal with and the proposed project makes even worse than the No Action condition is the variation in precipitation and water supply storage from year to year that result in large variations on CVP/SWP water supply deliveries. The BDCP proposed project results in more water supply delivery in wet and above average water year types and even less water supply deliveries in below normal, dry and critical dry water year types. In this way, the BDCP proposed project has made the water supply even less reliable than it currently is or would be under the No Action. The BDCP must evaluate this other and more critical aspect of water supply reliability as a significance criteria in their impact analysis and disclose that the Proposed Project has significant adverse affects on this central project purpose. The hydrologic record for California shows that last 150 years were anomalously wet (lots of supporting literature is readily available on this topic). If California reverts to historical hydrologic norm in the next 50 years (during the project period) the proposed project will not result in "reliability" of water supply. The BDCP should have included alternatives that addressed having a consistent water supply delivery across water year types and under changing hydrologic conditions. The BDCP alternatives must be redefined to address this critical aspect of water supply reliability.</p>	<p>The Proposed Project proposes to stabilize water supplies, and exports could only increase under certain circumstances in which hydrological conditions result in availability of sufficient water and ecological objectives are fully satisfied. It is projected that water deliveries from the federal and state water projects under the Proposed Project would be similar to the average deliveries in recent years. Alternative 4A, the proposed project, will maintain compliance with Delta outflow regulatory requirements for all water years with the use of the North Delta intakes, as described in Chapter 5, Water Supplies, and Chapter 6, Surface Water of the Final EIR/EIS. A detailed discussion of the specific Delta outflows under a range of seasons and water year types is contained in Appendix 5A.</p> <p>The lead agencies believe that the Final EIR/EIS contains an adequate and comprehensive evaluation of all potential effects from the 15 alternatives and 4 configurations.</p> <p>For more information regarding alternatives development please see Master Response 4.</p> <p>For more information about the purpose and need of the project, please see Master Response 3.</p> <p>For information on the proposed project and drought, please see Master Response 47.</p>
1601	120	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Some EIR/EIS "Objectives" presented are actually predecisional desired outcomes of the</p>	<p>The alternatives included in the FEIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA.</p> <p>For a discussion on alternatives development, please see Master Response 4. Please refer to Master Response 3 for the Purpose and Need and Master Response 28 for a discussion of the proposed project's</p>

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		<p>project proponents.</p> <p>Comment:</p> <p>As an example of an inappropriate predecisional solution being presented as a project objective, moving intakes to north Delta is a mode of potential action, it is not a project objective. North Delta intakes are one of the potential ways to achieve the other project objectives and purposes, but it is not an objective and should not have been represented as one. Here is a correct example for contrast. The objective of a hypothetical project is for a highway to cross a river. There are several alternatives to achieve this objective, a bridge, a ford, a ferry. The bridge obviously is a good alternative, but it is not the objective of the project, that would be predecisional. In this analogy, the BDCP has incorrectly and predecisionally identified a bridge as the project objective. The BDCP EIR/EIS must be revised to remove this predecisional bias to the project scope and alternatives. By the BDCP incorrectly identifying north Delta intakes as an objective, the BDCP has thwarted due consideration of other means to achieve the project objectives. This resulted in inadequate consideration of other options which could have better met the real project objectives and these include upstream and downstream storage.</p>	Operational Criteria.
1601	121	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The purpose predecisionally concludes the way to reduce effects of water diversions is to relocate the intakes.</p> <p>Comment:</p> <p>Reducing effects of intakes can be accomplished many other ways than by just moving them -- screening, seasonal operational changes, increased upstream or downstream storage that allow operational changes, etc. By not giving these other options equal treatment in their presentation in the purpose and needs statement and in the alternatives screening, development and formulation, the BDCP has clearly demonstrated their biases towards a predetermined solution. This is clearly in direct conflict with NEPA and CEQA requirements.</p>	Please see response to comment 1601-114.
1601	122	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The Purpose predecisionally concludes that adverse species effects can be addressed by where water is diverted.</p> <p>Comment:</p> <p>Diversion effects on listed species can also be reduced by reducing the amount of diversion, modifying existing diversion facilities or utilizing alternative water supplies. The omission of the identification of these other methods to reduce species impacts from water diversions also demonstrates the level of predecisional and bias of the EIR/EIS. This predecisional bias must be removed from the EIR/EIS and the revised document recirculated to the public for comment.</p>	Please see response to comment 1601-114.

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1601	123	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The Purpose mistakenly implies that full contract amounts would be delivered on average.</p> <p>Comment:</p> <p>In order to get full contract amounts on average, you would have to deliver full contracts every year. This has never happened and never would happen. The document is clearly in error here as this stated purpose is not even physically possible and is in direct conflict with numerous other statements in the document regarding the quantities of water supply deliveries under the proposed project.</p>	<p>Please see Chapter 2, Project Objectives and Purpose and Need, in the Final EIR/EIS. The language used is “deliver up to full contract amounts.” There is no implication that full contract amounts would be delivered on average.</p> <p>For more information regarding purpose and need of the proposed project please see Master Response 3. Also see Chapter 5 of the Final EIR/EIS that describes water supply analysis for project alternatives.</p>
1601	124	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need - Delta Ecosystem Health and Productivity</p> <p>Issue:</p> <p>This section is entirely redundant with the Existing Conditions.</p> <p>Comment:</p> <p>This superfluous content is a good example of why the EIR/EIS document is so needlessly long. These useless materials and other sections like it that are repeated verbatim in multiple sections of the document must be removed to make the document more readable and reasonably accessible to the public.</p>	<p>The EIR/EIS does contain similar discussions of crucial terms and concepts in multiple locations. The intent is to provide readers of only portions of the document with adequate information to understand the sections in which they have a particular interest.</p> <p>To make the EIR/EIS accessible to the public, the lead agencies posted online documents highlighting important aspects of the BDCP and the EIR/EIS. They produced 17 informational webinar episodes regarding the BDCP and EIR/EIS that were available online, and they distributed one-page factsheets throughout the comment period. In addition, both the BDCP and EIR/EIS contain executive summaries, and the most complex EIR/EIS chapters contain reader guides and summaries of impacts.</p> <p>For more information on public outreach efforts, please see Master Response 40. Regarding the documents length, please see Master Response 38.</p>
1601	125	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need - Water Supply Reliability</p> <p>Issue:</p> <p>The document identifies that the state water supply source are north of the Delta and water supply demand geographic distribution south of the Delta are out of balance.</p> <p>Comment:</p> <p>These are correct statements. The logical solution to this identified imbalance between location and quantity of water supply and location and quantity of water demand would be for additional storage, not replumbing the Delta. Upstream and downstream storage would address this identified need better than replumbing the Delta, yet these alternatives were not considered due to the artificial constraint on the project scope placed by the BDCP with no supporting rationale.</p>	<p>Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A.</p> <p>Please see response to comment 1601-114 regarding alternatives. For information on water storage, please see Master response 37.</p>
1601	126	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The EIR/EIS document "incorporate by reference" the draft BDCP Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP).</p>	<p>Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. Because the preferred alternative is no longer an HCP, the “Draft BDCP” document will not change.</p> <p>For information on recirculation, please see Master Response 46. For information on alternatives please see Chapter 3 of the Final EIR/EIS and Master Response 4.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment:</p> <p>The EIR/EIS has incorporated by reference a draft document. The information incorporated by reference will change when the BDCP HCP/NCCP is revised for the final. Therefore, important content in the EIR/EIS will be de facto revised by the revised BDCP HCP/NCCP document revision. This means that important content that is the basis for the BDCP EIR/EIS will be different than what the public had the opportunity to review. The revision on the HCP/NCP content that the EIR/EIS incorporated by reference constitutes a material change and therefore the EIR/EIS must be recirculated after the HCP/NCCP final revision or the content may not be incorporated by reference.</p>	
1601	127	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The EIR/EIS document refers to the CVP functioning under congressional authorizations.</p> <p>Comment:</p> <p>The CVP (and SWP) was never completed as authorized (e.g. San Luis Drain and Trinity) which has in large part caused the problems the BDCP proposes to address. The EIR/EIS document must disclose what elements of the original authorization have not been implemented and how the failure to fully implement the original authorization affects the existing environment. As an example, the water supply delivery amounts in the current CVP contractor water contracts originally assumed that a large part of the water supply that would have come from the Trinity system would be completed. Those parts of the authorization were never completed, so the associated water supply never materialized. The lack of this water supply is part of the water supply problem that the BDCP proposes to address. The failure of the BDCP to address the cause of the water supply reliability problem is a significant and material omission and terminal flaw of the EIR/EIS environmental review. If those portions of the originally authorized project had been implemented, then the current BDCP proposed project would not be needed. The BDCP needs to prove that this assertion is not the case in order to have any legitimacy to move forward as a real project, otherwise, the BDCP project must be to evaluate the implementation of the current authorized CVP (and SWP) project.</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.</p> <p>For information regarding water rights please refer to Master Response 32.</p>
1601	128	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) are obligations and requirements of the project to implement to avoid jeopardy.</p> <p>Comment:</p> <p>To date, none of mandated OCAP BO RPAs have been implemented nor can DWR or BOR demonstrate even a good faith effort to implement them at this time. DWR and U.S. Bureau of Reclamation (BOR) are in violation of the law for not implementing the OCAP BO RPAs. Since the RPAs are existing requirements/obligations of the project to avoid jeopardy, DWR may not claim these same actions as contributions to recovery of the species to justify</p>	<p>At the time of the 2013 public draft BDCP, DWR and Reclamation had been implementing the reasonable and prudent measures from the Operations Criteria and Plan (OCAP) Biological Opinions from USFWS and NMFS. This implementation included acquiring land and restoring tidal wetlands to satisfy the requirement in the USFWS Biological Opinion to restore 8,000 acres of tidal wetlands. USFWS and NMFS imposed the conditions in the Biological Opinions on DWR and Reclamation knowing that they would take years to implement. BDCP incorporated some of the Biological Opinion conditions into the conservation strategy in order to 1) better integrate BDCP with existing conservation actions in the Delta implemented by the same agencies (DWR and Reclamation), 2) further define and develop in BDCP mitigation commitments in the Biological Opinion that were vague and ill-defined, 3) expand and build on the mitigation measures in the Biological Opinions through BDCP, and 4) provide long-term take authorization through BDCP beyond the expected life of the Biological Opinions.</p> <p>A good example of this approach is the tidal wetland restoration in the Biological Opinions and BDCP. The Biological Opinions required 8,000 acres of tidal wetland restoration; BDCP required another 57,000 acres, for a total of 65,000 acres. The original 8,000 acres of tidal wetland restoration was included in the BDCP</p>

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		issuing of take permits through the Habitat Conservation Plan (HCP).	because the same restoration could help to offset the impacts of project operations beyond the life of the Biological Opinions. The 2013 BDCP proposed a permit term of 50 years, providing take authorization for continued operation of the State Water Project and federal Central Valley Project for that time period.  For more information on incidental take permits please see response to comment 1601-18.
1601	129	Document Section: Chapter 2 - Project Objectives and Purpose and Need  Issue:  The EIR/EIS refers to the water rights from the State Water Resources Control Board (SWRCB).  Comment:  This paragraph is regulatory framework, not project need. The project needs to conform to these requirements/obligations, but never says that.	This text no longer exists in Chapter 2 of the Final EIR/EIS.  Information on water rights can be found in Master Response 32. The public trust doctrine is discussed in Master Response 13. For information on beneficial uses of water, please see Master Response 34.
1601	130	Document Section: Chapter 2 - Project Objectives and Purpose and Need  Issue:  The EIR/EIS refers to the Coordinated Operating Agreement (COA) as meeting the joint beneficial uses of the CVP/SWP.  Comment:  This statement establishes that the reservoir operations are critical to protecting beneficial uses. Reservoir operations are severely constrained by capacity, so a project need that has been established here is that the consideration of additional upstream (and downstream) storage is within the scope of the project that should be considered.	Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. This text no longer exists in Chapter 2 of the Final EIR/EIS.  Please see Master Response 37 regarding why an alternative focused on creating additional storage, either in the Delta or elsewhere, was not included in the EIR/EIS. See Master Response 4 for discussion of the scope of the proposed project and alternatives that were not carried forward for analysis in this document due to the fact that required actions beyond the scope of the proposed project. The alternatives included in the FEIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA.  For information on beneficial uses of water, please see Master Response 34. For information on upstream reservoir effects, please see Master Response 25.
1601	131	Document Section: Chapter 2 - Project Objectives and Purpose and Need  Issue:  The Coordinated Operating Agreement (COA) is supposed to have 5-year reviews, but those have not occurred since 1986.  Comment:  The COA is grossly out of date and must be updated as part of the BDCP process. Some agencies that currently are allocated water from the operations may "opt out" of the BDCP project or may not be able to raise the bond funding to participate in the BDCP and therefore operations related to their allocations would need to change which would in turn affect all other COA allocations. If the BDCP does not update the COA and the COA is revised as a result of the changes in water deliveries, water operations and allocations between the participating parties, then the BDCP has clearly piece-mealed the project which is a NEPA and CEQA violation. Piece-mealing a project to avoid recognizing the full extent of environmental impacts of a larger project is illegal.	Text regarding the COA no longer exists in Chapter 2 of the Final EIR/EIS.  Please see Master Response 8 for information about the project being analyzed as a whole.
1601	132	Document Section: Chapter 2 - Project Objectives and Purpose and Need	Under CEQA, the baseline for evaluation of impacts is normally existing conditions at the time of the Notice

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		<p>Issue:</p> <p>The BDCP assumption that water contracts that will expire before the project would be fully constructed will be renewed with the same terms as current is flawed and unsupported.</p> <p>Comment:</p> <p>From the statement in the EIR/EIS it is more logical to assume that water contract amounts would be adjusted to what can be reliably delivered and which incorporate conditions to protect beneficial uses under a broad range of conditions that include changes in assumptions from climate change, reversion to pre-western development historical hydrology patterns, sea level rise and on-going effects of continued water deliveries (e.g. water quality violations, degradation of other beneficial uses, etc.). If contract amounts were adjusted to reflect what the system is able to sustainably and reliably deliver then environmental impacts of operations on the listed species would be greatly reduced and the need for the project significantly reduced or eliminated altogether. The EIR/EIS must be revised to address all of these issues.</p>	<p>of Preparation of an EIR. Adjustment or amendment of state and federal water contracts as part of existing conditions would be contrary to CEQA and would introduce unreasonable speculation into the impact analyses related to current water supply conditions. More information on environmental baselines can be found in Master Response 1. Please also refer to Master Response 3 which addresses project objectives and the purpose and need statement.</p>
1601	133	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Reclamation has no reason or authorization to conduct a project with the purpose to improve the Delta ecosystem.</p> <p>Comment:</p> <p>Another purpose identified in the administrative draft EIS/EIR is to "2. Improve the ecosystem of the Delta by implementing the actions listed below." Which include, "a. Providing for the conservation and management of covered species through actions within the BDCP Planning Area that will contribute to the recovery of the species. b. Protecting, restoring, and enhancing certain aquatic, riparian, and associated terrestrial natural communities and ecosystems. c. Reducing the adverse effects on certain listed species due to diverting water." The justification for this purpose, provided in that same section, is the "Sacramento-San Joaquin Delta Reform Act of 2009" which is a California state senate bill which does not obligate the CVP or Reclamation in any way. Reclamation only obligation is to comply with the still in force and full affect Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) to avoid jeopardy of the aquatic species and that is their only current requirement or authorization to improve Delta fisheries habitat and species conditions.</p>	<p>Chapter 2 Project Objectives and Purpose and Need has been revised and more accurately reflects Reclamation's proposed action which only includes operational changes for the CVP. The NEPA purpose and need in this chapter is also broad enough to include all possible federal co-lead agencies depending on whether the final alternative selected is a BDCP alternative or California WaterFix alternative. Please also refer to Master Response 3 Project Objectives and Purpose and Need.</p>
1601	134	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>System reliability from earthquakes is identified as a project need.</p> <p>Comment:</p> <p>The BDCP proposed project does not address existing CVP/SWP canals and reservoir operational reliability vulnerability to earthquakes. This is a critical omission of the proposed project in meeting the stated project need as the San Luis Reservoir has a fault that is 5x</p>	<p>The Delta is not subject to the same degree of overall seismic risk (i.e., threat of ground shaking and surface fault rupture) as much of the Bay area. However, although there is little threat of surface rupture in the Delta, the hazard of seismic ground shaking is moderate to high, based on expected seismic shaking modeling results conducted by the U.S. Geological Survey and DWR. See Section 3E.2.4.2 Ground Acceleration (Ground Shaking) of Appendix 3E and Section 9.1.1.4.2 Earthquake Ground Shaking in Chapter 9 of the 2013 Public Draft BDCP EIR/EIS.</p> <p>A moderate to strong earthquake could cause simultaneous levee failures on several Delta islands, which would result in island flooding with resultant island flooding. In 2002, the Working Group on California Earthquake Probabilities estimated that an earthquake of magnitude 6.7 or greater has a 62 percent</p>

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		more active than the Delta. If the existing CVP/SWP conveyance canals or downstream of Delta reservoirs are compromised by a seismic event, the BDCP project will have failed to improve system reliability from earthquakes. Seeing as the earthquake vulnerabilities of the CVP/SWP canals is much higher than the risks in the Delta, the BDCP must be revised to address this issue or the document needs must be revised to omit this project objective. See <a href="http://www.restoretheDelta.org/keep-your-eye-on-the-ball-2/">http://www.restoretheDelta.org/keep-your-eye-on-the-ball-2/</a> , Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist.	probability of occurring in the San Francisco Bay Area before 2032, and could cause 20 or more islands to flood at the same time.  The proposed project does not purport to protect existing levees from seismic ground shaking. Although the proposed project is not intended to provide enhanced flood protection, it does intend to reduce the vulnerability of the water delivery system by making it less reliant upon the Delta levee system (and associated risks thereto). Further, the proposed project does not envision a change in the state's flood protection policies or programs. For more information on levee stability and seismic risk please see Master Response 16.
1601	135	Document Section: Chapter 2 - Project Objectives and Purpose and Need  Issue:  The BDCP proposes to restore and conserve "grassland; vernal pool complex; alkali seasonal wetland complex; managed seasonal wetland; nontidal perennial emergent wetland and nontidal perennial aquatic; and cultivated lands."  Comment:  There is no "purpose" identified in the EIR/EIS for the project to include these types of habitats in the restoration plans. The CVP/SWP projects do not affect these habitats with their operations and therefore there is no "need" to get a take permit for these species. Any effect on these habitat types would be from the conveyance construction or from conversion to aquatic habitat types should be avoided and minimized to the extent possible and mitigated for their impacts (which does not require an incidental take permit (ITP)). Unnecessary inclusion of these habitat types in the restoration plans only increases the impacts of the project. There should be at least some of the alternatives considered in the EIR/EIS that do not include these habitat types so that the impacts for including an aspect of the project in the scope that does not address an identified need or purpose can be quantified and isolated.	Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. The new preferred alternative does not include a HCP or conservation measures. The alternative implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Alternative 4A would implement substantially less habitat restoration than Alternative 4. Please refer to Chapter 3, Description of Alternatives for more detail on habitat restoration, and refer to Master Response 3 regarding the purpose and need for the project. Also see Master Response 4 for information on alternatives development.
1601	136	Document Section: Chapter 2 - Project Objectives and Purpose and Need  Issue:  The identification of facilities as a purpose of the project is predecisional. The purpose states, "b. The construction and operation of facilities and/or improvements for the movement of water entering the Delta from the Sacramento Valley watershed to the existing SWP and CVP pumping plants located in the southern Delta."  Comment:  This project purpose is stated as a subset of the purpose to get an incidental take permit. There are many approaches to the needs identified that do not require construction of new facilities, the proposed facilities have been determined in the administrative draft EIS/EIR to not benefit the proposed covered species, and to identify "construction of facilities" as a purpose to get an incidental take permit that Reclamation does not need is unsupported and is clearly predecisional on the part of DWR and the lead federal agencies.	For more information regarding alternatives please see Chapter 3 of the FEIR/EIS and Master Response 4 alternative development. The alternatives included in the FEIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA.
1601	137	Document Section: Chapter 2 - Project Objectives and Purpose and Need	Please see response to comment 1601-134.

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		<p>Issue:</p> <p>The purpose and need identifies an objective to make the CVP/SWP water system more reliable from earthquakes.</p> <p>Comment:</p> <p>The BDCP does not address existing CVP/SWP canals and reservoirs outside of the Delta as also being vulnerable to earthquakes. Instead it only focuses on system reliability in the Delta which is only a small part of the overall CVP/SWP water supply and water delivery system. In order to achieve the BDCP stated objective to increase CVP/SWP reliability from earthquakes, it needs to focus its efforts and proposals to address where the greatest earthquake risks are that threaten the system. As an example, the fault at San Luis Reservoir is 5 times more active than the faults in the western-most part of the Delta that the BDCP identifies as making the CVP/SWP water system vulnerable to earthquakes (<a href="http://www.restoretheDelta.org/keep-your-eye-on-the-ball-2/">http://www.restoretheDelta.org/keep-your-eye-on-the-ball-2/</a>). A "San Luis II" reservoir built to withstand the potential magnitude earthquake from the fault that is under the current San Luis reservoir (which is not built to that standard) would be a more important focus than the Delta in terms of system reliability from earthquakes. The SWP California Aqueduct is built on a series of fills across drainages in the hills south and west of Tracy. These "fill" sections have cracked linings and leak from settling of the fill materials. Water logging of the fill materials from the aqueduct leaks makes these segments of the canal extremely vulnerable to liquefaction and additional settling from an earthquake. Loss of San Luis Reservoir and/or several sections of the California Aqueduct would be as devastating or more to CVP/SWP reliability than any hypothetical (and less likely to occur) scenario the BDCP has presented for earthquake-caused system reliability in the Delta. Strengthening the Delta to be resilient from an earthquake does not accomplish the BDCP objective if the south of Delta delivery canals and reservoirs are compromised in an earthquake. In addition to improving the south of Delta system reliability from earthquakes, a greater reliance on local water supplies in the service areas also improves water delivery reliability in the event of an earthquake. The BDCP has failed to encompass a full scope of alternatives which would address the BDCP stated objective to increase system reliability from earthquakes.</p>	
1601	138	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The administrative draft EIS/EIR Project Objectives and the Purpose and Need Statement identifies a "Planning Area", but the project objectives, purpose and need do not define or support the definition.</p> <p>Comment:</p> <p>The planning area is described in the project description as the statutory Delta (with the addition of the Yolo Bypass and Suisun Marsh), but there is nothing in the project objectives, purpose or need that supports a constraint on that geographic scope of potential action for the BDCP. The February 13, 2009 Notice of Preparation, specifically identifies that "it may be necessary for the BDCP to include conservation actions outside of the statutory Delta..." BDCP has already established a precedent for including conservation actions outside of the statutory Delta by inclusion of conservation actions in Suisun Marsh and Yolo Bypass upstream of Highway 80 that are outside of the statutory Delta. Proposed project</p>	<p>Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. The concept of a Planning Area does not apply to Alternative 4A because take authorization would be sought under Section 7 consultation instead of a Section 10 HCP.</p> <p>Please also see response to comment 1601-8 regarding the scope of the project area. Information on the project's purpose and need can be found in Master Response 3.</p>

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		<p>operations for Conservation Measure 1 - the proposed conveyance - change CVP/SWP reservoir releases and downstream flows and these actions of the proposed project occur outside of the "Planning Area". The geographic range of many of the proposed covered species for the BDCP extend, not just in the "planning area", but also into the upstream operations and downstream service areas of the CVP/SWP project area. The project directly (and in some cases significantly) affects different life stages or populations of these same proposed covered species in the upstream operations and downstream service areas. The most obvious and pressing example of the disconnect between the artificially and insupportably geographically constrained BDCP "planning area" to the proposed covered species are the salmonids. The only life stages of the proposed covered salmonid species which occur in the planning area are adult immigration and juvenile emigration. The CVP/SWP operations do affect these life stages of the proposed covered salmonid species in the currently proposed planning area, but the duration of exposure is on the order of approximately one week out of a three year life cycle. The BDCP, with the inclusion of these proposed actions that are outside of the planning area, must also include consideration of inclusion of other potential project alternatives that are outside of the planning area.</p> <p>Even of these life stages, more than half life of these life stages occurs in upstream portions of the tributaries that are currently excluded from the planning area. Far more important to the recovery of these salmonid species are the adult holding, spawning, initial rearing and juvenile rearing life stages that occur in the tributaries upstream of the currently constrained planning area. The success of these life stages is much more critical to the recovery of these species than the adult immigration and juvenile emigration life stages. Additionally, the duration of exposure of these other critical life stages in the upstream tributaries to the CVP/SWP operational affects can be as much as one-third of their life cycle in the case of steelhead. The needs identified in the administrative draft EIS/EIR identify do support and justify that the planning area should be inclusive of the full geographic extent of the effects of the project on the proposed covered species. The geographic extent of the planning area needs to be redefined, not only because the project needs identified do not support or justify the current definition limited to the Delta, but because the administrative draft EIS/EIR has identified such small and tenuous benefits of the BDCP to many of the proposed covered species. The project needs to extend the planning area to include any location to which it could take actions which would benefit those species to demonstrate contribution to recovery to justify the incidental take permits. As an example, inclusion of the upstream tributaries in the planning area would allow for spawning and rearing conservation actions for sturgeon and salmonids which could make more direct and tangible enhancements to their habitat and measurable benefits for those species. Since fish passage at the terminal dams is part of the SWP existing Reasonable and Prudent Action (RPA) obligations from the current Operations Criteria and Plan (OCAP) Biological Opinions (BOs), this upstream geographic scope would include the upstream extent of the range of those species into the reservoir headwaters. The BDCP planning area definition should therefore be revised to include the upstream extent of salmonid (steelhead) habitat in the upstream tributaries above Shasta, Oroville, Folsom, and New Melones reservoirs, the tributaries below these reservoirs, the Delta, the CVP/SWP service areas downstream of Delta, and the drainage basins of the CVP/SWP service areas downstream of the Delta.</p>	
1601	139	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p>	Please see response to comment 1601-138.

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		<p>The BDCP is seeking permit coverage for the existing CVP/SWP facilities, operations and maintenance. This encompasses a geographic area that would include the upstream tributary dams (to the high water mark), tributaries that are downstream of the dams, the existing diversions from the Delta, the existing south of Delta conveyance canals and the CVP/SWP service areas.</p> <p>Comment:</p> <p>Even though the project is seeking permits for facilities, operations and maintenance that covers the entire existing CVP/SWP, the BDCP is excluding the majority of that geographic area from potential actions that would be the basis of merit for issuing those permits. The BDCP must not be issued permits on the entire CVP/SWP unless the potential geographic scope of action encompasses this same geographic range. The BDCP's self imposed and unsupported geographic constraint on the action area of the project precludes from consideration in the project alternatives many possible actions that would benefit the species proposed for conservation. This kind of pre-limitation of potential reasonable scope and action is expressly prohibited in the NEPA and CEQA scoping process.</p>	
1601	140	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The purpose and need attempts to limit the geographic scope of project actions to the "Plan Area".</p> <p>Comment:</p> <p>Since the BDCP imposes an artificial constraint on where the project actions that can occur that are intended to benefit and conserve the species covered under the proposed Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP), the geographic scope of any take permits issued based on this project should also be limited to this same "Plan Area" geographic scope. Since actions are precluded by the BDCP in the majority of the geographic area the permits are intended to cover and the BDCP cannot and will not directly address existing CVP/SWP operations and maintenance impacts in these areas outside of the "Plan Area" then the BDCP cannot be awarded permits which cover these areas. In other words, since the BDCP will not implement any upstream conservation measures, the BDCP should not be awarded Incidental Take Permits (ITPs) that cover the upstream tributaries or the CVP/SWP operations in these areas.</p>	<p>Please see response to comment 1601-8 regarding the scope of the project area. For information on incidental take permits, please see response to comment 1601-18.</p>
1601	141	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The BDCP's proposed project includes changes to reservoir operations and flows in the tributaries downstream from the terminal dams in combination with CM1.</p> <p>Comment:</p> <p>The BDCP's alteration of reservoir operations as part of CM1 sets a precedent that project actions are not limited to the "Plan Area". Since the BDCP has inconsistently applied the constraint of not considering alternatives or alternative components outside of the "Plan Area", the BDCP must include for full analysis and consideration in the EIR/EIS all alternative</p>	<p>The proposed project is one component, among many, of the California Water Action Plan. The California Water Plan evaluates different combinations of regional and statewide resources management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. Follow the California Water Plan here: <a href="http://www.waterplan.water.ca.gov/">http://www.waterplan.water.ca.gov/</a>.</p> <p>By establishing a point of water diversion in the north Delta the proposed project is designed to improve native fish migratory patterns while securing reliable water deliveries. Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1, EIR/EIS, describes the range of conveyance alternatives considered in the development of the EIR/EIS. Appendix 1B, Water Storage, EIR/EIS, describes the potential for additional water storage and Appendix 1C, Demand Management Measures, EIR/EIS, describes conservation, water use efficiency, and other sources of water supply including desalination. While these</p>

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		<p>concepts that were excluded from consideration, in whole or in part, because they fell outside of the plan area.</p>	<p>elements are not proposed as part of the proposed project, the Lead Agencies recognize that they are important tools in managing California's water resources.</p> <p>Please see the response to Comment 1601-8 regarding the geographic scope of the Plan Area.</p> <p>Please see Master Response 4 regarding alternatives development. The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA.</p>
1601	142	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The EIR/EIS identifies a need to increase the reliability of current CVP/SWP conveyance.</p> <p>Comment:</p> <p>The upstream tributary and Delta levees are an integral and essential component of the current CVP/SWP conveyance system, so with this BDCP stated project need, levee improvements by default must be within the scope of potential project actions. The BDCP failed to consider improvements to levee systems upstream of the Delta to improve CVP/SWP system reliability. The BDCP must address this critical aspect of system reliability that was not considered in the scoping and development of BDCP project alternatives. Previous comments have addressed the completely unsupported, arbitrary, capricious and predecisional constraint of potential project actions to the Delta action area. The critical component of the upstream tributary levee conveyance to CVP/SWP system reliability is a good demonstration as to why the artificially constrained geographic scope of potential actions in the BDCP are inappropriate and contrary to the achievement of the stated purpose and need for the BDCP project.</p>	<p>Please see response to comment 119 regarding water supply reliability. Also see response to comment 1601-8 regarding the scope of the project area.</p> <p>Please see Appendix 6A, FEIR/EIS, for the BDCP/CWF purpose and need, and Sections 2 and 3 for discussion on current levee improvement programs and funding mechanisms, which would not be affected by the BDCP/CWF.</p> <p>The California Department of Water Resources' Levee Repairs and Floodplain Management Office is responsible for administering levee programs through evaluation and direct rehabilitation of structural deficiencies in California's levee system. Overall levee repairs and improvement programs administered by DWR will continue with available funding.</p> <p>Also see Master Response 4 and Chapter 3 of the Final EIR/EIS for a discussion of alternatives.</p>
1601	143	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need - Project &amp; Need support for alt dev. screening criteria</p> <p>Issue:</p> <p>There is nothing in this chapter that would preclude conservation or alternative water supplies as an alternative to meeting the Need, Purpose or Objectives.</p> <p>Comment:</p> <p>Screening criteria based on the project purpose and need cannot exclude conservation or alternative water supplies as a viable set of concepts for full consideration as alternatives in the EIR/EIS and yet these alternatives were inappropriately dismissed the EIR/EIS from further consideration. The BDCP must clearly and with consistently applied screening criteria that are based on the purpose and needs disclosed in the EIR/EIS, show why and how these alternatives were dismissed from full consideration.</p>	<p>Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A.</p> <p>See Master Response 4 for discussion of the scope of the proposed project and alternatives (such as water storage) that were not carried forward for analysis in this document due to the fact that required actions beyond the scope of the proposed project. More information on storage can also be found in Master Response 37. The alternatives included in the FEIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals that were considered but ultimately rejected by the Lead Agencies are discussed in Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS, including the NRDC Portfolio-Based Proposal, Congressman Garamendi's Water Plan, and other similar concepts that would require actions that are beyond the scope of the proposed project.</p> <p>For more information regarding purpose and need please see Master Response 3.</p>
1601	144	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need - Project &amp; Need support for alt dev. screening criteria</p> <p>Issue:</p>	<p>Please see response to comment 1601-143.</p>

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		<p>There is nothing in this chapter that would preclude upstream or downstream storage as an alternative to meeting the Need, Purpose or Objectives stated in the EIR/EIS.</p> <p>Comment:</p> <p>The most direct way to for the BDCP to protect against the risk of water supply disruption is to increase downstream storage. A downstream storage alternative could end up being the Least Environmentally Damaging Practicable Alternative (LEDPA) alternative which the U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA) would have to adopt for the purposes of their permits. The BDCP goes to great lengths to try to dismiss consideration of storage as an alternative. When those arguments are considered, the only real statement the BDCP made (over and over again) was that "it was not compelled to consider storage as an alternative". Within the context of the BDCP Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) this is a correct statement, but within the context of the EIR/EIS which these materials were included in Appendix 1B, the statement is grossly incorrect. Within the context of the EIR/EIS, the project needs to consider "reasonable alternatives that are practical and feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant". (Council on Environmental Quality, March 16, 1981. "Questions and Answers About the NEPA Regulations.") The EIR/EIS has failed to comply with this requirement and its dismissal of upstream and downstream storage alternatives or components of alternatives is directly in conflict with these requirements.</p>	
1601	145	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The BDCP has unjustifiably excluded upstream and downstream storage improvements from the scope of the potential BDCP actions.</p> <p>Comment:</p> <p>One of the major premises of the BDCP proposed project is to alter CVP/SWP operations by changing the conveyance system of the CVP/SWP to reduce the effects of project operations on the proposed covered species. The administrative draft EIS/EIR Appendix 1B.1 states, "While water storage is a critically important tool for managing California's water resources, it is not a topic that must be addressed in the EIR/EIS for the BDCP. This is because the BDCP, as a proposed habitat conservation plan and natural community conservation plan, does not, and need not, propose storage as a project component". This is an incorrect assertion by the BDCP EIS/EIR and does not support elimination of storage as a potential component of an alternative in the EIS/EIR. Screening criteria must be consistently and reasonably applied to all of the concepts identified in the scoping process to develop the reasonable range of alternatives for evaluation in the EIS/EIR. Storage was certainly identified as part of the scoping process because CVP/SWP operations are dictated for significant portions of the year by upstream water supply, reservoir cold water pool availability, downstream storage availability and service area demand dynamics. It is true the project proponent can elect to include or exclude components (including storage) from their Proposed Project/Action, but for the EIS/EIR to exclude upstream and downstream storage capacity and reservoir cold water pool related conservation or enhancement actions from the scope of the BDCP EIR/EIS without reason or rationale is absolutely unsupportable. Increases of upstream or downstream storage capacities dramatically affect operational</p>	Please see response to comment 1601-143.

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		<p>characteristics of the CVP/SWP (e.g., cold water pool availability in upstream reservoirs is often the limiting factor in fall operations). If significant additional downstream storage (e.g. San Luis II) were available, the CVP/SWP would be able to fill this reservoir during the peak flows in the winter that have few operational conflicts with and effects on listed aquatic species in the Delta. The BDCP never evaluated or gave due consideration or equal treatment to these clearly viable project alternatives, especially in context of combining storage with other potential project components.</p> <p>As a result of the shift to winter exports from the Delta, the magnitude of Delta exports in the spring and summer, which currently contribute most of the adverse affects on the listed aquatic species would be significantly reduced. Reductions in spring and summer exports from the Delta (while still meeting water supply needs) would also improve upstream conditions in the fall from increased upstream reservoir cold water pool availability. Given those changes in seasonal operations resulting from additional downstream storage, there would not even be a need for other BDCP actions to conserve these proposed covered aquatic species and warrant the take permit that is the objective of the BDCP. Based on even this cursory discussion, downstream storage actually addresses the Needs identified by the project more thoroughly and beneficially than the current proposed project facilities. We believe that several upstream storage projects (e.g. Shasta Lake Water Resources Investigation, Raise Folsom and North of Delta Off-Stream Storage (NODOS)) and downstream storage projects (e.g. San Luis Reservoir Low Point Improvement Project) have draft environmental documents that have been completed through administrative draft but not publicly released. The environmental documents on these projects should be released and included as alternatives in the BDCP and operational assumptions. The BDCP should include a project alternative with substantial additional upstream and/or downstream storage (e.g. San Luis II). The administrative draft environmental analysis demonstrates that the Proposed Project, as it currently stands, does not substantially benefit the proposed covered species and therefore the range of what should be considered within the scope conservation actions needs to be expanded to include upstream and downstream storage to address the constraints of the operations which limit the benefits of the proposed project. The BDCP proposes to "fix" the Delta and then proceeds to only analyze alternatives that are closely related to the current constrained system. If the BDCP were earnest in their desire to fix the Delta then alternatives that are very different from the currently constrained operations and physical system should be developed and fully considered rather than them being blown off by an inconsistently applied screening criteria.</p>	
1601	146	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The range of alternatives selected in the BDCP EIR/EIS are inadequate to consider a reasonable range of alternatives as all of the BDCP alternatives selected were closely related derivatives of each other.</p> <p>Comment:</p> <p>There were some variations in the physical location of the alternative conveyances, some had different conveyance capacities, and mostly the alternatives had the same operations. Most of the alternatives had all the same north Delta intake locations and intake facility capacities, all the same habitat restoration actions with only a couple minor differences in the quantity of restoration. One of the alternatives constituted an armoring of the levees of</p>	Please see response to comment 1601-143.

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		the No Action condition. The selected alternatives that had few material differences between them do not constitute a reasonable range of alternatives. The BDCP should have included storage, both upstream, downstream and combinations of them as part of their reasonable range of alternatives.	
1601	147	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Some alternatives identified in Public Scoping of the BDCP EIS/EIR were dismissed from further consideration without sufficient justification.</p> <p>Comment:</p> <p>"The purpose of an EIR's discussion of alternatives is to identify ways to reduce or avoid a project's significant environmental effects. Thus, potential alternatives are reviewed to determine whether they (i) can substantially reduce significant environmental impacts, (ii) can attain all or most of the basic project objectives, (iii) are potentially feasible, and (iv) are reasonable and realistic." (SUPERIOR COURT OF CALIFORNIA COUNTY OF SACRAMENTO CENTRAL DELTA WATER AGENCY, et al. v. CALIFORNIA DEPARTMENT OF WATER RESOURCES, et al. Case Number: 34-2010-80000561, January 31, 2014) Some alternative project concepts introduced in the scoping process were eliminated from further consideration in the alternatives development process with insufficient justification and inconsistently applied screening rationale. These project alternatives introduced in the scoping process that were incorrectly dropped from further consideration by the BDCP include (but are not necessarily limited to): additional upstream and downstream storage, completion of the originally authorized CVP and SWP facilities Yolo Bypass and/or the Sacramento Deep Water Ship Channel as part of the conveyance, distributed intakes (north, central, west and east), alternative alignments of the tunnel and associated facilities, and alternative combinations and sequences of aquatic habitat restoration. Since the Notice of Preparation (NOP) needs to be reissued, and therefore public scoping revisited, we request that these and other alternatives be given full and due consideration and consistent treatment with the screening process rationale provided to the other project alternatives. If DWR determines it will not reissue the NOP, we request that these alternatives be addressed in a revised public draft EIS/EIR as these were dismissed from the analysis without sufficient consideration or consistent with screening rationale provided to the other project alternatives that were carried forward into the administrative and initial public draft EIS/EIR.</p>	Please see response to comment 1601-143.
1601	148	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The CVP and SWP were never completed as originally authorized.</p> <p>Comment:</p> <p>The CVP and SWP were both originally proposed with larger water supplies and other supporting facilities (e.g. drainage systems) that were never completed. The originally agreed upon amounts of water supply delivery contracted depended on the completion of the water supply build out as they were authorized. If the water supply had been built out</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.</p> <p>Please refer to Master Response – Water Rights 32.</p>

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		<p>as authorized or the water supply delivery contracts were limited to the amounts supported by the water supplies that were actually built out, there would be no (or at least very significantly reduced) CVP/SWP operational impacts to listed aquatic species. With the reduced or eliminated impacts of the CVP/SWP on listed species from the reduced water deliveries to reflect the CVP and SWP water supply availability as they currently exist, the need for the BDCP would either be eliminated or significantly reduced in scope and magnitude.</p>	
1601	149	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The BDCP assumes that CVP/SWP water delivery contracts will be renewed under their current terms, conditions and delivery quantities.</p> <p>Comment:</p> <p>Water delivery contracts for the CVP and SWP will expire prior to even half of the BDCP proposed project implementation period. The BDCP modeling and affects analysis assumes that these water delivery contracts will be renewed in the future without modification. The administrative draft section 2.5.2 states, "the State Water Board presented information indicating that quantities totaling several times the average annual unimpaired flows in the Delta watershed could be available to water users based on the face value of water permits already issued." Given the BDCP's identification that water supply allocations are currently grossly oversubscribed based on what is potentially available, it is not reasonable to assume the CVP and SWP water delivery contracts would be renewed under the existing terms, conditions and quantities without modification to reflect available supplies. Additionally, the CVP and SWP were never built out as authorized. The original water delivery contract amounts assumed that the system water supply would be built out prior to the water delivery contract demand occurring and therefore the system would have the capability to support those deliveries. Renewing the water delivery contracts without modification also would fail to reflect the substantial changes in regulatory setting and requirements (e.g. Operations Criteria and Plan (OCAP) Biological Opinions (BOs), Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS), Long-term Irrigated Lands Regulatory Program (ILRP) to name just a few), climate change assumptions and interagency agreements on water sharing and water exchanges since the previous contract renewals. Further, renewal of the contracts will need to address on-going environmental effects of the operation of the CVP/SWP, including but not limited to: degradation of genetic characteristics of salmonids from downstream of terminal dam conditions and associated hatchery operations, reductions in downstream sediment load and large woody debris contributions, geomorphology changes to fish habitat attributable to altered tributary flows from operations, water quality, salinity accumulation in soils, and many others. All of these changes in water supply availability, regulatory setting, operational requirements and agreements, climate change, and on-going environmental effects of CVP/SWP operations (which have not been mitigated by any preceding projects), have profound implications to the water delivery contract renewals. It should also be noted that the current water supply contracts specifically identify that continued water supply quantities are not guaranteed in subsequent contract renewals. Reclamation and DWR need to adjust the water delivery contracts of the water contractors to reflect the quantity of water that is available for delivery from the current system with its current regulatory constraints and not continue to provide quantities of water supply that are based on systems that were never completed.</p>	Please see response to comment 1601-132.

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		BDCP assumptions that the water delivery contracts are renewed at the current contract levels is unsupportable. The BDCP environmental analysis should not presume that contracts will be renewed with the existing water supply quantities and should instead assume that those contracts are renewed with water supply quantity terms that reflect the reality of current water supply	
1601	150	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Top agency representatives in charge of the preparation of the BDCP EIR/EIS do not believe the project will achieve the habitat restoration goals in the Delta.</p> <p>Comment:</p> <p>Jerry Meral, California Department of Natural Resources (DNR) (in charge of the BDCP EIR for DNR and directing DWR in the preparation of the EIR/EIS) has been quoted in the Sacramento Bee as saying, the Bay Delta Conservation Plan "is not about, and has never been about saving the Delta. The Delta cannot be saved." -- Stokely says: "Meral, the guy in charge of the BDCP Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP), does not believe the plan will accomplish its dual goals."</p>	Please see response to comment 1601-19.
1601	151	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that, "Reclamation may also make decisions regarding wheeling CVP water through new Delta conveyance facilities..."</p> <p>Comment:</p> <p>There is no mention of Reclamation wheeling water in the EIR/EIS in the project description, Purpose and Need or in the alternatives. This is a critical omission from the document. If Reclamation wheels water through the facilities, it will not have ownership of the facilities or need Incidental Take Permits. If Reclamation is only wheeling water through the facilities, what justifies Reclamation's role as a co-lead Federal Agency and more importantly for being a cost share partner in the environmental planning process (estimated at over \$110 million to date and counting)?</p>	<p>Please see Master Response 3 for information on the Project Purpose and Need.</p> <p>The EIR/EIS analyzes all alternatives, including Alternative 4A. The Final EIR/EIS Chapter 1, Executive Summary, identifies and updates from the 2013 Draft EIR/EIS the lead and cooperating agencies that will use the EIR/EIS as part of their decision-making process. Reclamation will act as the sole federal Lead Agency of the proposed project (under NEPA) while DWR will continue to act as the state Lead Agency (under CEQA). The USFWS and NMFS will act as NEPA Cooperating Agencies. The regulatory agencies – USFWS, NMFS, CDFW, USACE, and the State Water Board – are participating to provide technical input and guidance in support of planning efforts to complete the proposed project.</p>
1601	152	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that, "Reclamation may also make decisions regarding... implementing habitat restoration and monitoring actions proposed by the BDCP that are consistent with Reclamation's regulatory requirements, programs, authorities, and appropriations."</p> <p>Comment:</p> <p>This Federal Notice statement is unclear and implies that the actions Reclamation may take</p>	<p>Please see Master Response 3 for additional information on the Project Purpose and Need.</p> <p>The EIR/EIS analyzes all alternatives, including Alternative 4A. The Final EIR/EIS Chapter 1, Executive Summary, identifies and updates from the 2013 Draft EIR the lead and cooperating agencies that will use the EIR/EIS as part of their decision-making process. Reclamation will act as the sole federal Lead Agency of the proposed project (under NEPA) while DWR will continue to act as the state Lead Agency (under CEQA). The USFWS and NMFS will act as NEPA Cooperating Agencies. The regulatory agencies – USFWS, NMFS, CDFW, USACE, and the State Water Board – are participating to provide technical input and guidance in support of planning efforts to complete the proposed project.</p>

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		<p>may or may not be the same as the BDCP. The Purpose and Need and alternatives of the EIR/EIS does not address potential variations in the level of Reclamation's participation in the habitat restorations. Reclamations role in the BDCP as the EIR/EIS defines it is as a full and equal partner in the project funding, operations and resource commitments. The Federal Register clearly identifies a very different role and expectation stated from Reclamation. These two scenarios are completely different and incompatible in terms of their representation as well as project impacts. The BDCP EIR/EIS must be revised to clarify Reclamation's role, level of commitment and participation in operations in the proposed BDCP. The differences between these two scenarios are fundamental and represent material changes in the EIR/EIS and not only must be addressed, but the document recirculated for public comment once these issues have been clarified and corrected.</p>	
1601	153	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that, "take authorization of covered listed species would be effective at the time of permit issuance."</p> <p>Comment:</p> <p>This statement is predecisional. The take permits do not necessarily have to be effective upon issuance. In fact, the effectiveness of the permits should only occur after the BDCP has been documented as achieving implementation milestones and biological performance goals. Reclamation has declared in the federal register, an outcome of the project before even the public review of the environmental document has been completed. Reclamation has no authority to dictate the outcome and terms of the permits to the permit issuing agencies, U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS). Reclamation must retract this predecisional statement and reissue the federal register notice.</p>	<p>The purpose of the NOA is to identify a proposed action not to predetermine the effectiveness of the permit nor dictate a particular outcome.</p>
1601	154	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that, "...Reclamation's (Reclamation's) proposed Federal action is to change operation of Central Valley Project (CVP) facilities in the Delta consistent with the BDCP"</p> <p>Comment:</p> <p>Since this notice is to also announce the EIS availability for review, is not the statement that the Federal agencies propose to change the CVP operations consistent with the BDCP predecisional? The EIS requires that the Federal agencies also consider alternatives to the proposed Habitat Conservation Plan (HCP). Reclamation must retract this predecisional statement and reissue the federal register notice.</p>	<p>Chapter 2 Project Objectives and Purpose and Need has been revised and more accurately reflects Reclamation's proposed action which includes operational changes for the CVP in coordination with SWP. The NOA does not predetermine the effectiveness of the permit nor dictate an outcome but simply identifies a proposed action.</p>
1601	155	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Reclamation has not completed the Feasibility Study that is required before it spends any</p>	<p>As the state lead agency, DWR has prepared all of the planning, engineering and other project studies. As presented in Chapter 1 of the Final EIR/EIS, Reclamation is a federal lead agency for purposes of NEPA for both the BDCP alternatives and the California WaterFix alternatives. Reclamation's project role is to operate the relevant CVP facilities in coordination with SWP facilities including new intakes and conveyance facilities,</p>

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		<p>money on developing a project.</p> <p>Comment:</p> <p>If the Feasibility Study that is required prior to Reclamation's authority to participate in the project has been completed, why has it not been publicly been disclosed? Please provide a copy of the Feasibility Study and the associated authorization to participate in the BDCP project as a partial response to this comment.</p>	<p>through the Coordinated Operations Agreement (COA). This role has not necessitated preparing a Feasibility Study for this project.</p>
1601	156	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Reclamation should publicly disclose their cost sharing agreements for the environmental planning process and documents detailing its cost share payments on the project to date.</p> <p>Comment:</p> <p>Authorizations are required for Reclamation to commit any money or resources to a project. The cost sharing agreement should reference these authorizations that to date have not been disclosed by Reclamation.</p>	<p>Reclamation's action in relation to the proposed project would be to adjust CVP operations specific to the Delta to accommodate new conveyance facility operations and/or flow requirements under the proposed project, in coordination with SWP operation. Cost sharing will not be based on any previous agreements, but will be governed by agreements specific to the proposed project.</p> <p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</p>
1601	157	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that, "The Plan also intends to... reducing future risks to the Delta from earthquakes, levee failure and climate change."</p> <p>Comment:</p> <p>Nowhere in the Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) or the EIR/EIS does the project proposes to reduce "future risks to the Delta from earthquakes, levee failure, and climate change". The project proposes to address those issues for the CVP/SWP conveyance, but it does nothing for the Delta on those issues. The BDCP project does increase the risk of levee failure to the Delta by altering existing levees and adding new ones. The project also increases risks to the Delta from future climate change as the aquatic habitat restorations increase the volume of intertidal exchange. Increases in the volume of intertidal exchange will degrade water quality, increase the velocities of tidal surges and increase the magnitude of tidal surge stage elevations. So is the BDCP proposing to reduce earthquake, levee failure and climate change risk in the Delta or is the Federal Register notice incorrect such that it should be revised and reissued?</p>	<p>The Delta is not subject to the same degree of overall seismic risk (i.e., threat of ground shaking and surface fault rupture) as much of the Bay area. However, although there is little threat of surface rupture in the Delta, the hazard of seismic ground shaking is moderate to high, based on expected seismic shaking modeling results conducted by the U.S. Geological Survey and DWR. See Section 3E.2.4.2 Ground Acceleration (Ground Shaking) of Appendix 3E and Section 9.1.1.4.2 Earthquake Ground Shaking in Chapter 9 of the 2013 Public Draft BDCP EIR/EIS.</p> <p>A moderate to strong earthquake could cause simultaneous levee failures on several Delta islands, which would result in island flooding with resultant island flooding. In 2002, the Working Group on California Earthquake Probabilities estimated that an earthquake of magnitude 6.7 or greater has a 62 percent probability of occurring in the San Francisco Bay Area before 2032, and could cause 20 or more islands to flood at the same time.</p> <p>The proposed project does not purport to protect existing levees from seismic ground shaking. Although the proposed project is not intended to provide enhanced flood protection, it does intend to reduce the vulnerability of the water delivery system by making it less reliant upon the Delta levee system (and associated risks thereto). Further, the proposed project does not envision a change in the state's flood protection policies or programs. For more information on levee stability and seismic risk please see Master Response 16. Please refer to Master Response 3 for a further description of the purpose and need for the project.</p> <p>Regarding the part of the comment pertaining to degradation of Delta water quality from increases in the volume of intertidal exchange, the EIR/S fully evaluates potential effects to water quality degradation in Chapter 8 and provides mitigation for all project alternatives relative to significance thresholds in Section 8.3.2.3, Effects Determinations. Modeling supporting the water quality assessment in Chapter 8 included assumptions for habitat restoration, thus, the modeling results reflect the effects of changes in tidal exchange. Where degradation would cause a significant impact to water quality due to adverse effects on beneficial uses, mitigation to lessen those effects has been provided. More information on water quality can be found in Master Response 14. For information on the proposed project and climate change, please see</p>

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			Master Response 19.
1601	158	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>Reclamation does not require the take permits that are the stated objective of the HCP and none of the other stated purposes applies to Reclamation, so Reclamation has no nexus for participation in the BDCP as a lead agency or as a cost share partner.</p> <p>Comment:</p> <p>Please provide supporting documentation of Reclamation's authorization to participate in the BDCP project. The documentation must include rationale for Reclamation's participation in light of the fact that it has no need for the stated BDCP purpose to obtain take permits.</p>	As already mentioned previously, the RDEIR/SDEIS Executive Summary, ES.1, identifies and updates from the 2013 Draft EIR the lead and cooperating agencies that will use the EIR/EIS as part of their decision-making process. Reclamation will act as the sole federal Lead Agency of the proposed project (under NEPA) while DWR will continue to act as the state Lead Agency (under CEQA). The USFWS and NMFS will act as NEPA Cooperating Agencies. The regulatory agencies – USFWS, NMFS, CDFW, USACE, and the State Water Board – are participating to provide technical input and guidance in support of planning efforts to complete the proposed project.
1601	159	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>In public meetings with upstream stakeholders in the BDCP process on November 18, 2013, Reclamation representatives Sue Fry and David Murillo reported that Reclamation: may or may not be a BDCP permittee, operator or owner of any portion of the BDCP tunnels; is uncertain if CVP water will be moved through the proposed facilities; if CVP water is moved through the tunnels it would be through a wheeling agreement with DWR; and is currently (as of 11/18/13) trying to determine whether BDCP will result in a CVP benefit.</p> <p>Comment:</p> <p>These are all issues that should have been addressed and evaluated in the Feasibility Study that Reclamation is required to conduct before engaging in a project. Reclamation's role in the project in the BDCP EIR/EIS is represented very differently than how the BDCP has portrayed it in the EIR/EIS than the statements made at the November 18, 2013 meeting.</p>	Reclamation operates the CVP in coordination with the SWP through the Coordinated Operation Agreement. Operation of new conveyance facilities and/or flow patterns proposed under the proposed project would result in changes to existing CVP operations specific to the Delta that provide for diversion, storage, and conveyance of CVP water consistent with applicable law and contractual obligations. Reclamation's action in relation to the proposed project would be to adjust CVP operations specific to the Delta to accommodate new conveyance facility operations and/or flow requirements under the proposed project, in coordination with SWP operation. For more information on Reclamation's role in the proposed project, please see response to comment 1601-158.
1601	160	<p>Document Section: Chapter 2 - Project Objectives and Purpose and Need</p> <p>Issue:</p> <p>The Federal Register notice from December 13, 2013 indicates that Reclamation may or may not wheel water through the proposed facilities.</p> <p>Comment:</p> <p>If Reclamation is considering wheeling water through the facilities, then they are considering not being an owner or co-operator of the facilities. The role of Reclamation in the project as described in EIR/EIS is inconsistent and misrepresentative of the role as Reclamation describes it in the Federal Register Notice. The Federal Register Notice and Reclamation's level and types of participation in the BDCP must be reconciled, both in a revised Federal Register Notice and a significant revision to the EIR/EIS.</p>	The description in Chapter 3 Alternatives states that "Reclamation would likely enter into an agreement with DWR to wheel CVP water through the new facilities, and this action by Reclamation would be an associated federal action." This is an accurate statement and does not conflict with the NOA which indicates that Reclamation may make decisions regarding wheeling CVP water through new Delta conveyance facilities.
1601	161	Document Section: Chapter 4 - Analytical Approach	The FEIR/S analyzes all alternatives, including Alternative 4A.

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		<p>Issue:</p> <p>The BDCP proposed analytical time periods are insufficiently justified.</p> <p>Comment:</p> <p>The BDCP must implement numerous mitigation and habitat restoration actions prior to the initiation of the conveyance facilities operations. These actions implemented prior to the conveyance operation initiation have significant potential impacts to water quality and water supplies from intertidal interactions. The BDCP proposes to do these actions and implement the conveyance operations and then evaluate the project impacts. This BDCP proposed time increment to assess the project impacts is flawed and hides conveyance operations impacts. The appropriate temporal increment for the analysis is just prior to and just after the conveyance operation initiation. In this way, the impacts of the conveyance operation can be isolated and disclosed. Further, for subsequent time periods for impact assessment, rather than the arbitrary and unsupported current proposed early and late long term time periods, the BDCP should conduct an impact analysis just prior to and just after each significant proposed aquatic habitat restoration action. Using this incremental time step for the implementation of the project and the impact analysis, the impacts of the habitat restoration actions can be understood, quantified and disclosed. This proposed analytical time step for the EIR/EIS is logical and represents the best available science. The only excuse for the BDCP to use their current arbitrary and unrepresentative analytical time steps is that it is less work and they do not actually know what will be implemented where, when, or how.</p>	<p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of Alternative 4A, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include (1) the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p> <p>Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures.</p> <p>Under Alternatives 4A, 2D, or 5A, compliance with state endangered species laws would be through a request for authorization of the incidental take of species listed under the CESA in the form of an incidental take permit issued by CDFW under Section 2081(b) of the CESA rather than the 50-year permit Alternative 4 would require.</p> <p>Please see section 4.1 of Chapter 4 of the Final EIR/EIS regarding timeframes. Also see Chapter 3, Description of Alternatives.</p>
1601	162	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>The BDCP proposed analytical time steps do not reflect a required period for the BDCP proposed aquatic habitat restorations to develop to full function.</p> <p>Comment:</p> <p>Aquatic habitat restorations require years, if not tens of years, to come to functional and hydraulic equilibrium. The BDCP proposes to do a single snapshot in two periods of project implementation which completely obscure and ignore this life-cycle of habitat development and succession. In reality, the aquatic habitats the BDCP proposes to implement will continue to change for years after their implementation, which will affect their water quality interactions and therefore CVP/SWP water project operations (driven by water quality constraints). The BDCP must analyze aquatic habitat restoration actions several times during their implementation and maturation period in order to identify, characterize, quantify and disclose the project impacts and interactions with other resources, e.g. water quality, fisheries, and water supply. As an example, the BDCP proposed aquatic habitat restoration in the southeast Delta is shallow water habitat that will have a large evaporative component in the early stages of implementation that will concentrate water quality problems. A few years later this same area will be choked out with tules and have very different hydraulic and intertidal exchange characteristics. This final succession habitat (resulting from the nutrient load from the San Joaquin and low water exchange) of a tule monoculture will result in a similar boom-bust cycle of growth and necrosis of tules as the Florida Everglades which periodically releases toxins and high levels on phosphorus and</p>	<p>Please see response to comment 1601-161. The analysis for CMs 2-21 was completed adequately at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis, of the Final EIR/EIS. Please refer to Chapter 3, Alternatives, for additional detail about the habitat restoration proposed under Alternative 4A. Also see response to comment 1601-4 and Master Response 5.</p> <p>For more information regarding project and program level analysis please see Master Response 2.</p>

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		nitrogen into the aquatic environment.	
1601	163	<p>Document Section: Chapter 4 - Analytical Approach - Level of analysis</p> <p>Issue:</p> <p>Tunnel muck is treated at a programmatic level of analysis.</p> <p>Comment:</p> <p>Tunnel muck disposal is a direct consequence of the construction of the proposed tunnel conveyance that the document cites as being evaluated at a project level of detail in pursuit of construction-related permits. The tunnel muck disposal is not developed anywhere near a project level of detail. Various sections of the BDCP EIR/EIS cite different quantities of tunnel muck volume. In multiple places in the document and in the recent (March 2014) "Reusable Tunnel Material Testing Report" the project identifies a number of possible uses of the tunnel muck -- levee repair/upgrade, fill for habitat restoration, fill for subsided islands, and potentially to a landfill. Each of these fates of tunnel muck has substantially different environmental consequences that were not evaluated in the EIR/EIS at a project level of detail. Each fate of tunnel muck has different impacts on soils and geology, flood risk, environmental contaminant and human health, air quality from different transportation distances and types, air quality from wind erosion, water quality from water erosion, traffic impacts from different transportation, conversion of land use, impacts to habitat values (potentially both positive and negative), and a number of other potential impacts. The BDCP EIR/EIS failed to specifically quantify the volume of tunnel muck, reliably characterize the physical and chemical characteristics of the tunnel muck by, or determine the volumes of material by location that would be used in specific applications and locations. The analysis of the tunnel muck does not even meet the standards of level of completeness of disclosure of a programmatic analysis as there are many fundamental components of how the tunnel muck could be treated that are not identified or described in the EIR/EIS. This is demonstrated by how many aspects of the treatment of tunnel muck that are introduced for the first time in the Reusable Tunnel Material Testing Report. The BDCP needs to analyze the tunnel muck disposal at a project level of detail, which will require substantial additional characterization of the materials in a sampling that is defensibly statistically representative of the entire tunnel alignment as well as a much more specific and definitive description of how the volumes of discharges at each access port would be treated and used.</p>	<p>For information regarding project and program level analysis please see Master Response 2.</p> <p>Under Alternative 4 and 4A (the proposed project), the revised estimates of Reusable Tunnel Material (RTM) can be found in the recirculated documents in Table 3C-1 "Construction Assumptions for Water Conveyance Facilities" starting on page 3C-40 of Appendix 3C in Appendix A, which details the revised estimates for RTM storage acreage, volume, and potential reuses. Mapbook figures M3-4 and M14-7 show potential RTM storage locations. Final locations for storage of RTM would be selected based on guidelines presented in Appendix 3B Environmental Commitments, section 3B.2.18 "Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material" starting on page 3B-50, also in Appendix A of the RDEIR/SDEIS.</p> <p>For more information regarding Reusable Tunnel Material please see Master Response 12.</p>
1601	164	<p>Document Section: Chapter 4 - Analytical Approach - Study Area</p> <p>Issue:</p> <p>The document needs a Study Area map.</p> <p>Comment:</p> <p>It is ridiculous not to even have a map that defines these areas.</p>	As explained in the Draft EIR/EIS, at Section 4.2.1.2, Definition of Study Area, the introductions to analyses in Chapters 5–30 define resource-specific study areas.
1601	165	<p>Document Section: Chapter 4 - Analytical Approach - Study Area</p> <p>Issue:</p>	The analysis is inclusive, by resource area, of all potentially impacted areas. For example, Impact SW-1: Changes in SWP or CVP reservoir flood storage capacity, in Chapter 6, Surface Water, describes impacts to reservoir capacities from the alternatives. Under the proposed project, 4A, this impact would be less than

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		<p>The BDCP defined the study area does not include all areas affected by the CVP/SWP system.</p> <p>Comment:</p> <p>The BDCP Study Area is not inclusive of all direct and indirect effects. As an example, the BDCP proposed operations would alter reservoir operations, but the BDCP EIR/EIS does not analyze the impacts of changes in reservoir fluctuations as a result of the BDCP operations. Reservoir fluctuations also impact reservoir and upstream tributary fisheries interactions so the BDCP impacts extend upstream of the reservoirs at least as far as the first upstream impassable fish barriers. DWR used this geographic scope in its environmental analyses for its recent Federal Energy Regulatory Commission (FERC) relicensing of the Oroville Facilities. The BDCP EIR/EIS impact analyses also does not include drainages downstream from CVP/SWP service areas which are also affected by runoff and drainage from the CVP/SWP operations which are altered by the BDCP Proposed Project and Alternatives. The BDCP EIR/EIS analyses should be revised to correct the omissions in its geographic scope of impacts.</p>	<p>significant/not adverse. Additionally, upstream impacts are analyzed in Chapter 11, Fish and Aquatic Resources. The RDEIR/SDEIS added analysis to assess the consequences on downstream aquatic habitat to Chapter 11, and analysis of water quality conditions downstream to Chapter 8, Water Quality. Please see Section 6.3.1 of Chapter 6, Surface Water, for a description of the methodology of the study area analyzed. The surface waters analyzed in this chapter include Sacramento River upstream of the Delta and downstream of Keswick Dam; Trinity River downstream of Lewiston Reservoir; Feather River downstream of Thermalito Dam; American River downstream of Nimbus Dam; surface water diversions into Yolo Bypass; representative Delta channels; and San Joaquin River upstream of the Delta.</p> <p>Please also see response to comment 1601-8 regarding the scope of the project area. For information on upstream reservoir effects, please see Master Response 25.</p>
1601	166	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>The BDCP No Action does not describe or analyze the impacts of all of the Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs).</p> <p>Comment:</p> <p>The BDCP analysis has not included existing BO RPA obligations like fish passage at all CVP/SWP terminal dams due to there being an "insufficient level of detail" available on the programs. The lack of sufficient detail on these No Action items is DWR and Reclamations own fault because they are in violation of the obligations to develop and implement the OCAP BO RPAs. Even given the current limitations on the level of detail of those RPAs, that does not mean the BDCP environmental analysis cannot anticipate at least some of the effects of implementing these programs. The EIR/EIS document should disclose at least at a programmatic level what these impacts would be rather than their current approach which is to ignore these existing obligation impacts all together. By ignoring the impacts of implementing these other OACP BO RPAs, the BDCP has not disclosed all of the impacts of the No Action and Proposed Project and therefore the environmental document is deficient. Analysis of the impacts of implementing all of the existing obligations of the CVP/SWP is important, as there are additional geographic areas of significant impacts that the current draft EIR/EIS fails to address. Examples of this include reservoir fluctuations from reoperations of the reservoirs (an OCAP BO RPA) and upstream of reservoir fisheries and habitat impacts from fish passage (an OCAP BO RPA). If the BDCP EIR/EIS analysis correctly included fish passage, then the study area needs to be extended to include the upstream most extent of fish passage from the upstream terminal dam reservoirs. This additional geographic area would encompass large portions of the headwaters of the reservoirs that are currently incorrectly being left out of the BDCP impacts assessment. The BDCP EIR/EIS needs to add analysis of all of the OCAP BO RPAs to the impact analysis and extend the geographic scope of this impact analysis accordingly. This correction of the current draft is a material change in content and scope and therefore the document will need to be</p>	<p>The Existing Conditions and No Action Alternative scenarios include the RPAs.</p> <p>The level of analysis is sufficient to provide an appropriate comparison between the action alternative and the NAA. Please see Master Response 2 regarding project level versus program level analysis.</p> <p>For more information about environmental baselines, please refer to Master Response 1.</p> <p>Please see response to comment 1601-8 regarding the scope of the project area.</p> <p>The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR strived to use the best available science throughout the effects analysis, consistent with the requirements of the ESA. Additionally, the official public review process for the proposed project provides an opportunity for formal public comment on the proposed project and project alternatives. Public and agency comments on the public draft have led to further refinement of the proposed project, as evidenced in the RDEIR/SDEIS.</p>

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		recirculated.	
1601	167	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>There are inconsistencies in rationale for what is and is not analyzed at a project level in the BDCP EIR/EIS document. Some project elements that are supposed to be analyzed at a project-level of detail are only analyzed at a programmatic level of detail.</p> <p>Comment:</p> <p>The BDCP EIR/EIS document says that near-term actions such as the conveyance construction and the first sets of habitat restoration and mitigation will be analyzed at a project level of detail sufficient to support construction-related and other permits required for implementation. The EIR/EIS says that habitat restorations that occur after the near-term will be analyzed at a programmatic level of detail and will be subject to more detailed analysis in subsequent environmental document(s). No specific timeframe for these subsequent environmental documents is provided in the EIR/EIS. The EIR/EIS is inconsistent in its treatment of level of detail of analysis and several proposed near-term restoration actions are not described at a project level of detail. Three BDCP proposed near-term actions, CM2, CM4 and CM5 are specifically lacking sufficient detail to qualify as a project level of detail of analysis, yet the BDCP proposes to implement these actions based on this EIR/EIS. The majority of the scope of CM2, CM4 and CM5 are actions to comply with the 2009 National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs), so since they are existing obligations of the CVP/SWP that have not yet been fulfilled, these actions should be completed prior to going forward with any project. CM2, CM4 and CM5 lack detailed designs (necessary for surface water flood channel capacity analysis and flood risk assessment, aesthetics); footprint of disturbance (necessary for terrestrial species, fish stranding and agricultural impacts); operational plans as to how, when and for how long flows would occur (necessary for operations modeling, water supply impacts, water quality impacts, agricultural impacts); water rights for these CMs have not been secured or the process to secure them defined and analyzed (necessary for water rights impacts); the change in beneficial uses of water of those water rights has not been identified or evaluated (necessary for water rights and water supply impacts); permission from the U.S. Army Corp of Engineers (USACE) (owner and operator of the Fremont Weir) to modify the facilities or approval of the designs has not been secured or analyzed (proposed conservation measure is outside of the jurisdiction of the BDCP to implement); easements for inundating land for non-flood control purposes has not been secured or the process to secure them defined and analyzed (necessary for land use impacts); equipment used and estimated hours of operations (necessary for air quality impacts); etc. With all of this necessary project level detail to satisfy the impact analyses missing from the public draft EIR/EIS, these CM descriptions will either need to be revised after this draft to provide sufficient level of detail or these CMs will need to be addressed in a subsequent environmental document.</p> <p>If the level of detail in these CM descriptions is enhanced, then this will be a material change in the content of the document and impacts disclosed and therefore the document should be recirculated for public comment. If these CMs will not be addressed at a project level of detail until a subsequent environmental document, the BDCP should disclose the timeline</p>	<p>For more information about baselines, please refer to Master Response 1. For more information regarding project and program level analysis please see Master Response 2.</p> <p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include: (1) the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p> <p>For information on mitigation, environmental commitments, avoidance and minimization measures and alternative-specific environmental commitments, please see Master Response 22.</p>

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		<p>for those documents. CM4 is committed to "restoring 19,150 acres within the first 10 years of implementation". Given the BDCP process to date (7+ years and the project just released the first public draft), it would be unlikely that the BDCP could complete these subsequent documents in less than 5 years after the BDCP project was approved. Then there would be another two years of detailed design, contracting, permitting, etc. Allow at least 2 years for construction as there are seasonal constraints to construction of these CMs (e.g. smelt, Chinook salmon, sturgeon avoidance and minimization measures only allow in water construction periods from about May through August and terrestrial Greater Sandhill crane presence prohibits work during other times of the year). This means the earliest construction could be completed on CM4 using a subsequent environmental document would be in year 10 of the implementation. Note that the commitment of the BDCP is that the 19,150 acres would be "restored" by year 10 (the plan does not say "implemented by year 10"). Tidal natural communities, such as described in CM4, do not magically start to provide habitat values just because water was added to a parcel of land. Water quality needs time to come into equilibrium, plant communities need time to colonize, channel complexity needs time to develop, terrestrial and aquatic species need time to colonize, etc. DWR habitat restorations in the Suisun Marsh and on Decker Island show that intertidal habitat such as CM4 can take over a decade to develop and reach any kind of functional equilibrium and habitat values. "Given the reliance on natural processes to restore marsh functions in San Pablo Bay, restoration is a process that occurs gradually, over a time frame of decades (Williams and Orr 2002)." (<a href="http://escholarship.org/uc/item/8hj3d20t#page-10">http://escholarship.org/uc/item/8hj3d20t#page-10</a>) Only once all of these processes that take time have been completed and develop, can a habitat be considered to be "restored". Given the described timeline for CM4 to reach a condition that could be considered "restored habitat", the BDCP will be at least 10 years late on fulfilling their commitments if this CM is implemented using a subsequent environmental document. These CMs are core to compliance with the existing OCAP BO RPAs and they constitute the majority of contributions to conservation for the BDCP project. They alone should be implemented and most certainly before undertaking any major project with significant impacts to the Delta.</p>	
1601	168	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>A great deal of detailed project specific description of McCormack/Williamson Tract, Grizzly Slough and Dutch Slough restoration actions are available, but were not included in the BDCP description or analysis.</p> <p>Comment:</p> <p>The BDCP had opportunities to incorporate existing available information on restoration actions that have been fully developed and mostly analyzed, but failed to include the available information in the EIR/EIS. Plans and alternatives for these restoration sites have been fully developed, analyzed and published. Not only has the BDCP failed to utilize the best available science in analyzing the impacts of the project, it has not even utilized the readily available information.</p>	<p>Please see the response to Comment 1 regarding the change in preferred alternative to Alternative 4A. The projects noted by the commenter have been identified as projects that may be implemented under California EcoRestore; therefore, would not be included within the Environmental Commitments identified for Alternatives 4A, 2D, and 5A.</p> <p>Please see the section titled "Updated Projects" under Section 4.2.5.2, Cumulative Effects Analysis, in the Final EIR/EIS for updated information about projects related to the BDCP/California WaterFix.</p>
1601	169	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p>	<p>Chapter 8, Water Quality, was revised in the RDEIR/SDEIS and Final EIR/EIS to include an assessment of constituent effects downstream of the Plan Area (i.e., in San Francisco Bay). Several other modifications and additions were made to the assessments for mercury, nutrients, trace metals, and dissolved oxygen. More</p>

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		<p>The BDCP EIR/EIS document fails to include the service areas and downstream drainages from the service areas in its impact analysis for impacts to water quality and on-going impacts of operations, e.g. soil salt accumulation and drawdown of groundwater levels.</p> <p>Comment:</p> <p>The BDCP environmental impact analysis geographic area should also include all of the service areas to address changes in water quality and all on-going effects of operations. Some of the rivers that are downstream of drainages from the CVP/SWP service areas include Kern, Santa Ynez, Salinas and others. Each reach of the rivers that are downstream of where CVP/SWP drainage water would be received should have been included in the BDCP EIR/EIS analysis. The BDCP EIR/EIS document needs to be revised to include an appropriate level of analysis (project level operations) on the Proposed Project effects on these rivers and reaches. Since this revision will be a material change, the document should be recirculated.</p>	<p>information on water quality can be found in Master Response 14.</p> <p>Please refer to Section 7.3.1 of Chapter 7, Groundwater, for a description of the methodology used in the analysis.</p> <p>Please see response to comment 1601-8 regarding the scope of the project area. Also see Master Response 2 regarding project level versus program level analysis.</p>
1601	170	<p>Document Section: Chapter 4 - Analytical Approach - Mitigation</p> <p>Issue:</p> <p>The BDCP identifies avoidance, minimization and mitigation as a conservation measure (CM22)</p> <p>Comment:</p> <p>CEQA requires that avoidance, minimization and mitigation actions are implemented when significant impacts are identified by a project. Since the impacts are precipitated by the project and these actions are only to reduce the impacts of those actions, the avoidance, minimization and mitigation actions are not conservation measures and should not be credited as contributing to the conservation of species.</p>	<p>For non-HCP alternatives, the document was revised to treat avoidance and minimization measures as a separate component of the conservation strategy. Regarding the adequacy of mitigation measures, please see Master Response 22. Conservation measures are discussed in Master Response 5, BDCP.</p>
1601	171	<p>Document Section: Chapter 4 - Analytical Approach - Mitigation</p> <p>Issue:</p> <p>The BDCP EIR/EIS makes impact calls of "Significant" and "Significant Unavoidable" on the Proposed Project impacts without describing any avoidance, minimization, or mitigation measures.</p> <p>Comment:</p> <p>The BDCP EIR/EIS indicates a number of "Significant Unavoidable" impacts from the Proposed Project that there are no corresponding avoidance, minimization, or mitigation measures. In many of these cases, there are feasible avoidance, minimization and/or mitigation measures possible. CEQA requires that feasible avoidance, minimization and/or mitigation measures must be implemented when there are significant impacts. The BDCP has failed to identify many mitigation measures for significant impacts so the document is deficient, must be revised to include those feasible mitigation measures and must be recirculated so that these material changes to the document can be reviewed and commented upon by the public.</p>	<p>This Final EIR/EIS presents mitigation measures for every significant impact. When recommended mitigation would partially but not fully reduce the significant impact a significant and unavoidable conclusion is disclosed. For more information regarding significant and unavoidable impacts, please see Master Response 10. Information on mitigation measures can also be found in Master Response 22.</p>

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1601	172	<p>Document Section: Chapter 4 - Analytical Approach - Models Used</p> <p>Issue:</p> <p>Modeling diagram was incomplete as it did not show all of the models which utilize CALSIM outputs.</p> <p>Comment:</p> <p>Modeling figure omitted economics models which get input from CALSIM, e.g. Implan.</p>	<p>As discussed in chapter 4 of the Final EIR/EIS, the figure and table are meant to provide an overview of the models used and is not meant to be an exhaustive representation. The Implan model is described in Table 4-2.</p>
1601	173	<p>Document Section: Chapter 4 - Analytical Approach - Models Used</p> <p>Issue:</p> <p>EIS/EIRs are held to the standard of "best available science".</p> <p>Comment:</p> <p>There are numerous models that are available for the impact analysis that are not being used. There was inadequate rationale provided for not using some models which previously have commonly been utilized for these types of environmental analyses, e.g. MIKE 12 for hydraulic characterization of bypass flood flows. The BDCP needs to provide an overview of the analytical tools which were available and a supporting rationale for why models were or were not chosen for use. As an example of all of the models which provide information on Dissolved Oxygen, what was the rationale for the BDCP not to utilize any of them?</p>	<p>For information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30.</p> <p>Regarding the two examples provided by the commenter, both were used in the Draft BDCP Effects Analysis. MIKE-21 was used to evaluate potential increases in extent of inundation in the Yolo Bypass under the proposed project (see Draft BDCP 5C.4.4.2 Yolo Bypass Floodplain Habitat [CM2 Yolo Bypass Fisheries Enhancement]).</p> <p>Dissolved oxygen was modeled using the DSM-QUAL module's Nutrient Model (see Draft BDCP Attachment 5C.F, Numerical Modeling in Support of Bay Delta Conservation Plan: DSM2/QUAL Nutrient Model, Modeling Nutrients and Temperature). However, see response to Comment 1601-175 regarding use of the model output in the EIR/EIS and why it was not used.</p>
1601	174	<p>Document Section: Chapter 4 - Analytical Approach - Models Used</p> <p>Issue:</p> <p>Why is CALSIM III not being used?</p> <p>Comment:</p> <p>The 1-month time step of CALSIM II is not adequate to show many of the effects of the project or its tidally driven diversion operations. For these reasons, CALSIM III with a 15-minute time step should be used. Analysis at a 15-minute time step is already being utilized for some of the modeling employed by the BDCP, e.g. DMS2 PTM is on a 15-minute time step.</p>	<p>The CALSIM III model is still under development, and has not been peer-reviewed. Therefore, CALSIM III is not available for use in completion of the EIR/EIS. For more information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30.</p>
1601	175	<p>Document Section: Chapter 4 - Analytical Approach - Models Used</p> <p>Issue:</p> <p>DSM2 PTM is being used to evaluate water residence time and reduction in turn over (reduced assimilative capacity) for water quality (WQ) dissolved oxygen (DO) and fisheries habitat suitability.</p> <p>Comment:</p> <p>Why is the Dissolved Oxygen module of the DSM2 model not being utilized? If this model was not appropriate, why was water residence time of the PTM module not utilized as a</p>	<p>DO module of the DSM2 model was not used in evaluating the action alternatives as the module was not suitable to analyze all the factors that contribute to changes in DO (e.g. nutrients, temperature, organics etc.) across the entire plan area. The authors relied on the simulated flow changes at key locations within the Delta as an indicator of potential changes to the DO, instead of the residence time.</p> <p>As described in the Impact WQ-9 in Chapter 8 of the EIR/EIS, the alternatives are not expected to contribute to substantial changes in sources of dissolved oxygen-demanding substances in a largely well-oxygenated environment. Therefore, the assessment of dissolved oxygen did not warrant development of a detailed, calibrated model from which to quantify changes in dissolved oxygen, which would have some uncertainty associated with it. The qualitative approach was determined to be sufficient for identifying potential impacts of the alternatives.</p>

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		<p>surrogate for DO? The lack of a meaningful analysis (rather than a subjective and unsupported dismissal that it is not affected) is a serious omission from the EIR/EIS document. DO is a critical water quality and fish habitat suitability criteria that cannot and should not be carelessly dismissed from the EIR/EIS analysis as it has been in the public draft EIR/EIS.</p>	<p>For more information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30.</p>
1601	176	<p>Document Section: Chapter 4 - Analytical Approach - Models Used</p> <p>Issue:</p> <p>The Delta Passage Model and other fisheries models were developed and calibrated specifically for the BDCP project impact analyses.</p> <p>Comment:</p> <p>Since the BDCP can invest time, effort and money to develop this or other models, then it has set a precedent that when a model is needed for an impact assessment, it can be developed. The BDCP needs to invest the time and money to calibrate one of the many existing suitable Dissolved Oxygen (DO) models use in the BDCP impact analyses for this critical project impact. Any level of effort to develop and implement a DO model for the analysis short of those applied for the fisheries models that were developed fails to be a consistent level of effort and does not represent the best available science as per the precedent set for investing in the development of other models.</p>	<p>Please see response to comment 1601-175 regarding use of the DSM2-QUAL model for dissolved oxygen.</p> <p>The Delta Passage Model was unique in that agency staff were interested in refining the model to include new biological information. The comment is incorrect that the model was developed and calibrated specifically for BDCP. As evidence, the model developer, Cramer Fish Sciences, published a technical report describing the model in 2011. The technical report makes no reference to the BDCP. <a href="http://www.fishsciences.net/email/la01/Delta_Passage_Model.pdf">http://www.fishsciences.net/email/la01/Delta_Passage_Model.pdf</a></p> <p>Other tools that were developed for the BDCP were small scale, low effort spreadsheet calculations that were of much, much smaller magnitude than the work required to allow the nutrient model to provide reliable and realistic outputs. In addition, the alternatives are not expected to contribute to substantial changes in sources of dissolved oxygen-demanding substances in a largely well-oxygenated environment. Therefore, the assessment of dissolved oxygen did not warrant development of a detailed, calibrated model from which to quantify changes in dissolved oxygen, which would have some uncertainty associated with it.</p> <p>For more information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30.</p>
1601	177	<p>Document Section: Chapter 4 - Analytical Approach - Models Used</p> <p>Issue:</p> <p>The BDCP Bioenergetics Model was developed and calibrated specifically for the BDCP project.</p> <p>Comment:</p> <p>This model development sets a precedent for the development and calibration of other models that are needed in order to complete a best-available-science analysis of the impacts of the BDCP project. As an example of a model that is needed to complete the analysis, the BDCP should make an equal level of effort in developing and calibrating a Dissolved Oxygen model for the assessment of the impacts of the project on this important water quality and fisheries habitat suitability parameter.</p>	<p>Please see response to comment 1601176. The bioenergetics model was nothing more than a spreadsheet calculator and was low effort to create. The effort required to allow the nutrient model to provide reliable and realistic outputs would have been much larger and would not have provided more information than the qualitative analysis used because the alternatives are not expected to contribute to substantial changes in sources of dissolved oxygen-demanding substances in a largely well-oxygenated environment.</p> <p>For more information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30.</p>
1601	178	<p>Document Section: Chapter 4 - Analytical Approach - Models Used</p> <p>Issue:</p> <p>What models were used for 3D water velocity analysis around the intakes?</p> <p>Comment:</p> <p>The answer is none, because the BDCP did not do project-level analysis of the intakes. This 3D model level of analysis of intake structures is well established and precedented in similar documents so the BDCP EIR/EIS is deficient in this regard and must be revised to include this critical analysis before the project can be permitted for construction or granted Incidental</p>	<p>Three-dimensional models are generally used for pre-design of intakes following the development of final intake design criteria, and completion of detailed bathymetric data of the areas located upstream and downstream of the intake locations. Such models would be required for construction permits from the U.S. Army Corps of Engineers and state agencies following the preparation of design plans and specifications. For the planning studies and the EIR/EIS, bathymetric data collected by DWR was used in a two-dimensional model to inform the selection of the intake locations, as described in Appendix 3F, Intake Location Analysis, of the Final EIR/EIS.</p> <p>The final design of the north Delta intakes and fish screens will be determined by NMFS, USFWS and CDFW based on results of eight Fish Facilities Technical Team (FETT) preconstruction studies. The studies are catalogued in Section 3.4.8 of the California Water Fix Draft BA. A 2013 Fish Facilities Work Plan for implementing these studies can be accessed at:</p>

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		take permits (ITPs).	<a href="http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/BDCP/fish-facilities-studies-work-plan.pdf">http://www.westcoast.fisheries.noaa.gov/publications/Central_Valley/BDCP/fish-facilities-studies-work-plan.pdf</a>
1601	179	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>The BDCP impact criteria are inappropriate for the evaluation of the No Action.</p> <p>Comment:</p> <p>The BDCP impact criteria for many impact topics are designated by conservation measure (CM) CM1 or CM2-CM22. The No Action has no conveyance construction so most of the aspects of impacts of CM1 do not apply to the No Action. Since the No Action and the Proposed Project do have impacts from the operation of their respective conveyances, the respective conveyance operational impacts should be an impact topic that is clearly separated from the conveyance construction impacts. The current BDCP EIR/EIS impact topics do not always separate these two different types of impacts so the environmental document does not do a good job of differentiating between the impacts associated with the No Action and Proposed Project. The No Action does not have CM2- CM22 actions. The BDCP has integrated some of the Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) requirements for the CVP/SWP into their conservation measures CM2, CM4 and CM5. The BDCP has not clearly explained what aspects of these conservation measures are already mandated and what component of them are above and beyond the current CVP/SWP obligations. The current OCAP BO RPA obligations and the BDCP CMs are not the same so the BDCP has conflated what is baseline and what is proposed project and therefore the impact analyses of these impacts are fundamentally flawed and should be redone with a clean and clearly explained No Action baseline and BDCP proposed project. The impacts of implementing the No Action RPAs and related BDCP CMs can easily be separated in the impact analysis by using an impact category for "Existing CVP/SWP Obligations Not Yet Implemented" and then defining the related BDCP CMs as only being comprised of their incremental components above and beyond the current obligations. In this way, the impacts of the No Action and Proposed Project will be clear and separate. Any other approach is deficient and conflates No Action and Proposed Project impacts.</p>	<p>The level of analysis is sufficient to provide an appropriate comparison between the action alternative and the NAA. Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects.</p> <p>For information on mitigation please see Master Response 22. Conservation measures are also discussed in Master Response 5, BDCP.</p> <p>For more information regarding environmental baselines please see Master Response 1. For information on program level versus project level analysis please see Master Response 2.</p>
1601	180	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>The BDCP EIR/EIS NEPA and CEQA Impact Significance Calls are often in conflict with each other.</p> <p>Comment:</p> <p>According to the BDCP EIS, the possible NEPA calls are: "Beneficial", "No Effect", "Not Adverse", "Adverse" and "No Determination". "Beneficial" means positive things happen. "No Effect" means nothing happens (positive or negative). "Not Adverse" means nothing negative happens. "Adverse" means negative things happen. "No Determination" means that there has been no decision on what the impact is. According to the BDCP EIR, CEQA has the following impact calls: "Beneficial", "No Impact", "Less Than Significant", "Significant",</p>	<p>CEQA and NEPA impact conclusions as presented in this Final EIR/EIS are correct. As discussed in response to comment 1601-103, NEPA and CEQA use different significance thresholds and baselines, as described in Chapter 4, Approach to the Environmental Analysis, Section 4.2, of the Final EIR/EIS.</p> <p>Related to not adverse vs. less than significant impact conclusions, not adverse means effects could occur but they would not reach the level of creating adverse effects on the environment. Less than significant conclusions mean an impact could occur but it does not exceed a pre-determined significance threshold for determining that the impact would be significant. Therefore, the not adverse and less than significant conclusions presented in this Final EIR/EIS are consistent.</p> <p>Note also that the commenter may be confused when comparing CEQA and NEPA conclusions for a given impact statement because the NEPA and CEQA analyses use different points of comparison/baselines. For more information on baselines, please see Master Response 1.</p>

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		<p>"Significant Unavoidable" and "No Determination". "Beneficial" means positive things happen. "No Impact" means nothing happens (positive or negative). "Less Than Significant" means something negative happens but it subjectively not too large in magnitude. "Significant" means negative things happen of a subjectively large magnitude. "Significant Unavoidable" means that even after applying all feasible avoidance, minimization and mitigation measures that the impact is still negative of a magnitude that is considered significant. "No Determination" means that there has been no decision on what the impact is. In the BDCP EIR/EIS there are many impact calls in which the NEPA impact and CEQA impact calls are in fundamental contradiction. The contradictory impact calls occur when the NEPA impact call is "Not Adverse" (which means nothing negative happens) and the CEQA impact call is "Less Than Significant" (which means something negative happens that is of a magnitude that is subjectively less than significant). These two impact calls cannot simultaneously both be correct on the same impact call. The NEPA impact call cannot be "nothing negative" and CEQA "something negative" at the same time and both be correct, one of them is in error. If the CEQA impact call of "Less Than Significant" is correct then the NEPA call needs to be "Adverse" to be consistent. If the NEPA impact call of "Not Adverse" is correct, then the CEQA impact calls needs to be "No Impact" or "Beneficial" in order to be consistent. The BDCP EIR/EIS impact calls need to be revised to correct this fundamental contradiction in impact calls. Since many impact calls will need to be changed to reconcile the current draft conflicting impact calls, the document will contain new information which will require that it be recirculated for public comment.</p>	
1601	181	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>The BDCP EIR/EIS NEPA Significance Calls of "No Determination" is not an impact call.</p> <p>Comment:</p> <p>The dictionary definition of "determination" is to "come to a decision". "No determination" means that there has been "no decision", so it is not an impact call. The BDCP EIR/EIS has a number of impact calls of "No Determination" which is a no decision non-impact call. The EIR/EIS current draft document is incomplete as there are a number of important impact calls that have not had decisions or impact calls made upon them. The BDCP must revise the EIR/EIS document to make real impact calls. Since these impact calls would be a material change in the content of the document, the EIR/EIS must be recirculated for public comment.</p>	<p>For the Draft EIR/EIS the federal lead agencies chose to not provide NEPA conclusions for certain effects that at the time of publishing the Draft EIR/EIS were still under consideration. CEQA/NEPA conclusions have been updated as part of the RDEIR/SDEIS. Those revisions are included in this Final EIR/EIS.</p>
1601	182	<p>Document Section: Chapter 4 - Analytical Approach</p> <p>Issue:</p> <p>The portrayal of impacts in the impact summary tables in the executive summary are misleading.</p> <p>Comment:</p> <p>The No Action impacts are often represented in the same box as the impact calls for the Proposed Project and indicate that they have the same impact calls, i.e. both No Action (NA) and Proposed Project (PP) have Less than Significant (LTS) and Not Adverse (NA) impact</p>	<p>The Executive Summary table and resource chapter impact analyses present the No Action Alternatives separately from the action alternatives based on assumptions disclosed about assumed projects and programs that could occur in the absence of an action alternative. The commenter has misinterpreted the summary table and action alternatives conclusions for the No Action Alternatives.</p>

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		<p>calls. What this table misrepresents is that for the NEPA impact call, the Proposed Project is compared to the No Action so the Proposed Project impacts are in addition to (not equivalent to) the No Action impacts. If the impacts were the same in the Proposed Project as the No Action, even if there were impacts in the No Action, the Proposed Project impact would be No Impact and No Effect. This is a global comment that applies to all impact calls.</p>	
1601	183	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The CVP was never completed as authorized (e.g. San Luis Drain, Trinity) which has in part caused the water supply and system reliability problems that the BDCP project proposes to fix.</p> <p>Comment:</p> <p>The EIR/EIS failed to review and disclose the implications of the CVP never being built out as originally authorized. CVP water contract amounts originally issued and subsequently renewed were erroneously based on contract amounts that could have only been achieved on a regular basis with the completion of the originally authorized CVP. The EIR/EIS must evaluate and disclose the impacts to water supply deliveries and system reliability in the Affected Environment section of the document of the CVP never being completed as authorized. This discussion must identify how unimplemented elements could have avoided need for project and if implemented could contribute to addressing the need for the project. Materials to review must include the: Rivers and Harbors Act of 1935, reauthorized in 1937 and updated in 1992 Central Valley Project Improvement Act (CVPIA), Trinity River Main-stem Fishery 2000 Record of Decision (ROD), Sacramento Canals Unit (which was authorized in 1950 and consists of the Red Bluff Diversion Dam, the Corning Pumping Plant, and the Corning and Tehama-Colusa Canals).</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.</p>
1601	184	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP proposes to purchase upstream water rights and transfer that water through the BDCP conveyance for water supply and to satisfy environmental flow requirements, but the BDCP EIR/EIS failed to disclose this water transfer and did not evaluate the impacts of the water transfer. This is an egregious omission in the environmental document.</p> <p>Comment:</p> <p>The BDCP EIR/EIS needs to include the requisite analysis of the impacts of a water transfer and comply with the California State laws regarding environmental analysis of water transfers. "The California legislature has adopted numerous statutes to protect water right holders, the environment, and the source basin economy. The statutory requirements establish three basic rules: (1) that the transfer causes "no injury" to any legal user of water (California Water Code, [Sections] 170, 1706, 1727, 1736, 1810 (2009)); (2) that it must not result in any "unreasonable effects" to fish or wildlife (California Water Code, [Sections] 1727, 1736, 1810 (2009)); and (3) that if it is water from the State Water Project, the transfer must have "no unreasonable economic impacts" to the overall economy of the county from which the water is transferred (California Water Code, [Section] 1810 (2009)).</p>	<p>As described in Chapter 3, Description of Alternatives, the action alternatives considered in the EIR/EIS do not include specific water transfers. The EIR/EIS acknowledges that water transfers would continue in a similar manner as historic transfers and in accordance with State and Federal laws and regulations. The EIR/EIS also acknowledges that the use of water transfers between agencies could increase in the future as SWP, CVP, and other surface water supplies are reduced due to climate change, sea level rise, and increased water demand in the Delta watershed, as described in Appendix 1E, Water Transfers in California: Types, Recent History, and General Regulatory Setting, and Appendix 5D, Water Transfer Analysis Methodology and Results, of the Draft EIR/EIS. Because specific agreements have not been identified for water transfers and other non-project voluntary water market transactions, project level analysis of impacts upstream of the Delta is highly speculative and this EIR/EIS does not constitute the CEQA/NEPA coverage required for any specific transaction. Rather, it provides an analysis of how transfers relate to the proposed project facilities. Any future water transfers will require separate approvals. The analysis of any potential upstream impacts is not a part of this EIR/EIS and must be covered pursuant to separate laws and regulations once the specific transfer has been proposed.</p> <p>For more information on water transfers please see Master Response 43. Also see Master Response 32 regarding water rights.</p>

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		<p>(Arthur Baggett Jr., Legal, ecological, water quality and water rights considerations in interbasin water transfers, On the Water Front, pg 34.  file:///C:/Users/Dave%20Olson/Documents/Water%20Business/DN/Public%20Draft%20EIR-S%20Comments/Water%20Supply/On%20the%20Water%20Front%20Art%20Baggett.pdf)  The BDCP EIR/EIS has not 1) evaluated the potential injury to other parties, 2) has not included analysis of the effects of the transfer on fisheries resources, and 3) has not conducted the requisite economic impact analysis associated with these proposed water transfers.</p>	
1601	185	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>CVP/SWP operations do not always conform to the water year type hydrologic conditions that occur. Operating rules for water year types are changed by agency requests for waivers, executive order and "emergency" legislation.</p> <p>Comment:</p> <p>An example of the CVP/SWP operating to a different water year type than the hydrologic conditions that occurred, transpired in 2013 (Letter and exhibits from Central Delta Water Agency (CDWA) to Felicia Marcus, SWRCB dated 8/13/13 re: 2013 CVP and SWP violations of D1641; and Letter and exhibits from CDWA to Felicia Marcus, State Water Resources Control Board (SWRCB) dated 9/9/13 re: 2013 CVP and SWP violations of D1641 - see attachments). Reclamation and DWR established a precedent in 2013 by operating the CVP/SWP to set of operating rules (and therefore impacts) which did not conform to the hydrologic conditions that actually occurred. These hydrologic condition non-conforming operations were in violation of D1641 operating rules. As current example, there is currently "emergency legislation" to alter CVP/SWP operations to deviate from D1641 and Remand operations for 2014. The BDCP environmental impact analysis erroneously assumes that the CVP/SWP operations will conform to the CVP/SWP operating rules established for each water year type. The BDCP EIS/EIR impact analysis are conducted by running the operations models on the hydrologic period of record. These observed hydrologic conditions (that are classified into the water year types), are run against the proposed alternative operations. The resulting conditions from the operations (from the proposed alternative operating characteristics and rules) are then compared to the baseline scenarios (No Action and No Project). The differences between the alternative operations and the baseline (positive or negative) are interpreted for their impacts for each of the resources, e.g. water supply, water quality, fisheries, etc. The impacts are synthesized by water year type (which represents a set of operating rules). When Dry and Critical Dry water year types occur, there are always impacts.</p> <p>These impacts are written off in the environmental documents because, 1) there are impacts in the baseline condition, and, 2) because the impacts are unavoidable and the operating rules for those hydrologic conditions have done what they can to minimize those impacts. The differences in the proposed project/ action and alternatives outcomes as compared to the baseline conditions by water year type are then synthesized into an overall impact call for each resource for each of the alternative operations. The EIS/EIR determines impacts based on the assumption that CVP/SWP operations adhere to water year type hydrologic conditions. Since DWR and Reclamation have demonstrated that they sometimes operate the project to a drier water year type than the hydrologic conditions that actually</p>	<p>The Draft EIR/EIS evaluation identifies changes between the alternatives and the Existing Conditions and the No Action Alternative. If the changes are adverse as compared to the Existing Conditions, mitigation measures are identified. However, the Draft EIR/EIS does not include measures to reduce adverse effects under either the Existing Conditions or the No Action Alternative that are not caused by implementation of the proposed project.</p> <p>The CALSIM II monthly model in the Draft BDCP EIR/EIS calculates and reports SWP and CVP water operations at an average monthly basis. The model cannot simulate changes that occur on a weekly basis by water users and SWP and CVP operations. In addition, the model cannot make decisions that occur in real-time, such as drought operations during the ongoing drought. The evaluation is a comparative analysis to determine the incremental differences between long-term conditions under the action alternatives and conditions under the Existing Conditions and the No Action Alternative. The analyses were not conducted to identify specific values or to respond to short-term emergency situations, such as the ongoing drought. Please see Master Response 47 regarding the proposed project and drought. Also see response to comment 1601-119.</p> <p>For more information about the environmental baselines used in the analysis, please see Master Response 1. Information on modeling can be found in Appendix 5A of the Final EIR/EIS and Master Response 30. For information on operational criteria and adaptive management please see Master Response 28 and 33, respectively.</p>

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		<p>occur, the BDCP environmental analysis is systematically under estimating the actual operational impacts that would occur. In the example of 2013, a water year type that would have been analyzed and reported in the impact modeling as a Dry Year, would actually have the impacts of a Critically Dry year. EIR and EIS guidelines do not permit the environmental analysis to assume that the project will violate the law, in this case D1641. The impacts that occurred in 2013 were avoidable and would not have occurred in the baseline condition (and therefore would tend to create impacts that were determined to be "significant"). The incidences in which the CVP/SWP operations did not conform to the D1641 operating rules (for whatever the reason) must be disclosed in the Environmental Settings description in the EIS/EIR document. Based on that frequency of operations that do not conform with D1641 water year operating rules, the BDCP must reinterpret the modeling results and adjust the alternatives impact analysis to represent the actual impacts of the project.</p>	
1601	186	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The EIS/EIR refers to the current water contract amounts as being the basis for future water delivery quantities. The current water contracts expire 20+ years before the proposed BDCP project would be fully implemented and the current contracts specifically identify that future water contract delivery quantities are not guaranteed under contract renewals.</p> <p>Comment:</p> <p>The BDCP's assumption that water contracts that will expire before the project would be fully implemented will be renewed with exactly the same terms and quantities as the current water contracts is flawed and unsupported. The BDCP assumption of contract renewal at the current contract water delivery quantities fails to take into account a number of factors. First and foremost of these omissions is that the current water contract amounts are never met under existing conditions operations. How many years of the hydrologic period of record under the No Action/No Project operating condition does the modeling show that all water contracts received their full contract allotment? The answer is none. Since the projects never deliver the full contract amount to all the contractors under any of the hydrologic conditions that have occurred during the hydrologic period of record it is illogical and unsupportable for the project to assume it would commit in the future to have the objective to deliver a quantity of water that it has proven it cannot fulfill. Secondly, the assumption of future water deliveries at current contract quantities fails to take into account changes in assumptions in conditions for future contracts as compared to the current conditions. The changes in conditions for future contracts that are different from the conditions in the preceding water contracts arise from climate change, sea level rise and on-going effects of continued water deliveries (e.g. water quality violations, degradation of other beneficial uses, soil salinity accumulation in service areas, groundwater depletion in service areas, etc.). Until the contract renewals have successfully completed the environmental review and have been funded, they do not meet the criteria of being reasonably foreseeable for inclusion in the future No Action condition. Since the renewal of contracts at the current delivery quantities fail to take into account the changes in conditions, have not met their previous contract targets and do not meet the criteria for a reasonably foreseeable project, the BDCP should not assume the contracts are renewed in the future. The No Action condition should therefore assume that there are no water deliveries after the current contracts have expired.</p>	Please see response to comment 1601-132.

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1601	187	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Water contract delivery amounts were originally based on a complete build-out of the CVP and SWP as originally authorized.</p> <p>Comment:</p> <p>Neither water supply system was completed as authorized so the conditions and assumptions under which the water contract delivery quantities were established were never fulfilled. "The original long-term water supply contracts contemplated that additional SWP facilities would be constructed and that at full build-out the SWP would deliver about 4.2 million acre-feet (MAF) of water per year. However, because the additional facilities were not constructed, actual, reliable water supply from the SWP actually is in the vicinity of 2 to 2.5 MAF of water annually, which is only about one-half the 4.2 MAF contemplated by the contracts. DWR never reduced the original Table A Amounts to reflect the fact that the SWP was not fully built out." (SUPERIOR COURT OF CALIFORNIA COUNTY OF SACRAMENTO - CENTRAL DELTA WATER AGENCY, et al. v. CALIFORNIA DEPARTMENT OF WATER RESOURCES, et al. Case Number: 34-2010-80000561, January 31, 2014) This, among other reasons, is why the CVP/SWP has always chronically under-delivered on the contracted water delivery amounts. The BDCP must evaluate the water supply impacts of the CVP/SWP facilities that were never completed as authorized and must subtract that capacity from any potential future water delivery supply contracts. Reclamation and DWR should complete the build out of the CVP/SWP as authorized before embarking on the BDCP project.</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.</p>
1601	188	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP EIR/EIS Needs Statement identifies a need for a more reliable water supply. To meet this project need for increased water delivery reliability, the BDCP should define what reliability is. Comment:</p> <p>A dictionary definition of "reliability" is: "Yielding the same or compatible results under a range of different conditions and inputs". If water contract renewal water delivery quantities are adjusted to reflect what the system is able to sustainably and reliably deliver (see preceding comment) then environmental impacts of operations on the listed species would be greatly reduced and the need for and scale of the BDCP project would be significantly reduced. The BDCP should use the modeling results to identify the maximum amount of water that it can deliver under all combinations of conditions and add to that amount the quantity that the service area can supply sustainably through alternative water supplies. At this quantity of contracted water delivery amount, the service area will have the maximum quantity of reliable and sustainable water supply. Any additional quantity of water delivery commitment above this amount actually reduces water supply reliability and sustainability and is in fundamental conflict with the Project Needs Statement for reliability. It is more reasonable to assume that future water contract amounts would be adjusted to what can be reliably, consistently and repeatedly be delivered rather than assuming that the water supply contracts will be renewed at their current unreliable and unsustainable contract delivery amounts. The Monterey Amendment to SWP long-term water supply contracts provides a precedent for how the SWP water entitlements would be addressed</p>	<p>The alternatives considered in the Draft BDCP EIR/EIS reflect options to restore and protect the ability of the SWP and CVP to deliver water on a relatively consistent basis within the upper limit of legal CVP and SWP contractual water amounts. Alternatives need not be capable of delivering full contract amounts on average in order to meet the project purposes. The proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change.</p> <p>For more information on water supply reliability, please also see response to Comment 1601-119.</p>

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		<p>under water shortages, "In the event of a permanent shortage in water supply, Article 18(b) provided that, with certain exceptions, the entitlements of all SWP contractors would be reduced proportionately so that the sum of entitlements would be equal to the SWP's reduced water supply (or "yield")." (SUPERIOR COURT OF CALIFORNIA COUNTY OF SACRAMENTO - CENTRAL DELTA WATER AGENCY, et al. v. CALIFORNIA DEPARTMENT OF WATER RESOURCES, et al. Case Number: 34-2010-80000561, January 31, 2014). The Monterey Agreement later amended this article so that this proportionate reduction in water entitlements would occur in any shortage, temporary or permanent.</p>	
1601	189	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Current variations in water supply delivery amounts are creating unsustainable conditions in the water supply service areas.</p> <p>Comment:</p> <p>By definition, in order for a system to be reliable it also must be sustainable. Anything not sustainable certainly does not meet the definition of reliable. As a result of the CVP/SWP variations in water supply deliveries, the groundwater resources as an alternative and supplementary water supply in the service areas are being severely over drafted. This overdraft of groundwater as a result of variations in CVP/SWP water supply deliveries is not sustainable and therefore is ultimately unreliable. The amount of water that the CVP/SWP delivers must not cause variability in deliveries and therefore over-utilization of alternative groundwater supplies to the extent that groundwater resource withdrawals exceed their sustainable groundwater recharge rates. The BDCP should calculate the amount of future water delivery contract amounts based on the variation in water supply deliveries (shortfall from contract amounts) that a service area can sustain with alternative water supplies.</p>	<p>The Draft EIR/EIS evaluates the changes in water deliveries to SWP and CVP water users under each alternative as compared to the Existing Conditions and the No Action Alternative, as presented in Tables C-13-1 through C-13-25 of Appendix 5A, Section C, Modeling Results. The proposed project is not a comprehensive, statewide water plan, but is instead aimed at addressing many complex and long-standing issues related to the operations of the SWP and CVP in the Delta. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures). It is assumed that the State and local agencies will invest in future water supplies to replace reduced surface water and groundwater supplies and to meet future growth, as described in Chapter 30, Growth Inducement and Other Indirect Effects.</p> <p>As described in Section 7.3 of Chapter 7, Groundwater, of the Draft EIR/EIS, increases in SWP and CVP deliveries from the implementation of Alternatives 1, 2, 3, 4, and 5 as compared to conditions under the Existing Conditions and the No Action Alternative are anticipated to result in a corresponding similar or reduced groundwater use rates in the SWP and CVP service areas. However, Alternatives 6, 7, 8, and 9 which would result in less Delta exports on an average annual basis as compared to Existing Conditions and the No Action Alternative (see Figure C-10-8, Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the EIR/EIS), and groundwater use and overdraft potential are anticipated to increase, as shown in Figures 7-32 through 7-37 in Chapter 7.</p> <p>Please also see response to comment 1601-19 regarding water supply reliability.</p>
1601	190	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Variations in CVP/SWP surface water deliveries are causing service areas to severely overdraft their groundwater. Comments quoted are from: "Groundwater Overdraft in California's Central Valley: Updated CALVIN Modeling Using Recent CVHM and C2VSIM Representations", Heidi Chou, University of California, Berkeley, 2012</p> <p>Comment:</p> <p>"Ending overdraft increases water shortages statewide because there is not enough available surface water to meet all demands if groundwater is not over drafted. As expected, the No Overdraft case has nearly double the water scarcity of the Base case..." (page 65-66) The BDCP's proposed project would result in an acceleration of this groundwater overdraft as an alternative supplemental water supply. This exacerbation of the rate of groundwater overdraft in CVP/SWP service areas from the BDCP proposed project as compared to the No Action condition is due to the BDCP proposed project</p>	<p>Please see response to Comment 1601-189. For information on alternatives development, please see Master Response 4. Regarding storage, please see Master Response 37.</p>

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		<p>increasing the amount of water deliveries in wet and above normal water year types and reducing water deliveries in below normal, dry and critically dry water year types. It is the magnitude in variation in water supply deliveries that causes the groundwater overdrafts as a substitute water supply. The BDCP proposed project increases the magnitude of these water supply delivery variations and therefore very predictably will accelerate the groundwater overdraft in the CVP/SWP service areas. According to the paper, the groundwater in the CVP/SWP service area is currently being over drafted by 1.2 million acre-feet (MAF)/year. (page 67) "Although it may be more economical in the short term to continue over- pumping groundwater, continued overdraft of groundwater basins will eventually increase pumping costs due to higher depths to groundwater as well as environmental problems." (page 70) The BDCP EIR/EIS fails to acknowledge this impact of the current CVP/SWP operations and to evaluate the impacts of the proposed project making these overdrafts even more severe. Figure 5.3 shows that the San Joaquin Basin (mostly in the CVP/SWP service area), the current baseline overdraft is significantly higher than the "high overdraft" scenario. This means that the San Joaquin basin baseline is a hyper-overdraft in comparison to just a high overdraft scenario. The baseline overdraft is clearly not sustainable and the BDCP proposed project makes it even worse, but fails to identify this impact or propose mitigations for it.</p> <p>"Overall system and operating costs were lowest for the highest overdraft scenario, suggesting that being able to pump more groundwater is the more economical option, which agrees with current, real practices." (page 81) "Additional artificial recharge evens out surface water availability, allowing for more surface water to be used and for more consistent deliveries between wet and dry years. However, unless there are direct, immediate benefits to the water users or policies that require less over-pumping or more recharge, it is unlikely that water users will take it upon themselves to pay more for a benefit that they don't immediately see." "Currently, over drafting groundwater is common, with lower costs. However, with groundwater availability decreasing, pumping costs likely increasing, and environmental effects of overdraft worsening, overdraft will be an increasing problem in the future and may have other costs associated with it not included in CALVIN. Options to mitigate overdraft include: increasing recharge use and capacities (artificial and natural), increase in water reuse, more conjunctive use, more surface water use, and decrease in water use and demands. Although there are many possible solutions, many solutions have higher immediate costs and the long-term benefits are unclear or unknown. Unless policies require water users to follow these solutions, groundwater overdraft will likely continue to be a problem in the years to come." (page 82) This statement is correct and it captures the rationale as to why the BDCP should have included groundwater storage and recharge as a component of their project alternatives.</p>	
1601	191	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The EIR/EIS document refers to the CVP functioning under congressional authorizations.</p> <p>Comment:</p> <p>The CVP (and SWP) was never completed as authorized (e.g. San Luis Drain and Trinity) which has in large part caused the problems the BDCP proposes to address. The EIR/EIS document must disclose what elements of the original authorization have not been implemented and how the failure to fully implement the original authorization affects the</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.</p>

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		<p>existing environment. As an example, the water supply delivery amounts in the current CVP contractor water contracts originally assumed that a large part of the water supply that would have come from the Trinity system would be completed. Those parts of the authorization were never completed, so the associated water supply never materialized. The lack of this water supply is part of the water supply problem that the BDCP proposes to address. The failure of the BDCP to address the cause of the water supply reliability problem is a significant and material omission and terminal flaw of the EIR/EIS environmental review. If those portions of the originally authorized project had been implemented, then the current BDCP proposed project would not be needed. The BDCP needs to prove that this assertion is not the case in order to have any legitimacy to move forward as a real project, otherwise, the BDCP project must be to evaluate the implementation of the current authorized CVP (and SWP) project.</p>	
1601	192	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The Cost Benefit Analysis conducted by the BDCP should be re-evaluated based on the \$51-\$65 Billion Cost estimated by Westlands Water District in their November 20, 2013 District Workshop presentation.</p> <p>Comment:</p> <p>This cost results in water that costs \$238-\$337/ acre-feet (AF). At this cost, the cost of water will be uneconomic for most farm crops. Where is the benefit in a water supply that is too expensive for the intended beneficiaries to use? The cost/benefit analysis must be redone with consideration of the real cost of water from the proposed project and how it will benefit those parties that can economically afford to use the water at those costs.</p>	Please see response to comment 1601-45.
1601	193	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Assuming that all current water rights the BDCP is supposed to fulfill will or can be fully exercised at the projected cost of water that will result from the BDCP project is a fundamental flaw.</p> <p>Comment:</p> <p>The water costs resulting from the BDCP are too expensive for most agricultural crop producer water rights holders to use the BDCP water supplies. These uneconomic water rights that are currently calculated as part of the total water supply that would be put through the BDCP facilities need to be corrected to omit those volumes that will no longer be economically viable at the BDCP costs of water. Once the future demand is corrected for the water rights that can be supplied by the cost of water that the BDCP will provide, the size of the facilities will be proportionately reduced and the construction and operational impacts will need to be reanalyzed.</p>	Please see response to comment 1601-45.
1601	194	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p>	Please see response to comment 1601-45. For a discussion on beneficial uses of water, please see Master Response 34.

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		<p>The increased water supply cost resulting from the BDCP would degrade current beneficial uses.</p> <p>Comment:</p> <p>Water supply costs estimated by Westlands Water District at \$238-\$337/acre-foot (AF) is an uneconomic cost for growing most agricultural crops in the Central Valley. The majority of the water supply demand for the CVP/SWP is from the Central Valley water districts for agricultural water use. The majority beneficial water use in these areas, per the Central Valley Regional Water Quality Control Plan, is for agriculture. The BDCP will make the water too expensive for these designated beneficial uses. This increase in water supply costs to a point where the identified beneficial use of the water is no longer economic on a broad scale is a significant impairment of this beneficial use. The State Water Resources Control Board (SWRCB) and Central Valley Regional Water Quality Control Board (CVRWQCB) should not issue 401 permits for the BDCP until this impairment of beneficial use is addressed by the BDCP. The BDCP document did not identify, characterize, quantify or evaluate this impact and the document is therefore deficient. The BDCP did not identify any measures to avoid, minimize or mitigate this impact.</p>	
1601	195	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>BDCP modeling did not take into account reduced water demand from increased water costs.</p> <p>Comment:</p> <p>Water demand and water use is driven by the marginal economics of water supply costs. When water supply becomes too expensive to grow certain crops, the water is either reallocated or is used on a crop that has better economics and/or less water use (lower overall water costs). With additional water supply costs of \$238-\$337/acre-foot (AF), a number of large water consumption crops such as cotton and alfalfa, will either rotate to other lower water use and higher water value crops or be sold/transferred to other water uses. This will have an overall impact on the amount and location of water demand. The BDCP has failed to take into account the reduced water demand in the future from the increased cost of water from the BDCP project. The future water demand forecast and water modeling must be redone to take into account this future decrease in water demand and the commensurate changes in water use environmental, economic, and social/community impacts.</p>	<p>See response to comment 1601-45. Please refer to Impact AG-2 in Chapter 14, Agriculture, regarding impacts to specific crops and water supply-related impacts from dewatering. Also see Master Response 18 regarding agricultural impact mitigation.</p>
1601	196	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Several environmental documents on projects with significant implications to the BDCP project have been completed, but they have not been released, e.g. Shasta Enlargement, Folsom Dam Raise, Enlarge Los Vaqueros, North of Delta Off Stream Storage (NODOS), Temperance Flats Dam and Reclamation Remand EIS.</p> <p>Comment:</p>	<p>Future projects that have not been fully defined are included in the cumulative impact analysis in the Draft EIR/EIS, as described in Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions, including enlargement of Shasta Lake and Los Vaqueros Reservoir, construction of Sites Reservoir and Temperance Flats, and modifications of Folsom Dam. The Final EIR/EIS for the project referred to as the "Reclamation Remand EIS" in this comment has been completed and recommends the No Action Alternative as the Preferred Alternative, including implementation of the 2008 USFWS BO and 2009 NMFS BO as in the Draft BDCP EIR/EIS No Action Alternative.</p>

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		<p>The lead agencies (same ones as for BDCP) are holding these environmental documents back so as to not change the baseline and future operating assumptions of the BDCP project. These projects would significantly alter the operational characteristics of the existing, proposed and alternative project operations and the resulting water supplies, habitat quality and water quality. If the Reclamation Remand EIS were completed on the schedule originally required by the court, the BDCP would have had an improved and more consistent No Action definition. By delaying the completion of the Remand EIS, the quality and completeness of the BDCP EIS/EIR is compromised, there is risk of inconsistency between the documents and at the very least, duplicative efforts and costs have been wasted. Reclamation should immediately release the Remand EIS so that the public can compare its characterization of the existing conditions to the BDCP No Project. All of the other projects identified under this issue either increase upstream water supply or downstream of Delta storage. Upstream water supply and downstream storage are factors that determine CVP/SWP operations, are resources to avoid and minimize environmental effects of the project, and determine resulting water supplies. These other projects, if implemented, could meet almost all of the project objectives and needs identified in the BDCP Purpose and Needs Statement. These other projects could even obviate the need for the BDCP project. These other projects could be used as the mechanism to justify incidental take permits for the state.</p>	
1601	197	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p> <p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 11 - BDCP modeling reports total exports of Alt 4 vs. the No Action Alternative as 537 thousand acre-feet (TAF). The independent modeling by MBK done in coordination and cooperation with DWR and Reclamation modelers, reports total exports of the Alt 4 vs. No Action Alternative (NAA) at 756TAF. This means that the BDCP modeling underreports the increase in water exports of Alt 4 as compared the NAA by 40%. This is a huge benefit of Alt 4 that is being downplayed by the BDCP as they said the project would result in "no new water". The total exports of water by the CVP/SWP was a water supply significance criteria and the BDCP impact call was "no determination". How can a 756TAF increase in CVP/SWP water exports be called a no determination impact? It is clear that the Alt 4 is beneficial to increasing water exports. even if the BDCP only acknowledges the 537TAF improvement their modeling shows, how can the BDCP claim "no determination" on water supply deliveries? Clearly the EIR/EIS and the impact calls are attempting to hide and downplay this project benefit.</p>	<p>Please see Master Response 30. The EIR/EIS modeling of Alternative 4, H1 through H4, was based on a No Action Alternative model developed in 2010. Models always evolve as the understanding of the system and operations improves and the assumptions are better defined. MBK's independent modeling of the No Action Alternative included different assumptions than the Draft EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the Draft EIR/EIS Alternative 4, H1 through H4. Some of the differences in Alternative 4 assumptions include May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the Draft EIR/EIS.</p> <p>The proposed project aims to stabilize water supplies, and exports could only increase under certain circumstances. Water deliveries from the federal and state water projects under a fully-implemented Alternative 4A are projected to be about the same to the average annual amount diverted in the last 20 years. Although the proposed project would not increase the overall volume of Delta water exported, it would make the deliveries more predictable and reliable, while restoring an ecosystem in steep decline.</p> <p>With respect to the reference to the impact designation in the Draft EIR/EIS for WS-2, it was determined that no impact designations would be developed for Water Supply changes because the true impacts occur under other environmental resources. For example, increased surface water deliveries under Water Supply is assumed to result in less groundwater pumping and less effects on groundwater conditions.</p> <p>For the Draft EIR/EIS, the federal lead agencies chose to not provide NEPA conclusions for certain effects that at the time of publishing the Draft EIR/EIS were still under consideration.</p>
1601	198	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and</p>	<p>MBK's modeling of Alternative 4 does not allow for the discretion and operations flexibility available for the Delta exports in the summer months, which results in a different split in the exports from the north Delta versus the south (through) Delta compared to BDCP EIR/EIS modeling.</p> <p>Please see response to comment 1601-197. Regarding water quality, the range of water quality effects under Alternative 4 as a result of these export changes are analyzed in Chapter 8, Water Quality, of the Draft</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Reclamation have been provided copies of this presentation.</p> <p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 11 - BDCP modeling reports the through Delta exports of Alt 4 vs. the No Action Alternative (NAA) as 2.1 million acre-feet (MAF). The independent modeling by MBK done in coordination and cooperation with DWR and Reclamation modelers, reports the through Delta exports of the Alt 4 vs. NAA at 2.5 MAF. This means that the BDCP modeling underreports the decrease in south Delta water exports of Alt 4 as compared the NAA by 20%. This is a huge impact to south Delta water quality from a reduced amount of water flowing through it from the south Delta CVP/SWP operations. This impact on south Delta water quality of Alt 4 is being purposely downplayed by the BDCP as the impacts even with the 20% overestimation of south Delta exports are significant and severe. Similarly, north Delta diversion volumes of Alt 4 are significantly understated. BDCP modeling reports north Delta diversion volumes for alt 4 at 2.6MAF. The independent modeling shows they are actually 3.3MAF. This 25% understatement of the BDCP on the volumes of north Delta diversions is also hiding central and south Delta water quality impacts that result from these BDCP caused reductions in refreshing north Delta flows. The BDCP must revise their modeling and dependent impact analyses to disclose the true impacts of the Alt 4 operations.</p>	<p>EIR/EIS. For more information on water quality please see Master Response 14.</p> <p>For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>
1601	199	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p> <p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 12 shows changes in CVP/SWP deliveries by CVP North of Delta water contractors, CVP South of Delta water contractors and SWP contractors. BDCP modeling reports the South of Delta deliveries at 94 thousand acre-feet (TAF) while the independent modeling shows that the actual South of Delta CVP deliveries are 262TAF. This represents a BDCP underreporting of South of Delta CVP deliveries of 275%. This is not a small error and there are significant impacts from this BDCP modeling error that are not being analyzed or disclosed in the EIR/EIS document as a result. Similarly, the SWP is underreporting water deliveries and impacts by 10%. The BDCP must revise their modeling and dependent impact analyses to disclose the true impacts of the Alt 4 operations.</p>	<p>Please see response to comment 101-197. For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>
1601	200	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p>	<p>Both MBK's modeling and the Draft EIR/EIS modeling assumes no changes in the Coordinated Operations Agreement (COA). If the COA is modified in the future, the modification process will require separate environmental documentation. Following adoption of the modified COA by the Federal and State legislatures, DWR and Reclamation will need to determine if their operations of the SWP and CVP require modifications, including any potential changes to the proposed project. Please see Master Response 30.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 12 shows changes in CVP/SWP deliveries by CVP North of Delta water contractors, CVP South of Delta water contractors and SWP contractors. What is evident both from BDCP's modeling and the independent modeling from MBK is that the proportions of the water delivered under Alt 4 of the BDCP change between all the participants. This is important as the proportion of water delivered by CVP North of Delta, CVP South of Delta and the SWP determines the amount of benefit each of those entities is getting from the CVP and SWP respectively. The Coordinated Operating Agreement (COA) is in place to ensure that the proportions of benefits from the CVP and SWP are distributed proportionately to the cost shares that each of these entities is bearing for their part and obligations to the CVP and SWP. The change in proportion of deliveries from the BDCP (Alt4 and all the other alternatives) makes the current COA out of date, unfunctional, unfair and obsolete. The BDCP must revise the COA so that costs for the CVP and SWP borne by these entities is proportional to the benefits (water deliveries) these entities are receiving from the CVP/SWP. Once the COA has been renegotiated, the BDCP must remodel the water operations for the BDCP and rerun the dependent impact analyses to disclose the true impacts of the BDCP and Alt 4 operations.</p>	
1601	201	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p> <p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 12 shows changes in CVP/SWP deliveries by CVP North of Delta water contractors, CVP South of Delta water contractors and SWP contractors. Comparing the BDCP and independent modeling of the North of Delta CVP water deliveries there is a huge discrepancy in all water year types except wet. As an example, in a Critical Dry water year type, the BDCP modeling says the North of Delta SWP will get 33 thousand acre-feet (TAF) and the independent modeling shows 4 TAF. There are huge implications to the impacts for these two different water deliveries. The BDCP must remodel the water operations for the BDCP and rerun the dependent impact analyses to disclose the true impacts of the BDCP and Alt 4 operations.</p>	Please see response to comment 1601-197. For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.
1601	202	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p> <p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint</p>	Please see response to comment 1601-197. For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>presentation. Page 13 shows net Delta outflows. Comparing the BDCP and independent modeling of net Delta outflows there is a huge discrepancy in all water year types. The BDCP modeling shows an average outflow decrease of -567 thousand acre-feet (TAF) and the independent modeling shows an average of -759 TAF. This BDCP discrepancy in the net Delta outflow volumes explains where the extra water came from for the additional CVP/SWP Delta export water supply deliveries. This BDCP modeling error means the BDCP is underreporting the net Delta outflow by nearly 35%. This underreporting of reductions in net Delta outflows has huge implications to the systematic underreporting of the impacts analysis that are dependent upon the accuracy of the CALSIM model results. EIR/EIS impact analyses that are affected by the CALSIM errors include, but are not limited to: fisheries, irrigation water quality, water supply, agriculture, land use, recreation, human health drinking water quality, and other impact categories. This is a major flaw in the BDCP analysis and a failure to disclose the impacts of the alt 4 project. The BDCP must remodel the water operations for the BDCP and rerun the dependent impact analyses to disclose the true impacts of the BDCP and Alt 4 operations.</p>	
1601	203	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p> <p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 16 shows exceedance plots of Folsom Reservoir. The September exceedance plot shows that the BDCP Alt 4 would result in a dead pool condition 8% of Septembers. Dead pool means that the reservoir cannot release any water because the outlet of the reservoir is higher than the reservoir water level. This means that in one September out of 12, Reclamation will completely lose control of water temperatures and flows in the lower American River. September is the beginning of Chinook salmon spawning season so there would be 100% coldwater fisheries mortality in the lower American River. Since precipitation does not usually start in volume until November, the river would remain dead and unsuitable as coldwater fisheries habitat for September, October and most of November. This is BDCP's own modeling. The dead pool events are a result of Alt 4 increasing the rate of summer releases from Folsom, see page 14 chart upper right. Page 17 charts show the same problem with Alt4 for Shasta Reservoir.</p>	<p>Please see Master Response 30. Folsom Lake storage under the action alternatives as compared to the Existing Conditions and No Action Alternative are presented in Tables C-4-1 through C-4-25 of Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the Draft EIR/EIS.</p> <p>The EIR/EIS modeling of Alternative 4, H1 through H4, was based on a No Action Alternative model developed in 2010, and includes the same assumptions of projected climate change and sea level rise effects at 2060. The modeling shows that changes in climate and sea level could result in "dead pool" conditions in SWP and CVP reservoirs upstream of the Delta even without the action alternatives. The "dead pool" conditions presented in the CALSIM II model results in the EIR/EIS are based on modeled SWP and CVP water operations under current regulations and future demand assumptions. In addition, CALSIM II cannot make decisions that occur in real-time, such as drought operations during the ongoing drought. Instead the model includes operating criteria per the current regulations for all dry periods, and does not reflect specific relaxations that could occur in drought conditions. Chapter 11, Fish and Aquatic Resources, analyzes the effects of river temperatures on the fisheries for all alternatives. For more information on the proposed project and climate change, please see Master Response 29. Information on the proposed project and drought can be found in Master Response 47. Regarding operational criteria, please see Master Response 28.</p> <p>As described in Chapter 5, Water Supply, the EIR/EIS analyses assumes continued implementation of regulatory requirements for the American River watershed in accordance with the requirements under the CEQA definition of Existing Conditions and under the NEPA definition of the No Action Alternative. Changes in the regulatory requirements would only occur following detailed analyses, including project-specific CEQA and NEPA analyses and ESA and CESA analyses. Following adoption of changes to the regulatory requirements by the State and federal governments, DWR and Reclamation would need to determine if changes in the SWP and CVP would be necessary. These changes are considered to be speculative and are not included in the No Action Alternative or in the Cumulative Impact Analysis.</p>
1601	204	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p>	<p>Please see responses to Comments 1601-197 through 1601-203. Please also refer to Master Response 30.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 17 - 19 shows the independent modeling conclusions which are: Incorporation of climate change contains errors and does not incorporate adaptation measures. BDCP's "High Outflow Scenario" is not sufficiently defined for analysis. BDCP's simulated operation of the dual conveyance, coordinating proposed north Delta diversion facilities with existing south Delta diversion facilities, is inconsistent with the project description. BDCP models do not accurately reflect anticipated changes in CVP and SWP operations with BDCP. Independent modeling of the BDCP revealed differences in CVP and SWP operations and water deliveries from the analysis disclosed for the Draft EIR/EIS. And, effects of climate change and tidal habitat should be examined by sensitivity analyses.</p>	
1601	205	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>MBK Engineers produced a summary presentation on their review of the BDCP CALSIM modeling titled "BDCP Operations Modeling Review" dated January 17, 2014. DWR and Reclamation have been provided copies of this presentation.</p> <p>Comment:</p> <p>Following are comments and expansions of points made in the MBK PowerPoint presentation. Page 14 shows exceedance plots of Delta cross channel and Georgiana Slough flows in selected months. The Delta cross channel and Georgiana Slough flows are important as these flows from the Sacramento River freshen the water quality in the central and south Delta. Decreases in these flows will directly result in reductions in central and south Delta water quality. Let's compare the July BDCP and independent modeling exceedance plots of the Delta cross channel and Georgiana Slough flows. The BDCP says that there is a 50% probability of a 11% reduction as compared to the No Action and the independent modeling shows a 50% probability that there will be a 23% reduction as compared to the No Action. This is a huge discrepancy as the BDCP is underreporting the change in flows by 100%. This underreporting of reductions in refreshing flows from the Sacramento River to the central and south Delta has huge implications to the systematic underreporting of the impacts analysis that are dependent upon the accuracy of the CALSIM model results. EIR/EIS impact analyses that are affected by these CALSIM errors include, but are not limited to: fisheries, irrigation water quality, water supply, agriculture, land use, recreation, human health drinking water quality, and other impact categories. This is a major flaw in the BDCP analysis and a failure to disclose the impacts of the alt 4 project. The BDCP must remodel the water operations for the BDCP and rerun the dependent impact analyses to disclose the true impacts of the BDCP and Alt 4 operations.</p>	<p>Please see response to comment 1601-198 and Master Response 30. As mentioned in that response, MBK's modeling of Alternative 4 does not allow for the discretion and operations flexibility available for the Delta exports in the summer months, which results in a different split in the exports from the north Delta versus the south (through) Delta compared to BDCP EIR/EIS modeling. This along with other changes related to the Delta Cross Channel gate operations assume by MBK result in a different flows entering central Delta through Delta Cross Channel and Georgiana Slough compared to the results shown in the BDCP EIR/EIS. The effects of changes in these flows under Alternative 4 compared to the No Action Alternative on the water quality, fisheries and other environmental resources are analyzed in respective resource Chapters of the EIR/EIS.</p>
1601	206	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Covered activities do not include maintenance of all facilities that the BDCP will have to take responsibility for project actions for the life of the project and for mitigations in perpetuity.</p> <p>Comment:</p>	<p>Please see response to comment 1601-38.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>The BDCP has proposed a number of actions that will require them taking over responsibility for facilities maintenance for the life of the project. In other cases, mitigations are responsibilities of the project in perpetuity. These obligations of the project to maintain facilities for the life of the project or in perpetuity include: relocated diversions of other affected surface water rights holders (e.g. Barker Slough and other Cache Slough intakes proposed to be relocated, surface water diversions on the Sacramento River that are moved or replaced due to the footprint of the intake facilities, maintenance of fish screens that are installed on surface water diversions (CM), and replumbed Delta Reclamation Districts that have their water supply and drainage ditches disrupted by BDCP conveyance, tunnel muck disposal and habitat restorations (e.g. Andrus Island). The BDCP has failed to identify, characterize, quantify or disclose these needed covered activities for maintenance of other facilities. The BDCP document is incomplete and deficient. Once these glaring omissions have been rectified, these will be material changes to the document that will warrant it being recirculated for public comment.</p>	
1601	207	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP EIR/EIS incorrectly states that DWR operates their Oroville facility to the 1983 DFG Operating Agreement.</p> <p>Comment:</p> <p>Current and No Action Oroville operations conform to the Federal Energy Regulatory Commission (FERC) Relicensing Negotiated Settlement Agreement, the State Water Resources Control Board (SWRCB) 401 certification Mandatory Conditioning Authorities (MCAs) and the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) Biological Opinions (BOs). FERC assumes license submitted in a negotiated settlement is operated to in the interim period between license submittal and final license issuance, so DWR should be operating to the new license terms even though the final relicense has not yet been issued. There are differences between the California Department of Fish and Game (DFG) 1983 Operating Agreement and the FERC Relicensing, 401 MCAs and NMFS and FWS BO operating requirements. If BDCP has modeled the Oroville Facility No Action/No Project based on the 1983 agreement, then the Oroville operations portion of the modeling is incorrect and needs to be rerun in order to get correct and useful modeling results.</p>	<p>As presented in Sections 5.1.2.2 and 5.2.1.2 of Chapter 5, Water Supply, and Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions in the Draft EIR/EIS, DWR operates the Oroville Complex in accordance with both the current annual FERC relicensing negotiated settlement agreement criteria and appropriate provisions of the California Department of Fish and Wildlife 1983 Operating Agreement.</p>
1601	208	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The Affected Environment project facility descriptions have lots of very specific detail: storage capacity, basin average flows, etc. but no credit is given in the document as to the original sources of this information.</p> <p>Comment:</p> <p>Did the BDCP EIR/EIS authors measure all these project facility metrics themselves or are they just egregiously forgetting to site their sources? Without the references provided for these and other important project description metrics, the public is denied the opportunity to assess the potential accuracy of these sources.</p>	<p>The reports and other materials used in preparation of Chapter 5, Water Supply, of the Draft EIR/EIS are presented in the References section of Chapter 5, including the 2008 Biological Assessment on the Continued Long-term Operations of the Central Valley Project and the State Water Project by Reclamation.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1601	209	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Previous CVP/SWP related environmental documents have utilized more comprehensive significance criteria to evaluate project impacts than were used in the BDCP EIR/EIS. Other recent CVP/SWP and habitat restoration related environmental documents establish precedent for how the State and Federal agencies should evaluate the BDCP impacts.</p> <p>Comment:</p> <p>These agency precedent setting environmental documents include: CALFED Bay-Delta EIS/EIR (Federal agencies: Reclamation, U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), Bureau of Land Management (BLM), U.S. Geological Survey (USGS), U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (USEPA), U.S. Department of Agriculture (USDA), U.S. Forest Service (USFS), Natural Resources Conservation Service (NRCS), and Western Area Power Authority (WAPA); State agencies: DWR, California Department of Fish and Game (DFG), Reclamation Board, California Environmental Protection Agency (Cal EPA), California Department of Food and Agriculture (CDFA), Delta Protection Commission and State Water Resources Control Board (SWRCB)), South Delta Improvement Project EIS/EIR (Federal Lead Agency: Reclamation; State Lead Agency: DWR; Responsible Agencies: SWRCB and DFG; Cooperating Agency: USACE), Salton Sea Restoration Program EIS/EIR (Federal Lead Agency: USACE; State Lead Agency: California Natural Resources Agency; Prepared by: DWR and DFG), Lower Yuba River Accord EIS/EIR (Federal Lead Agency: Reclamation; Responsible Agencies: DWR, DFG, and SWRCB; and Cooperating Agencies: NMFS and FWS), Oroville Facilities Federal Energy Regulatory Commission (FERC) Relicensing EIR (State Lead Agency: DWR), and Monterey Agreement EIR (State Lead Agency: DWR). The same agencies that produced and approved these other recent and similar scope project environmental documents are the same agencies involved in the BDCP. The BDCP's agency roles for the environmental documents are similar to these other projects -- Federal Leads: Reclamation, NMFS and FWS; State Lead: DWR; Responsible Agencies: DFG and SWRCB; and, Cooperating Agencies: USEPA and USACE. These documents establish a precedent for the significance criteria that should be used in evaluating the resource impacts of the BDCP project. If the BDCP does not utilize these same significance criteria as these other similar projects, then BDCP must provide a supporting justification for their departure from previous agency policies and practices. BDCP should revise the document to include all aspects of the significance criteria for their impact evaluations that were established as agency precedents in these other recent and similar documents.</p>	<p>Development of significance criteria is considered for each EIR based upon the level of detail in the alternatives and quantitative and qualitative analytical tools.</p> <p>The basis for determination of significance is presented in the "Determination of Effects" section in each of the resource chapters (see the Final EIR/EIS).</p> <p>Please see response to comment 1601-79 for more information on Chapter 5 impact determinations.</p>
1601	210	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>There would be a significant impact if the alternatives would: Substantially alter an existing drainage pattern of the site or area, including alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on or off-site. Create or contribute to runoff water exceeding the capacity of existing or planned storm water drainage systems or provision of substantial additional sources. (Oroville Sig Criteria)</p>	<p>As described under Impact SW-7 in Chapter 6, Surface Water, in the EIR/ EIS, the USACE, CVFPB, and DWR would require that any construction that would disturb existing levees to be designed in a manner that would not adversely affect existing flood protection or change the course of the river. As described in Section 3.6.1.1 of Chapter 3, Description of Alternatives, facilities to be constructed along the levees would be designed to provide flood neutrality and to provide continued flood management at the same level of flood protection as the existing levees; or if applicable, to a higher standard for flood management engineering and permitting requirements if the standards are greater than the existing levee design during construction and operations. Additionally, DWR would consult with local reclamation districts to ensure that construction activities would not conflict with reclamation district flood protection measures.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment:</p> <p>The BDCP has failed to include these significance criteria in its impact calls. The BDCP project (and all of its alternatives) would alter the course of a river, so based on this criteria, the BDCP has a significant impact that must be avoided, minimized and/or mitigated. The BDCP has not proposed any of measures to reduce these impacts.</p>	<p>For more information on flood management requirements, please see Appendix 6A of the Final EIR/EIS.</p>
1601	211	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Significant effects on water level during the irrigation season of April to October are defined to be:</p> <ul style="list-style-type: none"> <li>- Any reductions below the assumed minimum operating level for agricultural water supply pumps and siphons, of 0.0 feet mean sea level (msl). (South Delta Improvements Program (SDIP) Sig Criteria)</li> <li>- A reduction in water surface elevation, relative to the basis of comparison, of sufficient frequency and magnitude that it adversely affects south Delta water users' abilities to divert water. (Yuba Accord Sig Criteria)</li> <li>- Water levels at Old River near Tracy Road Bridge and Grant Line Canal near Tracy Road Bridge less than 0.0 feet above msl. (Yuba Accord Sig Criteria)</li> <li>- Water levels at Middle River near the Undine Road Bridge less than 0.3 feet above msl. (Yuba Accord Sig Criteria)</li> </ul> <p>Comment:</p> <p>The BDCP EIS/EIR states, "At flows below 5,000 cubic feet per second (cfs) at Wilkins Slough, diverters have reported increased pump cavitation as well as greater pumping head requirements. Diverters are able to operate for extended periods at flows as low as 4,000 cfs at Wilkins Slough, but pumping operations become severely affected and some pumps become inoperable at flows lower than this." The BDCP should use both this and the related SDIP significance criteria in their impacts analysis. Surface water diversions in the Delta are senior water rights to the CVP and SWP. It is illegal and a violation of water rights for the CVP/SWP operations to disrupt water diversion operations of senior water rights holders in the Delta. Any CVP/SWP project operation that impacts senior water rights is a significant impact that must be avoided, minimized and/or mitigated. This impact can be avoided by making operating rules for the CVP/SWP that do not create these conditions. This impact can be minimized and/or mitigated by modifying the intakes that are sensitive to water elevations to draw water from a lower stage elevation and/or providing the affected senior water rights holders with alternative water supplies.</p>	<p>The proposed project is one component, among many, of the California Water Action Plan. The California Water Plan evaluates different combinations of regional and statewide resources management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. Follow the California Water Plan here: <a href="http://www.waterplan.water.ca.gov/">http://www.waterplan.water.ca.gov/</a>.</p> <p>By establishing a point of water diversion in the north Delta the proposed project is designed to improve native fish migratory patterns while securing reliable water deliveries. Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1, EIR/EIS, describes the range of conveyance alternatives considered in the development of the EIR/EIS. Appendix 1B, Water Storage, EIR/EIS, describes the potential for additional water storage and Appendix 1C, Demand Management Measures, EIR/EIS, describes conservation, water use efficiency, and other sources of water supply including desalination. While these elements are not proposed as part of the proposed project, the Lead Agencies recognize that they are important tools in managing California's water resources.</p> <p>Regarding water rights please see Master Response 32. Information on operational criteria can be found in Master Response 28. Also see Master Response 26, Area of Origin. Please also see Master Response 6 regarding demand management.</p>
1601	212	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Reduces the quality of a water supply such that it is more difficult to treat to meet applicable federal or state drinking water standards for finished water or to maintain</p>	<p>Regarding ammonia, boron, nitrate, pathogens, phosphorus, trace metals, and turbidity, the water quality assessment in Chapter 8, Water Quality, concluded that any degradation that may occur would be less than significant for Alternative 4. Regarding bromide, chloride, EC, mercury, organic carbon, pesticides, and selenium, mitigation to lessen the identified impacts has been provided. The manner in which the impacts are discussed and identified for the NEPA impact call is consistent with NEPA.</p> <p>Please see Master Response 14, Water Quality, and Chapter 8 of the Final EIR/EIS for more information.</p>

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		<p>existing finished water quality. (Monterey Accord Significance Criteria)</p> <p>Comment:</p> <p>The BDCP EIR/EIS Water Quality chapter identifies that there is a degradation in water quality from the Proposed Project for: Ammonia, Boron, Nitrates, Pathogens, Phosphorus, Trace Metals, and Turbidity. The BDCP EIR/EIS Water Quality chapter identifies that there is a significant unavoidable impact to water quality from the Proposed Project for: Bromide, Chloride, Electrical Conductivity, Mercury, Organic Carbon, Pesticides, and Selenium. These are all important drinking water supply quality parameters that will require additional water treatment from the Proposed Project impacts. The Significant Unavoidable impact calls on drinking water quality parameters that have significant human health issues is particularly alarming. The No Action impacts are often represented in the same box as the impact calls for the Proposed Project and indicate that they have the same impact calls, i.e. both No Action (NA) and Proposed Project (PP) have Less than Significant (LTS) and No Adverse (NA) impact calls. What this impact summary table misrepresents is that for the NEPA impact call, the Proposed Project is compared to the No Action so the Proposed Project impacts are in addition to (not equivalent to) the No Action impacts. If the impacts were the same in the Proposed Project as the No Action, even if there were impacts in the No Action, the Proposed Project impact would be No Impact and No Effect. Many people get their drinking water supply from the Delta and it is unacceptable for a project to so significantly and unavoidable degrade drinking water quality.</p>	<p>Regarding significant and unavoidable impacts please see Master Response 10.</p>
1601	213	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Require the construction or expansion of a water conveyance or treatment facilities or require new or expanded water supply entitlements. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP will result in the construction of a new water conveyance so utilizing the SDIP significance criteria, this is a significant impact that needs to be avoided, minimized and/or mitigated. The BDCP will also likely end up needing a water treatment facility to deal with water that has sat in the tunnels long enough for it to go anoxic and septic. According to the SDIP significance criteria, the water treatment facilities would be a significant impact that must be avoided, minimized and/or mitigated. The Yolo Bypass diversion flows for floodplain habitat will require either new water rights or transfer of existing water rights to a new location with a new water use specified to accommodate the use of the water for environmental purposes instead for water supply purposes. BDCP aquatic and intertidal habitat restorations also need water rights as water will be consumed by these through transpiration and evaporation. The BDCP document did not identify the source of water rights for these applications. These new or expanded water rights would be a significant impact according to the SDIP significance criteria that need to be avoided, minimized and/or mitigated.</p>	<p>The proposed water conveyance facilities would not include water treatment plants under any of the alternatives. Water conveyed in the tunnels would be discharged into a surface water forebay for subsequent conveyance in open canals prior to use by agricultural or municipal water supplies. Water in the forebay and canals will be reaerated as it moves and is exposed to the air. Water treatment, if necessary, would be provided by the water users in a similar manner as under the Existing Conditions and the No Action Alternative. No additional water treatment is anticipated with the use of the new conveyance facilities. For more information on water quality, please see Master Response 14 and Chapter 8 of the Final EIR/EIS; please also see responses to comments 379 and 919 regarding quality of water conveyed through the tunnels.</p> <p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p> <p>Regarding water rights please see Master Response 32. For information on permitting, please see master Response 45.</p>
1601	214	<p>Document Section: Chapter 5 - Water Supply</p>	<p>The BDCP EIR/EIS evaluates the changes in the SWP and CVP water contract deliveries under the alternatives as compared to the Existing Conditions and the No Action Alternative within the upper limits of the contract amounts. As described in Chapter 5, Water Supply, and Appendix 3A, Identification of Water Conveyance</p>

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		<p>Issue:</p> <p>The BDCP purpose focuses on the term "reliability" with regards to water supply, but never bothers to define what reliability is.</p> <p>Comment:</p> <p>The definition of "reliability" is: "able to be trusted; predictable or dependable". The project that the BDCP has proposed fails to address the most important aspects of water supply reliability. The BDCP mistakenly focuses on reliability as reducing risk against catastrophic engineering failure and from regulatory constraints to protect endangered species which conflict with water supply operations of the CVP/SWP. That is only a small part of the issue of water supply reliability. The real issue of water supply reliability that the BDCP did not deal with and the proposed project makes even worse than the No Action condition is the variation in precipitation and water supply storage from year to year that result in large variations on CVP/SWP water supply deliveries. The BDCP proposed project results in more water supply delivery in wet and above average water year types and even less water supply deliveries in below normal, dry and critical dry water year types. In this way, the BDCP proposed project has made the water supply even less reliable than it currently is or would be under the No Action. The BDCP must evaluate this other and more critical aspect of water supply reliability as a significance criteria in their impact analysis and disclose that the Proposed Project has significant adverse affects on this central project purpose. The hydrologic record for California shows that last 150 years were anomalously wet (lots of supporting literature is readily available on this topic). If California reverts to historical hydrologic norm in the next 50 years (during the project period) the proposed project will not result in "reliability" of water supply. The BDCP should have included alternatives that addressed having a consistent water supply delivery across water year types and under changing hydrologic conditions. The BDCP alternatives must be redefined to address this critical aspect of water supply reliability.</p>	<p>Alternatives Conservation Measure 1, the ability of the SWP and CVP to deliver water contract amounts has been modified over the past 60 years due to increased use of senior water rights upstream of SWP and CVP water service area and regulatory criteria. The alternatives, including the No Action Alternative, were developed to deliver SWP and CVP water up to the upper limit of legal SWP and CVP contractual water amounts, with the understanding that full contract amounts would not be delivered on average for the alternatives considered in the EIR/EIS, as described in Chapter 2, Project Objectives and Purpose and Need. For more information on the proposed project's purpose and need, please see Master Response 3.</p> <p>The proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change. The proposed project is not a comprehensive, statewide water plan, but is instead aimed at addressing many complex and long-standing issues related to the operations of the SWP and CVP in the Delta. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures).</p> <p>For more information on alternatives development, please see Master Response 4.</p>
1601	215	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP EIR/EIS utilizes CALSIM II for CVP/SWP system-wide mass balance hydrologic modeling. CALSIM 3 should now be available if Reclamation and DWR were not holding back its release. DWR's website states that the CALSIM 3 model was ready for release almost 5 years ago, "The next application generation, CalSim 3 is under development and is expected to be released shortly (as of March 1, 2009)." (<a href="http://bayDeltaoffice.water.ca.gov/modeling/hydrology/CalSim/Future/index.cfm">http://bayDeltaoffice.water.ca.gov/modeling/hydrology/CalSim/Future/index.cfm</a>)</p> <p>Comment:</p> <p>The CALSIM II model used in the BDCP analysis has a monthly time step output which is inadequate to evaluate the types of affects anticipated with the operations and features of the BDCP project. As an example, the diversion of flows for habitat inundation in the Yolo Bypass, which is major reoperation of flows in the Delta, is not even detectable (a statistically significant difference in flows) on the CALSIM II monthly time scale. The Yolo Bypass flows are a big flow-related operation and yet the primary modeling tool chosen by the BDCP project is not even adequate to detect it, let alone evaluate the impacts of it. The BDCP needs to use the CALSIM 3 model for its analysis of the project affects. The 15 minute</p>	<p>The surface water models were selected in a detailed process during initial phases of the preparation of the Draft BDCP EIR/EIS. The analytical tools needed to be able to analyze the water resources in a consistent manner over the entire Central Valley, be publically available, and peer reviewed. The CALSIM II and DSM2 models met these requirements and were used in the EIR/EIS analyses. CALSIM III is not completely developed and peer reviewed at this time; therefore, it was not used in the EIR/EIS.</p> <p>The limitations related to the use of DSM2, CALSIM II, and ANN are discussed in Appendix 5A, Modeling Technical Appendix, including Section D, Additional Modeling Information, Part D.5 of the Final EIR/EIS. For more information on modeling, also see Master Response 30.</p>

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		<p>output time step of the CALSIM 3 model is an important level of analytical temporal resolution for the analysis of the intertidal operations of the diversions and intertidal affects of the massive intertidal habitat restoration proposed by the BDCP. The BDCP has already established the precedent of investing in developing and completing models for use in the fisheries analysis. Almost all of the other modeling done in the environmental analysis are dependent upon the output of CALSIM. All of these other dependent model results would also be improved by the use of the superior CALSIM 3 model instead of the CALSIM II model being used by the BDCP analysis. The CALSIM 3 model has been nearly ready for 5 years, so the incremental time and cost to complete the model and utilize it in the final EIS/R should be highly feasible with any reasonable effort applied by the BDCP to make it available and ready for use in the project analysis. Lead agency concerns regarding the management of the large volumes of data that would be produced by the CALSIM 3 model is not an adequate excuse for not utilizing the best available science. If the BDCP does not utilize the CALSIM 3 model for the final EIR/EIS analysis it is clearly not utilizing the best available science. If the CALSIM 3 model is utilized in the Endangered Species Act (ESA) consultations, the BDCP Biological Assessment or the BDCP Biological Opinions, then it will be obvious the CALSIM 3 model was ready to be used in the EIR/EIS, but the agencies just chose not to use it because they thought there were too many alternatives to evaluate utilizing this tool.</p>	
1601	216	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>CALSIM II modeling only utilized an 82 year period of record for the BDCP EIR/EIS analysis.</p> <p>Comment:</p> <p>The hydrologic period of record that is available and was available at the time of the BDCP EIR/EIS analysis and was agreed to and accepted by the regulatory agencies (DWR, U.S. Fish and Wildlife Service (FWS), Reclamation, California Department of Fish and Wildlife (DFW), National Marine Fisheries Service (NMFS)) is over 100 years long now. There is no defensible reason for the BDCP to have utilized the inferior and less representative shorter period than what was available as best available science. The BDCP should redo the analysis utilizing the correct 100+ year period of hydrologic record.</p>	<p>The EIR/EIS used the best available tools that are peer reviewed and used by state and federal agencies. The full set of inputs needed for these tools are limited to 82-years (Water Years 1922 – 2003).</p> <p>More information on modeling can be found in Appendix 5A of the Final EIR/EIS and Master Response 30.</p>
1601	217	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP proposed north Delta intakes need an operations model the same as all of the other operational components of the CVP/SWP.</p> <p>Comment:</p> <p>All of the operational facilities of the CVP/SWP have operations models that disaggregate the CALSIM monthly operations into daily and hourly operations of the facilities. These models are important for the analysis of the impacts of the project and for evaluating facility operational compliance with environmental regulations, e.g. water quality and water temperatures. Facilities operations models of the reservoirs are an important interaction of managing how water operations are implemented. CALSIM identifies monthly operations for each facility (e.g. Shasta, Oroville, Folsom, Delta pumps, etc.). Operations models for</p>	<p>Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.</p> <p>The CALSIM II modeling of the north Delta diversion for the FEIR/EIS considered the daily variability of the Sacramento River inflows to better estimate the potential flow that can be diverted based on the proposed north Delta diversion bypass flow criteria along with other operational and regulatory requirements as described in Appendix 5A Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions, in the Final EIR/EIS. Furthermore, DSM2 modeling of the north Delta diversion for the BDCP EIR/EIS considered flows and velocities on a tidal timescale in determining the amount of flow that can be diverted at the north Delta diversion.</p> <p>For more information regarding operational components of the alternatives please see Chapter 3 of the FEIR/EIS. For more information on modeling, please see Master Response 30.</p> <p>The Lead Agencies will make the final decisions regarding the selection of an alternative (and therefore, an</p>

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		<p>each facility disaggregate the monthly CALSIM target and determine how the facility will be operated to meet the CALSIM target. The operations models then go into an iterative loop with operations constraining models such as water temperature and water quality requirements. Daily and hourly facilities operations are iteratively modified until the constraining model requirements reach compliance with regulations, e.g. water quality and water temperature requirements. The BDCP has failed to develop an operations model for how the north Delta diversions would be operated and how they would comply with operational requirements. North Delta diversions are located in reaches of the river that are tidally influenced. Water velocities at the intake screens are dynamic, not only based on daily and diurnal variations in tributary flow volumes, but also tidal influence on velocities (accelerated, decelerated and reverse flows).</p> <p>Downstream proposed BDCP intakes are deeper in the tidally influenced reaches of the river and will have a greater magnitude and duration of tidally influenced flow volumes and velocities than the proposed intakes that are farther upstream. BDCP north Delta diversion operations are supposed to adhere to a set of rules proposed by the BDCP. These north Delta diversion operating rules include maximum diversion volumes for ranges of tributary flows, maximum screen approach velocity (salmonid and smelt criteria) and minimum sweeping velocities across the screens. Each of these proposed operating rules for the north Delta intakes have important functions in protecting downstream water quality, tributary stage elevation for maintaining water supply availability, attraction flows for fish, and protection of fish from harm from impingement and entrainment in the intake screens. Without a north Delta diversion operations model, the BDCP cannot disclose how the operations are implemented and evaluate the facility compliance with the operating rules that were proposed to protect the environment, fish species and beneficial uses of water. The BDCP must develop and disclose the operations model that will demonstrate how the north Delta diversion operations will be run under all of the conditions that will occur at those facilities during operation. Without the north Delta diversion operations model, a very important component of the impact analysis is missing and the environmental analysis of the effects of the proposed project are incomplete and inadequate. Without analysis and confirmation of the north Delta diversion operations conformance with the fisheries and environmental protection measure compliance, the fisheries agencies do not have adequate information to justify issuance of incidental take permits for the BDCP project.</p>	<p>operational scenario) for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA.</p> <p>Please see Master Response 28 and Master Response 29 for more information regarding operational scenarios and compliance with the Endangered Species Act respectively. Also see Master response 33 for information on adaptive management.</p>
1601	218	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP EIR/EIS document failed to describe and disclose the location and methods for measuring tributary flows for intake operations.</p> <p>Comment:</p> <p>The BDCP did not disclose how the tributary flows and velocities would be monitored in real time for operational management of the proposed north Delta intakes. Monitoring stage elevation at location with a known cross section and discharge relationship can measure flows and average water velocities in a freely flowing river, but not in a tidally influenced river. The reach where the proposed BDCP intakes are located is tidally influenced so this must be taken into account when managing facilities based on operating rules for flows and velocities. In a tidally influenced river high tide would show an increase in stage elevation, but instead of increased flow volumes and velocities that would be associated with an</p>	<p>Please see Appendix 3F, Intake Location Analysis, of the EIR/EIS, regarding the process for selecting intake locations. As shown in Figure 3F-1, and described in the appendix, several sites north of the Sacramento Regional Wastewater Outfall were considered in earlier stages of review (Locations A, B, and C). Locations upstream of the town of Freeport were eliminated from consideration due to public scoping comments received in March 2009 citing construction impacts in an overly constrained conveyance corridor, historic building conflicts, and the precedent set by the Freeport Regional Water Project EIR, indicating that intakes in the Pocket area neighborhood would produce significant impacts. However, the Fish Facilities Technical Team also recommended that the furthest upstream intake be located downstream of where complete mixing is reported to occur with effluent discharge from the Sacramento Regional Wastewater Treatment Facility. For this reason, potential intake locations upstream of Scribner's bend were also eliminated.</p> <p>Please see Master Response 28 for information on operational criteria. Adaptive management is discussed in Master Response 33.</p>

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		<p>increased stage elevation in a freely flowing river, a tidally influenced river reach increased stage elevation occurring due to high tide would result in a reduced flow and velocity, no flow and velocity or even a negative flow and velocity. Given the north Delta intake operating rules proposed by the BDCP for the north Delta intakes, the intakes cannot be operated to a daily average of flow volume and velocity. If north Delta intakes were operated to the daily average of flows, as it looks like the BDCP EIR/EIS analysis has done, then the operations would be in violation of the operating rules for half of the tidal cycle each day.</p>	
1601	219	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Cross sections and stage discharge relationships to estimate tributary flow change over time, can be influenced by other environmental factors such as wind, and have inherent limitations on the accuracy of flow estimate.</p> <p>Comment:</p> <p>There is a margin of error in methods to estimate flows and velocities in tributaries. Tributary flows are estimates, not measurements. The flow is estimated by measuring the channel cross section and monitoring/measuring river stage. Through a series of observations at the cross section at different flows, a stage discharge curve is developed. Once the stage discharge curve is established for that location in the river, the measured river stage is used to estimate flow. Even in freely flowing condition (not tidally influenced), the accuracy of measuring flow in a large and complex channel such as the main stem Sacramento River, flow estimate errors can be greater than plus or minus 10%. The accuracy of flow volume estimate is significantly reduced when measuring a tidally influenced river reach. There are many sources of error in flow estimates. Some of these include stage height measurement (sensor accuracy, water is not flat, wind and tide can stack up water), channel roughness, channel cross section, backwater affects from in stream structures (e.g. the BDCP intakes). Channel cross sections and stage discharge relationships change over time and create a further source of error in flow estimates. The BDCP did not describe or disclose how frequently the cross sections and stage discharge relationships would be updated during the project period. The BDCP operations are dependent upon the accuracy of the river flow data and there are significant limitations to the accuracy of the river flow estimates that must be taken into account when utilizing that data. The BDCP EIR/EIS analysis has not included a safety margin in their analysis of flow-related affects to reflect the limitations of the accuracy of the flow estimate. The modeling of the impacts of the project must reflect the real life limitations of the data that will be used to operate the project on a day-to-day basis. The lack of a safety margin in the modeling of the project means that in some cases the impacts of the project are over reported - that is that impacts are stated to be worse than would actually occur. This is OK and appropriate for an environmental document as it should always be conservative to make sure that impacts are disclosed. What is not OK, is there are periods where the model, because of lack of appropriate assumptions on the limitations of the accuracy of flow estimate data, will under report impacts. This means that the frequency (and most likely) magnitude of impacts are not appropriately identified, characterized and disclosed in the document. The BDCP should do an evaluate of the factors that affect the accuracy of the flow estimates for the river reaches and conditions in the proposed intake reach. Once these flow estimate accuracy factors have been identified and evaluated, a reasoned factor to adjust the modeled flow</p>	<p>The EIR/EIS modeling used DSM2, a one-dimensional hydrodynamics model developed by the DWR to simulate water surface elevations, velocities and flows on a tidal timescale in the Delta channels taking into account inflows, diversions and tide. DSM2 uses cross-sections developed based on the observed bathymetry, and the results were calibrated using observed water surface elevations and flows. The results of the calibration of the DSM2 model are presented in the Draft BDCP EIR/EIS Appendix 5A Section D Attachment 1. Furthermore, this same version of the DSM2 model was used for both the No Action Alternative and the action alternatives. Therefore, by comparing the results from the action alternatives to the No Action Alternative, project effects were estimated.</p> <p>For more information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30.</p>

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		<p>data can be integrated into the operations modeling. If it is determined that the flow estimates are plus or minus 10% of actual flows, the modeled flows should have 10% subtracted from them to ensure that the model and operations are not under reporting the project impacts.</p>	
1601	220	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Is each successive intake downstream taking into account the reduced flows from the diversions of the upstream intakes?</p> <p>Comment:</p> <p>As an example, if all 5 intakes were operating at full capacity, the downstream-most intake would have 12,000 cubic feet per second (cfs) less flow approaching it than the upstream-most intake. The BDCP operations modeling has not taken this into account and therefore the operations modeling and all the impact analysis that are dependent upon them are inaccurate and should be rerun once a correct BDCP north Delta intake operations model has been developed and integrated into the CVP/SWP operations modeling.</p>	<p>CALSIM II modeling of the north Delta diversion for the FEIR/EIS considered the daily variability of the Sacramento River inflows to better estimate the potential flow that can be diverted based on the proposed north Delta diversion bypass flow criteria along with other operational and regulatory requirements as described in Appendix 5A Section B. Furthermore, DSM2 modeling of the north Delta diversion for the FEIR/EIS represented the individual intakes at the proposed locations, considered flows and velocities on a tidal scale in determining the amount of flow that can be diverted at the north Delta diversion at each intake. For more information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30.</p>
1601	221	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP has not applied for nor has it been given authorization from the State Water Resources Control Board (SWRCB) to move part of DWRs water rights from Hood to the Fremont Weir nor has it addressed the change in the water supply beneficial use of the diverted water.</p> <p>Comment:</p> <p>The State Board needs to approve the transfer of the location of water rights diversion for DWR to provide a water supply for the Yolo Bypass inundation conservation measures and for the Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) for flood plain creation and enhancement. Further, the Water Board needs to approve the change in water use from water supply to environmental uses which is an entirely different beneficial use than the current Hood water rights provide. In order for DWR to secure the change in water use, DWR will need to estimate the consumptive use of the water (evaporation, groundwater recharge, transpiration) so that the net flow contribution back into the Sacramento River system from the Yolo Bypass drainage into Cache Slough. Additionally, the BDCP did not analyze the degradation of the water quality of the water discharged from the bottom of the Yolo Bypass. The Cache Creek and Putah Creek areas contain contaminants (Pb, Hg, DDT, etc.) that the Yolo Bypass inundation flows mobilize and degrade water quality compared to the No Action condition in which the magnitude, frequency and duration of these flows do not occur. The BDCP has not applied for, received or done the analysis to support moving the point of diversion from Hood to the Fremont Weir or to support the change in water rights use. The BDCP EIR/EIS is incomplete and deficient for not including the information regarding change in location for water diversions, change in water beneficial uses of that water right and the consumptive use resulting from that beneficial use. Until the BDCP completes these analyses, the SWRCB</p>	<p>For information on water rights please see Master Response 32.</p> <p>Water quality constituents from Cache and Putah creeks that enter into the Yolo Bypass were considered in the water quality analyses presented in Chapter 8, Water Quality, of the Draft EIR/EIS specifically for mercury and selenium. Sources of lead, other trace metals, and pesticides also were considered in Chapter 8 for all agricultural areas that could be inundated through restoration activities, including those in Yolo Bypass.</p> <p>For more information on water quality, please see Master Response 14.</p>

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		should not agree to move DWRs water right point of diversion or the change in beneficial use.	
1601	222	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The water BDCP proposed to be diverted into the Yolo Bypass was not correctly held against the bypass flows for diversions operations.</p> <p>Comment:</p> <p>Since the operating rules of the Yolo Bypass inundation flows are incomplete to the point that they cannot be modeled, the flows that should be subtracted from Sacramento River flows for the intake bypass rules cannot be correctly represented. As a result, the impact of Yolo Bypass inundation operations are not correctly represented or disclosed on water supply and water quality impacts.</p>	<p>Because the impact analysis for Yolo Bypass action is considered programmatically in the Draft EIR/EIS, future engineering and environmental evaluations of changes in Yolo Bypass inundation will be completed during project-specific analyses, as described in Chapter 3 of Final EIR/EIS, Description of Alternatives. CALSIM II modeling of the Final EIR/EIS included a representation of the Yolo Bypass inundation flows to provide a conservative estimate of the effects on flows downstream of the Fremont Weir.</p>
1601	223	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The Inundation of the Yolo Bypass is not a flood operation; it is a discretionary environmental action.</p> <p>Comment:</p> <p>The current flood easement agreements with Yolo Bypass land owners do not cover the discretionary inundation of their properties for environmental enhancement purposes. The BDCP fails to describe the process to reconcile this lack of permissions and the level of uncertainty of implementation due to this lack of authorization.</p>	<p>Habitat restoration, including additional flows in the Yolo Bypass, are only considered in a programmatic manner in the Draft EIR/EIS. Specific analyses of permits from State and federal agencies, issuance of permits from the U.S. Army Corps of Engineers and the State Central Valley Flood Protection Board, would need to be considered in subsequent environmental documentation and permit processes, as described in Section 1.6 of Chapter 1, Introduction, of the Draft EIR/EIS.</p> <p>For additional information on the relationship between the proposed project and Flood protections in the Delta, please see EIR/EIS Appendix 6A BDCP/California WaterFix Coordination with Flood Management Requirements.</p>
1601	224	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>There are over a dozen other water user surface water diversions in the BDCP proposed north Delta intake reach of the river, e.g. Reclamation District 150. These intakes can cumulatively divert several hundred cubic feet per second (cfs) from the river when in operation.</p> <p>Comment:</p> <p>Do the models of the BDCP analysis of the north Delta intake operations take these flow reductions for other diverters into account in their operations modeling and affects analysis? If not, then the BDCP needs to assume that these diversions are all running at full capacity during the entire period for the analysis. This will ensure that there is a conservative approach taken to the environmental analysis will not under estimate the affects of the project.</p>	<p>CALSIM II and DSM2 modeling of the EIR/EIS the action alternatives includes the diversions for the in-Delta consumptive use as well as any water diversions at the existing water supply intakes in the Delta.</p> <p>For information on demand management, please see Master Response 6.</p>
1601	225	Document Section: Chapter 5 - Water Supply	As described in the Appendix 5A Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions, the DSM2 modeling of the north Delta diversion intakes for the EIR/EIS alternatives assumed a required velocity

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		<p>Issue:</p> <p>Average water column velocities can be calculated based on tributary flows and channel cross sections. The north Delta diversion intake screens are "on bank" type, which will be well out of the thalweg (higher velocity flows) of the river. The location of the intakes on the bank will mean the velocity of water passing the screens will be well below the average velocity of the water in the river.</p> <p>Comment:</p> <p>Average water velocities estimated from an estimated average tributary flow is not adequate to evaluate flow velocities at the face of the intake screen to ensure compliance with operating criteria. BDCP has not conducted 2D or 3D modeling of water velocities at the locations of the proposed intakes for all operational conditions (flow ranges, tidal conditions, wind, barometric pressures and intake operational configuration (i.e., some pumps on and others off and various permutations of those pump operations options)). Without the appropriate 2D and/or 3D modeling of water velocities at the intake screen face under these ranges of conditions and the integration of those model results as constraints (under various conditions) for the intake operations, then the impacts to water supply, downstream resources and compliance with screen operations criteria (salmonid and smelt) cannot be determined and the environmental analysis and disclosure is incomplete and invalid. The fisheries agencies do not have sufficient evidence of protection of fish unless these types of analyses are conducted and therefore should not issue the BDCP project any incidental take permits on the basis of this EIR/EIS document.</p>	<p>of 0.4 fps just downstream of each intake. This assumption represented a reasonable sweeping velocity requirement. Final sweeping velocity requirements and other requirements as determined by the fish agencies during final design will be developed following detailed 2D or 3D modeling of the intakes during the design phase based upon detailed bathymetric surveys.</p> <p>Please see Appendix 3F, Intake Location Analysis, of the EIR/EIS, regarding the process for selecting intake locations.</p>
1601	226	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Modeling assumptions of hydraulic characteristics of intertidal and sub-tidal habitat restorations are flawed and unsupported.</p> <p>Comment:</p> <p>The current BDCP modeling assumptions treat the aquatic habitat restorations like an open water body with no hydraulic complexity. Hydraulic complexity also will change in these intertidal and subtidal habitat restorations over time, which need to be reflected in the modeling. The size and location of levee breaches into aquatic habitat dominate their hydraulic tidal exchange characteristics and water quality interactions. The BDCP has not defined the levee breach locations or size, so the water quality modeling cannot accurately affect the impacts of these proposed habitat restorations. The water operations, that are modeled at a project level of detail with the intent that the current EIR/EIS will support permitting for construction, are interdependent upon the water quality interactions of the aquatic habitats. Because the habitat restoration level of detail is not even programmatic (no sets of general rules as to how they will be designed, implemented, or develop over time), the project level analysis of water operations is fundamentally flawed and therefore should be redone with an appropriate level of detail on the aquatic habitat restorations such that it would support issuance of construction permits. Since this level of detail in description of the habitat restorations is new information, the document should be recirculated for public comment following these revisions.</p>	<p>Habitat restoration, including additional flows in the Yolo Bypass, are only considered in a programmatic manner in the Draft EIR/EIS. Specific analyses, including hydraulic modeling to evaluate project-specific flow patterns and water quality changes, would need to be considered in subsequent environmental documentation and permit processes, as described in Section 1.6 of Chapter 1, Introduction, of the Draft EIR/EIS.</p> <p>Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation.</p> <p>Additional priority restoration projects will be identified through regional and locally-led planning processes facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process for integrated planning in the Yolo Bypass is underway. The Delta Conservancy will lead the implementation of identified restoration projects, in collaboration with local governments and with a priority on using public lands in the Delta.</p>

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1601	227	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Many model runs have been conducted in the process of developing the Proposed Project.</p> <p>Comment:</p> <p>In the interest of full disclosure and access of the public to information that was developed at their expense, all model runs should be disclosed and shared in the modeling technical appendix, not just the ones used in the final document. By disclosing all model runs conducted, the public will have the opportunity to evaluate what did and did not work in previous operational and project alternative formulation analysis.</p>	<p>Numerous model scenarios were partially completed during the development of the alternatives evaluated in the Draft BDCP EIR/EIS. None of these models were fully completed. Partial results that were developed from these working draft analyses were presented to the BDCP Steering Committee as described in Appendix 3G, Background on the Process of Developing the BDCP Conservation Measures, of the Draft EIR/EIS.</p>
1601	228	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP has assumed only one scenario for intertidal and sub-tidal habitat restoration implementation for their hydrologic impact modeling.</p> <p>Comment:</p> <p>The BDCP says they do not know exactly where, when or in what sequence/combination these aquatic restorations would be developed and implemented. If the BDCP proceeds with their project as they currently have modeled, the permits issued based on this environmental document should only cover a habitat implementation scenario that is exactly as they have defined it in their analysis. If the BDCP wants more latitude in the location, size, design characteristics, sequence and combination of aquatic habitat restoration then the environmental document needs to include a number of analyses of scenarios of combinations of locations, scales, restoration designs, implementation sequences, and variations in expectations for the development of hydraulic complexity as the habitat matures. Once these sensitivity analyses of the aquatic habitat implementation scenarios has been completed, then the BDCP would be justified in selecting a couple of scenarios that represent the extremes of conditions to base their EIS/EIR assessment on and that would give them the flexibility to get permits to cover the range of potential project actions. Until the BDCP environmental analysis includes an analytical scope that matches the BDCP desired flexibility for habitat implementation, the BDCP should not be issued take permits as the implementation of the conservation measures is uncertain as the environmental document would not give the BDCP coverage for their implementation.</p>	<p>Please see response to comment 1601-226.</p>
1601	229	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The No Action definition of the BDCP does not include the National Marine Fisheries Service (NMFS) Biological Opinion (BO) Reasonable and Prudent Action (RPA) for reoperating Shasta.</p> <p>Comment:</p> <p>The NMFS BO RPA for reoperating Shasta is an existing obligation of the CVP and therefore</p>	<p>The CALSIM II model is not able to quantitatively analyze the operation of Shasta Lake in accordance with the 2009 NMFS BO storage and temperature requirements. The water temperature analysis results presented in Chapter 8, Water Quality, of the Draft EIR/EIS indicate conditions that would occur without full implementation of the Shasta Lake performance criteria. However, the No Action Alternative assumes in a qualitative manner full implementation of the 2009 NMFS BO Reasonable and Prudent Alternative actions.</p>

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		<p>should have been considered part of their existing condition and No Action/Project. This assumption needs to be included in the modeling and the model runs and analyses reconducted. Without this addition to the No Action, the impact analysis is inaccurate and deficient.</p>	
1601	230	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Reclamation identified in their December 13, 2013 Federal Register Notice that their sole role in the BDCP project may only be to wheel water through the BDCP facilities.</p> <p>Comment:</p> <p>The BDCP EIR/EIS has not addressed this substantial change in the CVP role in the project. The BDCP has not completed or initiated a Warren Act Contract analysis on the impacts of this proposed water wheeling. Reclamation's proposed change in role is fundamental and the project should be taken back to scoping as a number of the Purpose and Needs for the BDCP project change with Reclamation's change in project role.</p>	<p>Reclamation's proposed action in the EIR/EIS is not a substantial change to the CVP and the Warren Act only applies to the conveyance of non-CVP water by federal facilities.</p>
1601	231	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The Coordinated Operating Agreement (COA) is out of date under the Existing Conditions.</p> <p>Comment:</p> <p>Changes in operations and water deliveries with a BDCP tunnel (operated either isolated or in conjunction with south Delta intakes) definitely will change how the COA needs to be operated. Since the COA is already out of date and the BDCP will precipitate even a greater need to redo the COA, the revision of the COA needs to be incorporated into the BDCP process or the project will be piece-mealing an integral part of the project. The California Supreme Court has considered how to interpret the word "project" and concluded that CEQA is to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (Tuolumne County Citizens for Responsible Growth, Inc. v. City of Sonoma (2007) 155 Cal.App.4th 1214, 1222, quoting Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 259.) This broad interpretation ensures that the requirements of CEQA cannot be avoided by chopping a large project into many little ones or by excluding reasonably foreseeable future activities that may become part of the project. (See Rio Vista Farm Bureau Ctr. v. County of Solano (1992) 5 Cal.App.4th 351, 370.) A complete description of a project must describe the whole of the action that is being approved, including all components of the project, all phases of the project, and future activities that are reasonably anticipated to become part of the project. (Communities for a Better Environment v. City of Richmond (2010) 184 Cal.App.4th 70, 82,100-101; Laurel Heights Improvement Assn. v. Regents of the Univ. of California (1988) 47 Cal.3d 376, 396; Cal. Code Regs., tit. 14, [Section] 15126.) If Reclamation ends up only wheeling water through the new facilities as they identified in the Federal Notice of Availability, then the current COA will be even more obsolete and unrepresentative of what the BDCP coordinated operations would actually be. Without an updated COA, the BDCP modeling is misrepresents the actual amount of water that the project will deliver once the</p>	<p>As discussed in Sections 5.1.2.3 and 5.2.1.1 of Chapter 5, Water Supply, of the Draft EIR/EIS, the Coordinated Operations Agreement has not been modified to address new water quality and ESA requirements. If that process is initiated and completed in the future, DWR and Reclamation would need to consider the need to modify their operations. In addition, DWR and Reclamation would need to consider the need for modified operating permits and if conditions changed under requirements of previous applicable CESA, NCCP, and ESA consultations.</p> <p>Regarding the project being analyzed as a whole, please see Master Response 8. For information on operational criteria, please see Master Response 28.</p>

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		COA is updated.	
1601	232	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The BDCP proposes changes to reservoir carryover to increase potential available water for environmental applications and water supply.</p> <p>Comment:</p> <p>BDCP's proposed more aggressive water operations means the reservoirs will deliver more water in normal years when water will have been released for environmental and water supply purposes. It results in reduced carryover storage in most years. The BDCP proposed reduced reservoir carryover means there will be even less water available in critical dry water year types than under current operations reservoir carryover operations. Increasing CVP/SWP water supplies in normal years is not worth the increased impacts that will occur in dry and critically dry water year types.</p>	<p>Some changes in SWP and CVP operations were included in the Alternatives to reduce adverse effects on fish and aquatic resources in drier years but changes in reservoir storage primarily resulted from climate change and sea level rise at LLT as shown in the Draft EIR/EIS Chapter 5, pages 5-64 to 5-68. Also, several Alternatives resulted in decreased CVP/SWP water supplies. The CALSIM II model assumptions include conveyance of water south of the Delta during wet years. However, the No Action Alternative and Alternatives 4H1, 4H2, 4H3, 4H4; 5; 6A, 6B, 6C; 7; 8; and 9 would result in less SWP and CVP water deliveries south of the Delta than under Existing Conditions, except that SWP south of Delta deliveries under 4H1 and 4H3 would not be less than Existing Conditions (shown in Tables 5-5 and 5-8 of Chapter 5, Water Supply in the Draft EIR/EIS for LLT). Similarly, Alternatives 6A, 6B, 6C; 7; 8; and 9 would result in less SWP and CVP water deliveries south of the Delta than under the No Action Alternative (shown in Tables 5-6 for LLT), and under Alternatives 4H2 and 4H4 would result in a small reduction in SWP south of Delta deliveries than under the No Action Alternative (shown in Table 5-9 for LLT). It is assumed that water users would need to implement separate methods to reduce water demands or provide alternative water supplies in drier years, such as those methods currently used during droughts.</p> <p>For the Preferred Alternative 4A and comparison to No Action Alternative and Existing Conditions related to Reservoir Storage and SWP and CVP Deliveries, see FEIR/EIS Chapter 5, Water Supply, pages 5-50 to 5-52; 5-62; 5-66 to 5-68; and 5-167 to 5-175; discussing comparison of ELT and LLT. For ELT conditions, the average annual Delta exports under the No Action Alternative would be reduced about 14% compared to Existing Conditions because of sea level rise and climate change, increased outflow to meet Fall X2 in wet and above normal years and water demand. (FEIR/EIS Chapter 5, page 5-66, and Table 5-5).</p> <p>For more information regarding 4A operational components please see Chapter 3 of the FEIR/EIS.</p>
1601	233	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>BDCP aquatic habitat restorations will generate aquatic weeds and biomass which will tidally and by flow will move around the Delta and disrupt water supply intake operations.</p> <p>Comment:</p> <p>The BDCP Proposed Project will increase the magnitude, duration, frequency and geographic extent of biofouling of water supply intakes. This is a significant impact to water supplies and operations and maintenance requirements of water supply intakes in the Delta. The BDCP needs to incorporate avoidance, minimization and mitigation measures to address this significant impact. The BDCP can avoid a portion of this impact by appropriate aquatic habitat design to minimize aquatic vegetation generation. The BDCP can minimize this impact by employing crews to remove aquatic vegetation that has escaped the habitat restoration area. The BDCP can mitigate this impact by providing alternative water supplies, intakes that are less prone to biofouling and providing operations and maintenance support and funding to affected surface water diverters.</p>	<p>Please note that the new preferred alternative (Alternative 4A) no longer includes habitat restoration beyond what is necessary to mitigate impacts from construction and operations of the project. For more information on habitat restoration please see response to comment 1601-226. Also, see Appendix 3B which includes an environmental commitment to contribute funds towards the CDBW aquatic weed removal program in the Delta.</p>
1601	234	Document Section: Chapter 5 - Water Supply	The higher use of the 15,000 cubic feet per second conveyance capacity under Alternatives 1, 2, 6, and 9

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		<p>Issue:</p> <p>SWP operations of the tunnel wheeling water for CVP cannot be identical to what the BDCP has analyzed in their Proposed Project operations where Reclamation was a co/owner and co/operator of the facilities.</p> <p>Comment:</p> <p>Wheeling water only occurs when there is available un-utilized capacity. A Warren Act contract analysis is required. The need for a Warren Act contract with Reclamation was not disclosed. Since Reclamation's operations would be different if they were wheeling water on a basis of available capacity vs. as a facility co-owner/operator, then the operations assumptions used for the modeling and analysis of the BDCP are flawed and need to be rerun so that the actual operations under a water wheeling Reclamation project can be evaluated for the environmental affects.</p>	<p>occurs infrequently and only in wetter years, as shown in Figures C-11 – 1 through C-11 – 6 in Appendix 5A, Section C, Modeling Results of the Draft EIR/EIS. The water diverted would be the same as existing DWR and Reclamation water rights water volumes. For more information on water rights, please see Master Response 32.</p>
1601	235	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Since Reclamation operations in the project facility will not be the same if they are wheeling water vs. being a co owner/operator, then the facility capacity rationale are changed from the assumptions that have been used.</p> <p>Comment:</p> <p>As an example, the 15,000 cubic feet per second (cfs) capacity alternatives no longer meet the purpose of the project if Reclamation is just wheeling water through the facilities.</p>	<p>Please see response to comment 1601-234.</p>
1601	236	<p>Document Section: Chapter 5 - Water Supply</p> <p>BDCP changes in available or unutilized water conveyance capacity creates the opportunity for and therefore promotes private water transfers from north of Delta water sources to south of Delta water purveyors and users.</p> <p>Comment:</p> <p>A BDCP increase in water conveyance capacity (two 40' tunnels) and a reduction in the current operational constraints of the CVP/SWP creates an opportunity for third party water transfers above and beyond that of the current CVP/SWP system and operations. By creating additional capacity and opportunity, BDCP is encouraging transfer of water supplies from northern California water sources to water purveyors and consumers south of the Delta. As an example, under existing conditions the Lower Yuba River Accord, Yuba County Water Agency (YCWA) is able to transfer only a small portion of the water it has available for sale and transfer. Sales and transfers can currently only occur under a very narrow range of operational and hydrologic conditions. With the BDCP facilities and reduced operational constraints, the opportunity for those transfers would be greatly increased. In anticipation of this capacity available for transfer through the new BDCP facilities, several northern California water districts have been purchased by southern California interests. The BDCP must include in their environmental analysis and disclosure what the quantity of available capacity would be in the proposed facilities and operations and compare that to the existing and future no action/no project conditions. The change in available water transfer capacity</p>	<p>The EIR/EIS acknowledges that water transfers would continue in a similar manner as historic transfers and in accordance with State and Federal laws and regulations. The EIR/EIS also acknowledges that the use of water transfers between agencies could increase in the future as SWP, CVP, and other surface water supplies are reduced due to climate change, sea level rise, and increased water demand in the Delta watershed, as described in Appendix 1E, Water Transfers in California: Types, Recent History, and General Regulatory Setting, and Appendix 5D, Water Transfer Analysis Methodology and Results, of the FEIR/EIS. Because specific agreements have not been identified for water transfers and other non-project voluntary water market transactions, project level analysis of impacts upstream of the Delta is highly speculative and this EIR/EIS does not constitute the CEQA/NEPA coverage required for any specific transaction. Rather, it provides an analysis of how transfers relate to the proposed water conveyance facilities. Any future water transfers will require separate approvals. The analysis of any potential upstream impacts is not a part of this EIR/EIS and must be covered pursuant to laws and regulations once the specific transfer has been proposed.</p> <p>For more information on water transfers, please see Master Response 43.</p>

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		<p>should then be evaluated for its growth inducing and other impacts (e.g. socioeconomics, agriculture, water supply, water quality, environmental justice, groundwater, fisheries, etc.) The BDCP can avoid this impact by adding to the operational charter for the facilities and as part of the joint operations agreement, that the facilities will not be used for private water transfers. Since the BDCP is largely being paid for with public funding, private entities should not be allowed to profit from it.</p>	
1601	237	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>The tunnels are currently proposed by the BDCP to be gravity flow.</p> <p>Comment:</p> <p>Gravity flow implies slower water velocities in the tunnel. There are sediment traps to separate sediment from water diverted from the river before it goes into the upstream forebay. The forebay is not proposed by the BDCP to be a lined basin. Wind will create turbulence and erosion in the north forebay that will create a suspended sediment load. Without sufficient velocities in the tunnels (over approximately 5-6'/second), there will be sediment accumulation in the tunnel. This will lead to reduced flow capacities and contributions to the anaerobic and anoxic problems with the water quality.</p>	<p>Operation of the Intermediate Forebay would be similar to maintenance activities at Clifton Court Forebay, including maintenance of levees around the Forebay. As discussed in Section 3.6.1.4 of Chapter 3, Description of Alternatives, of the Draft EIR/EIS, the forebays would be dredged to remove sediment and maintain design capacity, including embankment repairs in the event of wind wave action or island flooding.</p> <p>As shown in Figures C-11 – 1 through C-11 – 6 and Tables C-11-1-2 through C-11-1-12 in Appendix 5A, Section C, Modeling Results, flows would continue in the North Delta intakes in most months under Alternatives 1 through 8. Therefore, sufficient velocities would be provided to maintain solids within the water column.</p>
1601	238	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>If the facilities are retrofitted with pumps instead of the current gravity flow tunnels, the capacity of the system could be significantly expanded.</p> <p>Comment:</p> <p>If the BDCP later adds pumps to the facilities to expand the capacity it will be clear that this was the intention of the project from the beginning and that the BDCP piece-mealed the project to make approvals of the expansion of water supplies easier. The California Supreme Court has considered how to interpret the word "project" and concluded that CEQA is to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (Tuolumne County Citizens for Responsible Growth, Inc. v. City of Sonora (2007) 155 Cal.App.4th 1214, 1222, quoting Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 259.) This broad interpretation ensures that the requirements of CEQA cannot be avoided by chopping a large project into many little ones or by excluding reasonably foreseeable future activities that may become part of the project. (See Rio Vista Farm Bureau Ctr. v. County of Solano (1992) 5 Cal.App.4th 351, 370.) A complete description of a project must describe the whole of the action that is being approved, including all components of the project, all phases of the project, and future activities that are reasonably anticipated to become part of the project. (Communities for a Better Environment v. City of Richmond (2010) 184 Cal.App.4th 70, 82,100-101; Laurel Heights Improvement Assn. v. Regents of the Univ. of California (1988) 47 Cal.3d 376, 396; Cal. Code Regs., tit. 14, [Section] 15126.)</p>	<p>As described in the Conceptual Engineering Report referenced in the EIR/EIS, Alternative 4A would not include pumping plants at the intakes. Instead, a pumping plant would be installed at the northern end of an expanded Clifton Court Forebay. The tunnels were redesigned to allow for water to flow by gravity to the Clifton Court Forebay pumping plants which would lift the water from the north Delta diversions into the expanded Clifton Court Forebay. It would not be possible to operate the proposed tunnels at flows greater than 9,000 cfs unless the entire proposed pumping plant at the northern Clifton Court Forebay was reconstructed to provide for hydraulic flow of larger flows. This type of modification would require additional engineering and environmental studies and is not addressed in this EIR/EIS.</p> <p>Please see Master Responses 2 for information on program and project level analysis and Master Response 8 regarding analysis of the project as a whole.</p>
1601	239	<p>Document Section: Chapter 5 - Water Supply</p>	<p>Future modifications related to restoration activities in Yolo Bypass would occur under the No Action</p>

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		<p>Issue:</p> <p>WS-1: Changes in SWP/CVP water deliveries during construction</p> <p>Comment:</p> <p>This impact category is incomplete and another impact analysis and impact call needs to be added to the EIR/EIS for disruption of water supplies for non-CVP/SWP water rights holders. As an example, tunnel construction and tunnel muck disposal will disrupt water supply and drainage ditches on Andrus Island. When the Lisbon Weir and Putah Creek are reconfigured, surface water supplies will be disrupted for non-CVP/SWP water rights holders. Habitat restoration actions when Yolo Bypass is inundated from BDCP proposed restoration flows, surface water rights holders will not be able to physically access and use their pumps, so that non- CVP/SWP water rights holder group would have their water supplies disrupted by the BDCP construction and operations. The farmer's surface water pumps are off of the Toe Drain canal which is the first area to be inundated with flows from the BDCP. When the BDCP is implementing their bypass flows, the farmers will not be able to physically access their pumps to irrigate the lands that are not inundated. When the BDCP install fish screens on surface water diversions in the Delta, those non-CVP/SWP water rights holders will have their water supplies disrupted. This brief list of non-CVP/SWP water supply disruptions from the BDCP is not comprehensive, but it certainly exposes how incomplete and inadequate the BDCP analysis and disclosure of impacts has been in the EIR/EIS. This category of impacts and impact calls for water supply disruptions both during construction and during BDCP operations must both be added to the EIR/EIS analysis.</p>	<p>Alternative with or without the project implementation. These changes would also occur under the proposed project, but would not be caused by the proposed project. The impact analysis and identification of mitigation measures for significant adverse impacts are being developed under a separate CEQA/NEPA document.</p> <p>With respect to the portion of the comment related to potential disruption of water supplies and drainage facilities for lands located near the intakes, tunnel shafts, and forebays, during the design phase, DWR would conduct site-specific analysis to determine the extent of the potential conflicts related to conveyance facility construction, including locations of water supply and drainage facilities. DWR would consult with local reclamation districts and land owners to ensure that construction activities would not conflict with existing infrastructure.</p> <p>Mitigation measures have been identified in the EIR/EIS to reduce the impacts to less than significant as compared to Existing Conditions. Mitigation Measures AG-1, GW-1, GW-5, and WQ-11 will reduce the severity of significant impacts on land uses by implementing activities such as siting project footprints to encourage continued agricultural production and land uses; monitoring changes in groundwater levels during construction; monitoring seepage effects; relocating or replacing infrastructure in support of continued agricultural and other land use activities; identifying, evaluating, developing, and implementing feasible phased actions to reduce EC levels; and engaging counties, owners/operators, and other stakeholders in developing optional approaches. Please see Chapters 14 and 20 in the EIR/EIS.</p>
1601	240	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WS-2: Change in SWP and CVP deliveries had a "No Determination" impact call.</p> <p>Comment:</p> <p>The dictionary defines "determination" as "the act of coming to a decision". The "No Determination" impact call is not an impact call it is a lack of an impact call. The BDCP EIR/EIS spent millions of dollars in modeling and analysis of the project and alternatives operations to evaluate impacts of operations on resources and water supplies. The EIR/EIS has clearly made impact calls on effects of operations on other resources, but has failed to make an impact call on the effect on CVP/SWP water deliveries. This "No Determination" non-impact call is clearly a dodge to not disclose the impacts of the project and to admit that the project does result in an increase in water deliveries to the water contractors. If there is no determination on this significance criteria, then the EIR/EIS is either incomplete or a failure as the reliability of water deliveries is one of the two main objectives of the entire project. If this impact call is changed, then this revision would constitute a material change between the draft and final version of the document which the public has the right to comment on so the document would have to be rereleased as a revised draft and not a final. The EIR/EIS needs to make an impact call on this important resource. If the BDCP cannot prove a benefit to this core project objective, then the project either needs to be terminated or taken back to public scoping to identify an alternative which will meet the core purpose of the project to improve CVP/SWP water deliveries. Any change in impact</p>	<p>With respect to the reference to the impact designation in the Draft EIR/EIS for WS-2, it was determined that no impact designations would be developed for Water Supply changes because the true impacts occur under other environmental resources. For example, increased surface water deliveries under Water Supply is assumed to result in less groundwater pumping and less effects on groundwater conditions. The changes in water deliveries between the action alternatives and the Existing Conditions and the No Action Alternative are presented in Chapter 5, Water Supply, of the Draft and Final EIR/EIS including both increased and decreased water deliveries.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		calls is a material change in the document that warrants recirculation.	
1601	241	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WS-3: Effects of water transfers on water supply</p> <p>Comment:</p> <p>One of the stated objectives/purposes of the BDCP project is to increase the reliability of water supplies, yet the EIR/EIS determined that the project had no impact and no effect. If the project were successful in achieving the stated objectives and purpose of the project, the increased reliability of the water supply and operational flexibility from removal of No Action operational constraints, the BDCP should have resulted in a increase in the opportunity for water transfers. If this impact call is changed, then this revision would constitute a material change between the draft and final version of the document which the public has the right to comment on so the document would have to be rereleased as a revised draft and not a final.</p>	As described in Chapter 3, Description of Alternatives, the action alternatives considered in the EIR/EIS do not include specific water transfers. Please see response to comment 1601-236.
1601	242	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-3: Effects on boron concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action are incorrect. CM1 does not exist in the No Action; therefore, there would be No Impact. Any increase in Boron concentration is significant to the suitability of water supply for agricultural irrigation beneficial uses. This impact should be changed to significant.</p>	<p>Impacts associated with facilities operations and maintenance under the No Action Alternative are not labeled with "CM1." Any increase in boron does not necessarily translate to an adverse effect on beneficial uses; consideration of the concentration relative to applicable criteria as well as the other significance criteria must be made, as was done in the assessment in Chapter 8, Water Quality, leading to the less than significant impact call.</p> <p>For more information on water quality, please see Master Response 14.</p>
1601	243	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-4: Effects on boron concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. Any increase in Boron concentration is significant to the suitability of water supply for agricultural irrigation beneficial uses. This impact should be changed to significant.</p>	<p>Habitat restoration would be greatly reduced under the new preferred alternative, 4A, and several conservation measures would no longer apply. Please see the Alternative 4A description in Chapter Description of Alternatives.</p> <p>The magnitude of difference in restoration areas for each BDCP alternative was addressed in the assessment of conservation measures in the Final EIR/EIS Chapter 8, Water Quality, under Impact WQ-4: Effects on Boron Concentrations Resulting from Implementation of CM2–CM21. Any increase in boron does not necessarily translate to an adverse effect on beneficial uses; consideration of the concentration relative to applicable criteria as well as the other significance criteria must be made.</p> <p>For more information on water quality, please see Master Response 14.</p>
1601	244	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p>	Some of the alternatives in the Draft EIR/EIS resulted in elevated bromide concentrations at some Delta locations that were determined to be significant and unavoidable even with mitigation measures. A portion of the issue related to bromide concentrations involved the location and amount of restoration

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		<p>WQ-5: Effects on bromide concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The "Significant Unavoidable" and "Adverse" increase in bromide after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Bromide is an important water quality constituent for drinking water and represents a well documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	<p>included in these alternative as well as the methods used to estimate modeled changes. Since the time of the Draft EIR/EIS, new alternatives, including the preferred CEQA and NEPA alternative (Alternative 4A), have been evaluated that reduce this bromide effect. Please refer to Chapter 8, Water Quality for Alternatives 4, 4A, 2D and 5A of the Final EIR/EIS. For more information on water quality, please see Master Response 14. Also see response to comment 1601-336.</p> <p>For a discussion on significant and unavoidable impacts, please see Master Response 10.</p>
1601	245	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The "Significant Unavoidable" and "Adverse" increase in chloride after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Chloride is an important water quality constituent for drinking water and represents a well documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	<p>The Final EIR/EIS proposes Alternative 4A as the preferred alternative. Alternative 4A, as well as new Alternatives 2D and 5A in the Final EIR/EIS, would result in substantially lesser water quality impacts to salinity-related parameters, including a less than significant impact to chloride, as compared to the preferred alternative in the Draft EIR/EIS. Please refer to Chapter 8 of the FEIR/EIS for a full explanation of the updated analyses of water quality impacts. For more information on water quality, please see Master Response 14.</p> <p>For a discussion on significant and unavoidable impacts, please see Master Response 10. For information on mitigation measures, please see Master Response 22.</p>
1601	246	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-11: Effects on electrical conductivity concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The No Action operations are required to comply with Delta water quality standards that protect water quality and beneficial uses. These water quality standards include limits on electrical conductivity (EC) that are designed to protect sensitive resources from EC impacts. The No Action significant impact determination is correct as the current CVP/SWP operations routinely exceed these standards, see Affect Environment. The No Action would continue to violate these water quality protections and therefore the significant impact call by the BDCP EIR/EIS is warranted. The Proposed Project impacts are even worse than the No Action. Since the current and No Action CVP/SWP operations are in violation of water quality requirements and the Proposed Project results in a degradation of that condition, the project should not be awarded any permits as the project is in violation of the law. Any increase in EC concentration from the Proposed Project is significant to the suitability of water supply for agricultural irrigation beneficial uses.</p>	<p>Salinity in the Delta is a function of the amount and timing of freshwater input from the major tributaries, tidal action from San Francisco Bay, and exports from the Delta. During the late winter and spring months of seasonally elevated flows, and in wet years, seawater intrusion is limited and the Delta has mostly low salinity. During low-flow summer and fall months, and during dry years, lower freshwater flows result in greater amounts of seawater intrusion. Staff from DWR and USBR constantly monitor Delta water quality conditions and adjust operations of the SWP and CVP in real time as necessary to meet water quality objectives set by the State Water Resource Control Board protection of agricultural water supply, municipal and industrial drinking water supply, and fish and wildlife beneficial uses. See RDEIR/SDEIS Section 4.3.4 for a discussion on the proposed projects effects on water quality, salinity and electrical conductivity.</p> <p>Effects of the alternatives on salinity levels are described in Chapter 8, Water Quality, and Appendix 8H, Electrical Conductivity, EIR/EIS and Appendix A of the RDEIR/SDEIS. Modeling results indicate that the implementation of the water conveyance facilities may positively or adversely affect in-Delta water quality, depending on a number of factors including location, time of year, and hydrologic conditions. See tables in Appendices 8E through 8N for specific results related to various water quality constituents (including EC, bromide, and chloride).</p> <p>In addition to potential effects associated with the project and alternatives, modeling results for the No Action Alternative indicate that, with or without the proposed project, rising sea levels will bring saline tidal water further into the Delta than occurs at present.</p>

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			<p>For more information please see Master Response 14, Water Quality.</p> <p>For information on operational criteria please see Master Response 28 and for information on adaptive management please see Master Response 33. Additionally, agricultural impact mitigation is discussed in Master Response 18.</p>
1601	247	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-12: Effects on electrical conductivity (EC) concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. Evaporation from the aquatic habitat restorations will result in a concentration of the EC levels, so this should be a significant impact. Any increase in EC concentrations is an unacceptable degradation of the beneficial uses of water in the Delta. EC is an important water quality constituent for irrigation water and results in reduced yields, increase accumulation of salts in the soil, increased water use (for leaching irrigation component), soils that are unsuitable for production of salt sensitive crops and ultimately with continued accumulation of salts a soil that is unsuitable for any kind of agricultural production. Any increase in EC concentration from the Proposed Project is significant to the suitability of water supply for agricultural irrigation beneficial uses.</p>	<p>Evaporation in new tidal habitat areas, relative to that occurring in the existing water surface area of the Delta, is not expected to have a measurable effect on water quality relative to the effect that Delta inflows and outflows would have.</p> <p>Also, any increase in constituent level/concentration does not necessarily translate to an adverse effect on beneficial uses; consideration of the constituent level/concentration relative to available assimilative capacity and applicable criteria as well as the other significance criteria must be made, as was done in the assessment in Chapter 8. For more information on salinity, please see response to comment 1601-246. Regarding habitat restoration, please see response to comment 1601-226.</p> <p>Also see Master Response 14, Water Quality.</p>
1601	248	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-14: Effects on mercury concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. A Proposed Project that has this severity of an impact on water quality, especially compared to the No Impact/No Effect of the No Action, should not be implemented.</p>	<p>The CEQA and NEPA impact determinations for mercury (and all other constituents) are made by comparison conditions with the project alternatives to conditions relative to Existing Conditions (for CEQA) and the No Action Alternative (NEPA). This is the fundamental framework for the assessment. Thus, while mercury concentrations are compared to thresholds, the conditions with the alternatives relative to the baselines are the basis for determining whether the alternative would result in a significant/adverse condition. For mercury, it was determined through these comparisons that the water conveyance facility operation and maintenance for the preferred alternative would not result in an adverse impact (Impact WQ-13); however, the proposed small amount of tidal habitat could have an adverse effect. Environmental Commitment 12 is provided to lessen the effects, however, because of the uncertainty regarding the effectiveness of this commitment, the impact determination remained significant/adverse.</p> <p>The assessment performed for CM2–CM22 for Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9 was qualitative, and indicated that increases in methylmercury could occur as a result of restoration activities. Restoration activities under these alternatives would include approximately 75,000 acres of restoration, including (generally) 65,000 acres of tidal restoration and 10,000 acres of floodplain restoration, including Yolo Bypass improvements. Specific mitigation measures to address the potential increases in methylmercury were not proposed, because Conservation Measure 12 (CM12), Methylmercury Management, already included commitments to do everything practicable to minimize conditions that promote production of methylmercury in restored areas and subsequent introduction to the foodweb. Due to uncertainties as to the effectiveness of CM12, the conclusion was that CM2–CM22 could have a significant and unavoidable effect on mercury.</p>

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			<p>Alternatives 4A, 2D, and 5A differ from the other alternatives (1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9) in their evaluation of effects on mercury from other Environmental Commitments (Environmental Commitments 3, 4, 6, 7, 9–12, 15, and 16). These three alternatives contain substantially less tidal restoration acreage than the other alternatives. Thus, although the potential types of effects on mercury resulting from implementation of the Environmental Commitments under Alternatives 4A, 2D, and 5A would be generally similar to those described for the other alternatives, the magnitude of effects on mercury and methylmercury at locations in the Delta related to habitat restoration would be considerably lower.</p> <p>For more information on habitat restoration, please see response to comment 1601-226.</p> <p>More information on water quality can be found in Chapter 8 of the Final EIR/EIS and Master Response 14. Additionally, for a discussion of significant and unavoidable impacts please see Master Response 10.</p>
1601	249	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-15: Effects on nitrate concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The No Action impact call is incorrect. There is no change in the No Action for operations that affect nitrate concentrations, so the correct impact call would be "No Impact" and "No Effect". The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse.</p>	<p>Degradation of water quality with respect to nitrate due to implementation of the conservation measures, such that drinking water uses would be adversely affected, is not expected to occur, as described in Impact WQ-15.</p> <p>CEQA and NEPA impact conclusions as presented in this Final EIR/EIS are correct. Related to not adverse vs. less than significant impact conclusions, not adverse means effects could occur but they would not reach the level of creating adverse effects on the environment. Less than significant conclusions mean an impact could occur but it does not exceed a pre-determined significance threshold for determining that the impact would be significant. Therefore, the not adverse and less than significant conclusions presented in this Final EIR/EIS are consistent.</p> <p>More information on water quality can be found in Chapter 8 of the Final EIR/EIS and Master Response 14.</p>
1601	250	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-16: Effects on nitrate concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. Since nitrate concentrations in drinking water supply pose significant human health risks, any degradation of nitrate water quality should be considered</p>	<p>Degradation of water quality with respect to nitrate due to implementation of the conservation measures, such that drinking water uses would be adversely affected, is not expected to occur, as described in Impact WQ-16. Please also see response to comment 1601-249.</p> <p>Regarding habitat restoration, please see response to comment 1601-226.</p>

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		significant and significant impacts must be mitigated.	
1601	251	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-17: Effects on organic carbon concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The No Action impact call is incorrect. There is no change in the No Action for operations that affect nitrate concentrations, so the correct impact call would be "No Impact" and "No Effect". The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. Since dissolved organic carbon concentrations is an important parameter to drinking water supply suitability, any degradation of organic carbon water quality should be considered significant and significant impacts must be mitigated.</p>	<p>Degradation of organic carbon due to implementation of the conveyance facilities, such that drinking water uses would be adversely affected, is not expected to occur for the No Action Alternative, as described in Impact WQ-17 (see Chapter 8 of the Final EIR/EIS).</p> <p>The magnitude of difference in restoration areas and effects on organic carbon was addressed in the assessment of conservation measures in Impact WQ-18 and significant impacts associated with the 65,000 acres of habitat restoration were identified, and mitigation introduced.</p> <p>CEQA and NEPA impact conclusions as presented in this Final EIR/EIS are correct. No revisions to conclusions related to this comment have been made. Related to not adverse vs. less than significant impact conclusions, not adverse means effects could occur but they would not reach the level of creating adverse effects on the environment. Less than significant conclusions mean an impact could occur but it does not exceed a pre-determined significance threshold for determining that the impact would be significant. Therefore, the not adverse and less than significant conclusions presented in this Final EIR/EIS are consistent.</p> <p>Please also see response to comment 1601-400.</p>
1601	252	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>WQ-18: Effects on organic carbon concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project) The EIR/EIS does not describe the differences in magnitude in their significance calls. A Proposed Project that has this severity of an impact on water quality, especially compared to the No Impact/No Effect of the No Action, should not be implemented.</p>	<p>Final EIR/EIS appendices supporting Chapter 8, Water Quality, have been revised to show the updated modeling results, including 8D (Source Water Fingerprinting Results), 8E (Bromide), 8F (Boron), 8G (Chloride), 8H (Electrical Conductivity), 8I (Mercury), 8J (Nitrate), 8K (Organic Carbon), 8L (Pesticides), and 8M (Selenium). Based on the results of the updated modeling, the water quality impact conclusions presented in the RDEIR/SDEIS were confirmed, as presented in the Final EIR/EIS in Chapter 8, Water Quality.</p> <p>For information on habitat restoration please see response to comment 1601-226. Also see Master Response 14, Water Quality. For a discussion on significant and unavoidable impacts, please see Master Response 10. Regarding mitigation measures, please see Master Response 22.</p>
1601	253	<p>Document Section: Chapter 5 - Water Supply</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p> <p>Due to the shallow groundwater tables in the Delta, many open ground fields and most permanent crop plantings utilize drain tile to maintain groundwater levels and keep groundwater moving to protect their crops and the productivity of the soils. Most permanent crop plantings are adjacent to the levees due to their higher elevation, better</p>	<p>Without implementation of large-scale habitat restoration, the effects on salinity under the action alternatives as compared to the No Action Alternative would be less than with large-scale restoration. For example under Alternative 4A, salinity generally would be similar or less than under No Action Alternative in the central Delta (e.g., near Jersey Point, Rock Slough, and along Sacramento River downstream of Steamboat Slough). However, salinity would increase under Alternative 4A as compared to the No Action Alternative in July through September along the Sacramento River near Collinsville and Emmaton; and generally decrease or be similar in remaining months, as presented in Appendix 5A, Section C, of the EIR/EIS. Please see Chapter 8 and associated appendices in the EIR/EIS and Master Response 14, on water quality. Therefore, it is not anticipated that groundwater quality would substantially change due to operations of the conveyance facilities.</p> <p>As described in Chapter 7 of the EIR/EIS, groundwater quality is anticipated to be lower under action</p>

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		<p>drainage and better soils. This means that the drain tiles that are under most of permanent crops planted in the Delta are right next to the tributaries. Drain tiles are typically installed at 6 to 10 feet deep, depending on soil type, crop type, groundwater table elevations and topography (drainage). The drain tile function is to reduce the groundwater table elevations, creating a localized groundwater table depression to protect the soil and crops from groundwater elevations that are too shallow. The groundwater collected from the drain tile is transported via drainage pipes to the lower elevation drainage ditches that are located near the center of the islands and tracts. This necessary drain tile function creates the same increased hydraulic gradient from the island groundwater table from the surrounding tributaries. The impacts from the degraded groundwater quality from the BDCP operations will occur even more quickly with drain tile operation interactions than the impacts to shallow groundwater quality described in the two preceding comments. Degraded surface water quality from the BDCP operations will be pulled into the shallow groundwater table where the drain tiles are functioning in the same manner as described in the previous two comments. The drain tiles will collect this degraded quality groundwater and drain the water to the main drainage ditches. These drainage ditches are also water supply ditches that are pumped out of to irrigate other fields. These central drains/water supply ditches is how water supply is delivered to most fields that are in the interior of the islands and tracts. Through the function of the drain tile and drainage of those systems into the water supply ditches in the middle of the islands and tracts, the degraded shallow groundwater from BDCP operations have now been translated back into additional impacts to water quality of surface water supplies for the interior fields. The BDCP EIR/EIS failed to identify, characterize, evaluate, quantify, or disclose this serious and significant impact of the proposed project and alternatives.</p> <p>As mentioned previously, because of the proximity of the drain tiles to the tributaries and the function of the drain tile to translocate the drainage water to the main ditches, this mode of impact could occur very quickly, e.g. the first year of degraded surface water quality from the BDCP operations. The geographic scope and magnitude of this impact is not small either. Most of the islands and tracts, with the exception of some of the most interior Delta and lowest elevation islands, are ringed by permanent crop plantings at their outside edges. Cumulatively, these represent several hundred miles of tributary length that have drain tiles installed adjacent to them. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta and the translation of that shallow groundwater quality degradation into a subsequent degradation of additional surface water supply water quality that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality (and surface water supplies water quality that are supplied by the drain tile drain water) by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. The BDCP can further minimize this significant impact by providing for and maintaining sump pumps for the tail water coming out of the drain tile systems. The sump pump would discharge the drain tile water back into the tributary rather than letting the degraded shallow groundwater contaminating the surface water supplies at the main drain/water supply ditches. The use of sump pumps on drain tile systems is a common practice in the southern central valley as the topographic gradients are not sufficient to allow drain tile function without the sump pumps. Because the use of sump pumps on drain tile systems is common practice in the CVP/SWP service areas, the BDCP cannot claim that</p>	<p>alternatives with large-scale habitat restoration as compared to the No Action Alternative.</p>

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		there are no feasible, practicable measures to avoid, minimize or mitigate this significant impact of the BDCP proposed operations.	
1601	254	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that, "The Plan also intends to... reducing future risks to the Delta from earthquakes, levee failure and climate change." Where does the project propose to reduce "future risks to the Delta from earthquakes, levee failure, and climate change"?</p> <p>Comment:</p> <p>The project proposes to address those issues for the CVP/SWP conveyance, but it does nothing for the Delta on those issues. The project does increase the risk of levee failure to the Delta by altering existing levees and adding new ones. The project also increases risks to the Delta from future climate change as the aquatic habitat restorations by increasing the volume of intertidal exchange. Increases in the volume of intertidal exchange will degrade water quality, increase the velocities of tidal surges and increase the magnitude of tidal surge stage elevations. So is the BDCP proposing to reduce earthquake, levee failure and climate change risk in the Delta or is the Federal Register notice incorrect such that it should be revised and reissued?</p>	<p>The proposed project does not purport to protect the Delta as a whole from seismic hazards. Although the Plan is not intended to provide enhanced flood protection, it does intend to reduce the vulnerability of the water delivery system by making it less reliant upon the Delta levee system (and associated risks thereto).</p> <p>Please also see the response to comment 1601- 157, above.</p> <p>The California Department of Water Resources' Levee Repairs and Floodplain Management Office is responsible for administering levee programs through evaluation and direct rehabilitation of structural deficiencies in California's levee system. Overall levee repairs and improvement programs administered by DWR will continue with available funding. For additional information on the relationship between the proposed project and Flood protections in the Delta, please see EIR/EIS Appendix 6A BDCP/California WaterFix Coordination with Flood Management Requirements.</p> <p>For information on seismic activity, please see Master Response 16.</p>
1601	255	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP EIR/EIS repeatedly refers to coordinated SWP/CVP operations, but does not include analysis of the impacts of the BDCP Proposed Project on the CVP/SWP Coordinated Operating Agreement (COA).</p> <p>Comment:</p> <p>The COA is an essential set of operating rules for how the CVP/SWP is run. The COA is currently out of date and has been out of date at least since D1641 was issued. The COA operations would be profoundly altered by the BDCP proposed replumbing and reoperations of the CVP/SWP. As an example of the BDCP Proposed Project CVP/SWP operations impacts on COA, the Oroville reservoir (a SWP facility and water supply source) is reoperated to support the bulk of spring releases and Shasta reservoir (a CVP facility) is reoperated to provide the bulk of summer and fall releases. These reoperations of the respective CVP and SWP facilities from the BDCP Proposed Project changes the timing of water supply deliveries to the respective state and federal water contractors as well as alters which facilities and water supplies are fulfilling various environmental commitments, e.g. B2 water, net outflow requirements, X2, etc. The quantity of releases from the various facilities, the timing of releases, the allocation of water storage to compliance with common environmental compliance requirements, and the timing and amounts of water supply deliveries are all fundamental components of the COA and are all fundamentally altered by the BDCP Proposed Project operations. If Reclamation's only role on the BDCP project were to be water wheeling through the new BDCP facilities as stated as a possible outcome in the December 13, 2013 Federal Register, then the entire set of relationships of CVP/SWP water</p>	Please see response to comment 1601-231.

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		<p>operations and allocation of water to environmental compliance and allocation of water for deliveries to various water contractors would be fundamentally altered. The revision of the COA needs to be part of the scope of the BDCP project or the operating rules; impacts of the project and the analysis of the water supply deliveries and their impacts in the BDCP EIR/EIS will be incorrect, misleading and incomplete. If the BDCP does not include the revision of the COA as part of the scope of the BDCP, the COA will have to be revised immediately following the BDCP Notice of Determination and Record of Decision.</p> <p>The revision of the COA immediately after the BDCP approval would again change how the CVP/SWP system was operated and the impacts of the BDCP. Since COA is integral to the CVP/SWP operations and would be so profoundly affected by the BDCP that it will have to be substantially revised as a result of the BDCP then if the BDCP does not include the revision of the COA as part of the BDCP project and analyses the BDCP would clearly be piece-mealing the project which is illegal. The California Supreme Court has considered how to interpret the word "project" and concluded that CEQA is to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (Tuolumne County Citizens for Responsible Growth, Inc. v. City of Sonora (2007) 155 Cal.App.4th 1214, 1222, quoting Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 259.) This broad interpretation ensures that the requirements of CEQA cannot be avoided by chopping a large project into many little ones or by excluding reasonably foreseeable future activities that may become part of the project. (See Rio Vista Farm Bureau Ctr. V. County of Solano (1992) 5 Cal.App.4th 351, 370.) A complete description of a project must describe the whole of the action that is being approved, including all components of the project, all phases of the project, and future activities that are reasonably anticipated to become part of the project. (Communities for a Better Environment v. City of Richmond (2010) 184 Cal.App.4th 70, 82,100-101; Laurel Heights Improvement Assn. v. Regents of the Univ. of California (1988) 47 Cal.3d 376, 396; Cal. Code Regs., tit. 14, [Section] 15126.)</p>	
1601	256	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP EIR/EIS refers to the CVP/SWP Coordinated Operating Agreement (COA) operations of reservoirs are used to meet the joint beneficial uses and environmental obligations of the CVP/SWP.</p> <p>Comment:</p> <p>This BDCP EIR/EIS statement establishes that the CVP/SWP COA operations and reservoir operations are critical to protecting beneficial uses and CVP/SWP meeting environmental compliance requirements. COA is integral to the operations of the CVP/SWP operations. The BDCP will change COA water delivery relationships of the water agencies so COA will need to be revised as a result of the BDCP project. The COA has been out of date for a couple decades due to D1641 and other water management decisions and delivery constraints. The COA needs to be revised as a part of the BDCP project or the environmental effects from the project will have been piece-mealed which is illegal under both NEPA and CEQA. Reservoir operations are integral to COA operations and to meeting the beneficial uses and environmental requirements of the CVP/SWP. Reservoir operations are severely constrained by capacity, so a project need that has been established here is the consideration of additional upstream (and downstream) storage in the scope of the project. Changes in</p>	<p>Reservoir operations assumptions are consistent under Alternatives 1 through 7 and 9 as under the No Action Alternative. Reservoir operations assumptions for cold water pool management would be modified under Alternative 8, as described in Section 3.6.4.2 of Chapter 3, Description of Alternatives of the Final EIR/EIS. Changes in reservoir storage would occur due to changes in Delta operations under each of the alternatives as presented in Appendix 5A, Section C, Modeling Results.</p> <p>Regarding the Coordinated Operations Agreement, please see response to comment 1601-231.</p> <p>For information on the beneficial use of water, please see Master Response 34. Regarding operational criteria and adaptive management, please see Master Response 28 and Master Response 33, respectively. For information on upstream reservoir effects, please see Master Response 25.</p> <p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p>

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		reservoir operations have environmental impacts; see DWR Oroville Facilities Relicensing EIR and EIS documents. The BDCP Proposed Project operations changes CVP and SWP reservoir operations, but the BDCP EIR/EIS document does not identify, characterize, quantify or disclose the significant impacts from those reservoir reoperations. The BDCP EIR/EIS document is incomplete and deficient and needs to incorporate impact analyses of reservoir reoperations and from updating the COA.	
1601	257	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP EIR/EIS cites the water contract amounts being the basis for water delivery quantities, but water contract renewal does not meet the tests of a reasonably foreseeable project to include in the No Action condition.</p> <p>Comment:</p> <p>The BDCP assumption that CVP/SWP water contracts that will expire before the project would be fully constructed will be renewed with the same terms as the current contracts is flawed and unsupported. The water contracts have an article in them that says very clearly that contracts may not be renewed and that quantities of future water deliveries are not guaranteed in future contracts. Since the water contracts state that future water quantities are not guaranteed, then the BDCP cannot assume that contract renewal and renewal for the same quantities of water deliveries is a continuation of current policy. The SWP water contract renewals will require an EIR. Since an EIR has not been completed and renewal of contracts is not guaranteed, then the contract renewals do not meet the test of a reasonably foreseeable project to include in the No Action condition. If no action is taken to renew the contracts there would not be water deliveries. Rather than the BDCP assuming contract renewals at the current contract amounts that the CVP/SWP rarely fulfills, it is much more logical for the BDCP to assume that water delivery amounts in future contracts would be adjusted to what can be reliably delivered and which incorporate conditions to protect beneficial uses under a broad range of conditions that include changes in assumptions from climate change, sea level rise and on-going effects of continued water deliveries (e.g. water quality violations, degradation of other beneficial uses, etc.). If contract amounts were adjusted to reflect what the CVP/SWP system is able to sustainably deliver then environmental impacts of CVP/SWP operations on the listed species would be greatly reduced and the need for the project significantly reduced. The BDCP should change its No Action assumption regarding CVP/SWP future water deliveries are quantities that the CVP/SWP are capable of delivering on a consistent and reliable basis under the future conditions with no actions other than those that meet the test of being reasonably foreseeable.</p>	<p>The No Action Alternative is defined as the projections of current conditions and trends into the future without implementation of the alternatives. These projected conditions are defined in Question 3 of the CEQA Forty Most Asked Questions as “no change’ change” from current management direction or level of management intensity.” The No Action Alternative also can be defined as the “no project” in cases where a new project is proposed for implementation. However, all of the alternatives evaluated in the EIR/EIS were developed to continue the coordinated long-term operation of the SWP and CVP. Therefore, the definition of the No Action Alternative for the EIR/EIS is the continuation of the current management direction and level of management intensity, including continued water deliveries under SWP and CVP water contracts.</p> <p>It is recognized in the Draft BDCP EIR/EIS that full contract amounts would not be delivered in every year in the Existing Conditions and the No Action Alternative, as well as under the action alternatives, as shown in Figures C13.13 – 1 through C13.13 – 13 in Appendix 5A, Section C, Modeling Results (note: Full Contract Amounts are generally indicated by the highest delivery which occurs towards the upper right portion of the plots). The use of full contract amounts is related to the upper limit of legal CVP and SWP contractual water amounts and delineates an upper bound for development of EIR/EIS alternatives, not a target. Alternatives need not be capable of delivering full contract amounts on average in order to meet the project purposes. The proposed project is just one element of the state’s long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change.</p> <p>For information on water rights, please see Master Response 32.</p>
1601	258	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Reclamation's June 23, 2009 petition to the State Water Board Division of Water Rights for an extension of time to complete use of full water rights is not compliant with the State Water Board's requirements.</p>	<p>The State Water Resources Control Board, not DWR, is responsible for decisions relating to water rights. DWR holds water rights approved by the State Water Resources Control Board but does not have the power or authority to issue water rights to others. Additionally, the proposed project does not seek any new water rights nor include any regulatory actions that would affect water rights holders other than DWR, Reclamation, and SWP and CVP contractors.</p> <p>Please refer to Master Response 32, Water Rights.</p> <p>Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two</p>

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		<p>Comment:</p> <p>The Reclamation petition for extension of time for compliance of the CVPs water rights and beneficial uses deferred environmental compliance to the BDCP EIR. The petition promised that the BDCP EIR would be completed and available for use as environmental compliance for the extension request by late 2009 or early 2010. We are now in mid-2014 and Reclamation still has not provided the CEQA document required to support the petition for extension. The State Water Board, as the lead CEQA agency for this petition, has failed to complete the required EIR and Reclamation is 5 years and counting late with their promised BDCP EIR. The Water Board should rescind the water rights not fully implemented by the CVP as they have not complied with the water rights requirements, the timeline extension process requirements or proven beneficial use of the unused water rights.</p>	<p>agencies. Exports do not come at the expense of other water rights holders. The proposed project and its alternatives analyzed in the EIR/EIS only include the use of water from existing SWP and CVP water rights or voluntary water transfers from other water rights holders. The proposed project and its alternatives do not reduce the protections for other water right holders.</p>
1601	259	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The Purpose and Need identifies the BDCP project objective to increase the reliability of current conveyance by reducing its risk to seismic events levee failures.</p> <p>Comment:</p> <p>The upstream tributary and Delta levees are part of the current conveyance system, so levee improvements should be within the scope of potential project actions. Levees upstream of the Delta to the CVP/SWP reservoirs are part of the water conveyance in all project alternatives considered and Delta levees are still part of the conveyance for all alternatives using dual conveyance. Therefore, levee improvement, both upstream of the Delta and in the Delta, should have been considered as an alternative component in BDCP alternatives for analysis in the EIR/EIS.</p>	<p>Please see Appendix 6A, of the FEIR/EIS for the BDCP/CWF purpose and need, and for discussion on existing levee improvement programs and funding mechanisms, which would not be affected by the BDCP/CWF. Appendix 6A also discusses DWR levee maintenance responsibilities for levees modified by the proposed project. Also see response to comment 1601-254.</p>
1601	260	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>CVP/SWP export water quality currently relies on the integrity of the Delta levees.</p> <p>Comment:</p> <p>The BDCP Proposed Project identifies one benefit of the project is increased water supply reliability from reduced risks of levee failure. One consequence of the reduced vulnerability of the CVP/SWP water supply from levee failures that is not identified, characterized, quantified or disclosed is that with the BDCP conveyance reduced vulnerability to levee failure there will be a reduced public interest in funding levee protection and flood control in the Delta. This is a real and significant impact of the BDCP project which needs to have measures to avoid, minimize and mitigate. The current BDCP EIR/EIS document is incomplete and deficient for not addressing this issue. The BDCP could minimize this impact by including obligations of the projects to continue funding levee protection and flood control support at current or increased levels.</p>	<p>Please see Appendix 6A of the FEIR/EIS for discussion on existing levee improvement programs and funding mechanisms, which would not be affected by the proposed project, as well as information on the BDCP/CWF purpose and need. Also see response to comment 1601-254.</p> <p>Under the proposed project, SWP and CVP operations will still be vulnerable to levee failure events. As such, levee improvements and flood management opportunities will continue to be pursued, regardless of project implementation. In addition, it is recognized that levee maintenance and safety in the Delta is an important issue for the residents of the Delta and for statewide interests.</p>
1601	261	<p>Document Section: Chapter 6 - Surface Water</p>	<p>Please see response to comment 1601-254 and response to comment 1601-260.</p>

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		<p>Issue:</p> <p>The EIR/EIS identifies a need to increase the reliability of current CVP/SWP conveyance.</p> <p>Comment:</p> <p>The upstream tributary and Delta levees are an integral and essential component of the current CVP/SWP conveyance system, so with this BDCP stated project need, levee improvements by default must be within the scope of potential project actions. The BDCP failed to consider improvements to levee systems upstream of the Delta to improve CVP/SWP system reliability. The BDCP must address this critical aspect of system reliability that was not considered in the scoping and development of BDCP project alternatives. The critical component of the upstream tributary levee conveyance to CVP/SWP system reliability is a good demonstration as to why the artificially constrained geographic scope of potential actions in the BDCP are inappropriate and contrary to the achievement of the stated purpose and need for the BDCP project.</p>	
1601	262	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Covered activities do not include maintenance of all facilities that the BDCP will have to take responsibility for in perpetuity.</p> <p>Comment:</p> <p>The BDCP has proposed a number of actions that will require them taking over responsibility for facilities maintenance for the life of the project. In other cases, mitigations are responsibilities of the project in perpetuity. These obligations of the project to maintain facilities for the life of the project or in perpetuity include: relocated diversions of other affected surface water rights holders (e.g. Barker Slough and other Cache Slough intakes proposed to be relocated, surface water diversions on the Sacramento River that are moved or replaced due to the footprint of the intake facilities, maintenance of fish screens that are installed on surface water diversions (CM), and replumbed Delta Reclamation Districts that have their water supply and drainage ditches disrupted by BDCP conveyance, tunnel muck disposal and habitat restorations (e.g. Andrus Island). The BDCP has failed to identify, characterize, quantify or disclose these needed covered activities for maintenance of these mitigation facilities. Because of this omission and others, the BDCP EIR/EIS document is incomplete and deficient. Once these glaring omissions have been rectified, these will be material changes to the document that will warrant it being recirculated for public comment.</p>	<p>Under any alternative that includes an HCP, all habitat protection and restoration will be acquired and maintained in perpetuity. Land will not be abandoned at the end of the 50-year permit term. The 2013 public draft BDCP includes, in Chapter 8, Conservation Measure 11 provisions to fund management of the reserve system in perpetuity (see page 8-34). Management in perpetuity would be paid for by a non-wasting endowment that would be created during the 50-year permit term. When the permit expires, management would be funded by the interest from the endowment.</p> <p>Please also see Master Response 5 regarding the proposed project's funding strategy.</p>
1601	263	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Place within a 100-year flood hazard area structures that would impede or redirect flood flows. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The intake structures, tunnel headworks forebay and pumps and tunnel access portals will</p>	<p>Impact SW-9, in Chapter 6 of the Final EIR/EIS, Place within a 100-Year Flood Hazard Area Structures Which Would Impede or Redirect Flood Flows, or Be Subject to Inundation by Mudflow, indicates structures would not result in impeded or redirected flood flows or conditions that could lead to mudflows because the structures would be required to meet the criteria of USACE, CVFPB, and DWR.</p>

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		be built on landfills above the 100-year floodplain and will therefore redirect any flooding impacts that occur in these locations. The BDCP EIR/EIS did not identify, analyze, quantify, characterize or disclose these redirected flood impacts of these facilities.	
1601	264	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>There would be a significant impact if the alternatives would: Substantially alter an existing drainage pattern of the site or area, including alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on or off-site. Create or contribute to runoff water exceeding the capacity of existing or planned storm water drainage systems or provision of substantial additional sources. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>The upstream forebay, tunnel headworks platform, intake ring levees, new habitat restoration levees, tunnel muck disposal, construction and disposal over drainage and water supply ditches, increases in groundwater elevations from aquatic and floodplain habitat restorations, dewatering discharges and other BDCP proposed project constructed features all have significant impacts on drainage patterns and drainage capacities. The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>Please see Appendix 6A of the FEIR/EIS for information on potential impacts to existing drainage patterns. Implementation of the proposed project would not result in an impedence or redirection of flood flows. Also, note that the new proposed project, Alternative 4A, reduces the amount of planned habitat restoration, including the removal of and Conservation Measure 2 (Yolo Bypass Enhancements), compared to the previously preferred alternative, Alternative 4. Instead, the proposed project includes habitat restoration necessary to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). Yolo Bypass Enhancements would be assumed to occur as part of the No Action Alternative because they are required by the existing BiOps.</p>
1601	265	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Increased flooding potential is deemed significant if it increases the 100-year flood zone or if it could result in increased potential for injury, loss of life, or damage to existing structures or property. (Salton Sea sig Criteria)</p> <p>Comment:</p> <p>All of the BDCP's proposed facilities and habitat restorations are in the 100-year flood zone. Any levee breach or flooding that occurs as a result of the BDCP will inundate the entire land area to the extent of that impounded area. This puts all of the people and property on islands, tracts and districts in which the BDCP has proposed activities at significant increased risk of injury, loss of life and property damage. The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>Please see Appendix 6A of the FEIR/EIS, for a discussion on impacts of restoration-related environmental commitments and conservation measures, including a substantial reduction in the habitat restoration footprint and the removal of Conservation Measure 2 (Yolo Bypass Enhancements) under the new proposed project, Alternative 4A. Appendix 6A also discusses DWR consistency with the State Plan of Flood Control (SPFC), a project consistency with USACE, CVFPB, and DWR flood standards and regulations, and outlines DWR responsibilities for levee maintenance.</p> <p>For potential impacts to land use and agriculture from implementation of restoration-related environmental commitments and conservation measures, please see Chapters 13 (Agricultural Resources) and 14 (Land Use), respectively. For information on agricultural impact mitigation please also see Master Response 18. Also see Master Response 22, Mitigation.</p>
1601	266	Document Section: Chapter 6 - Surface Water	Regarding habitat restoration please see response to comment 1601-226 and response to comment

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		<p>Issue:</p> <p>Expose people or structures to a significant risk or loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>BDCP new forebays and aquatic and riparian habitat restorations all expose the public to increased risk of levee failure from additional miles of levees and new impoundments. Additionally, emergency operations in the event of a tunnel failure could result in the discharge of as much as 10,000 acre feet of water from one of the tunnel access ports which could cause localized flooding that would not occur under the No Action condition. See the related comments for descriptions of these impacts. The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>1601-264.</p> <p>Regarding levees, please see response to comment 1601-254 and response to comment 1601-259.</p>
1601	267	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Seepage, levee settlement, wind erosion. Flood stage hazards - (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>BDCP proposed new water impoundments from project forebays and aquatic and riparian habitat restorations increase the opportunity for seeps. Large open water areas from BDCP aquatic habitat restorations increase wind and wave erosion on adjacent levees. There are a number of BDCP actions and operations that impact levee settlement. The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>Please see Appendix 6A of the FEIR/EIS for a discussion on impacts from restoration-related environmental commitments and conservation measures, including the significant reduction in the amount of planned habitat restoration under the new proposed project, Alternative 4A. Also see Appendix 6A for a discussion on potential impacts to flood protection and levees, including settlement and wind fetch issues.</p> <p>For more information on levees, please see response to comment 1601-254 and response to comment 1601-259. Regarding habitat restoration, please see response to comment 1601-226.</p>
1601	268	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Scour, sedimentation, subsidence adjacent to levees (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Reduced channel cross sections from the project intakes increases water velocities and localized scour. The discharge of BDCP aquatic habitat restorations on outgoing tides can</p>	<p>Please see response to comment 1601-267.</p>

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		<p>create scour. BDCP aquatic habitat restorations can be sediment contributors or sinks, but the description of these proposed activities is inadequate to evaluate the impact of these actions even though they are interactive with water quality which affects BDCP proposed project operations which this EIR/EIS document is seeking to provide coverage to construct. BDCP proposes construction on subsidence prone soils and dewatering operations which can cause collapse of water bearing soil structures which cause subsidence. The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	
1601	269	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Decrease Channel capacity (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Backwater effect from BDCP Proposed Project on bank intakes increases the stage elevation of flood flows from the reduced channel cross section of the project intakes which reduce channel capacity. The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>As discussed in the FEIR/EIS, Appendix 3F DWR performed preliminary hydraulic modeling to evaluate potential impacts of proposed intake structures for CM1 along the Sacramento River on river hydraulics. The modeling results indicated on-bank intakes, as proposed, would have minimal impacts on river hydraulics. As part of future engineering, additional hydraulic modeling will be performed to accommodate design refinements and to comply with U.S.C. Title 33 – Navigation and Navigable Waters Section 408 and other permitting requirements. See Appendix 6A regarding potential impacts to flood water conveyance.</p>
1601	270	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Actions are significant impacts if they substantially raise flood stage elevations (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>Please see Appendix 6A of the FEIR/EIS, for information on potential changes to flood flow conveyance and capacity under the proposed project. This appendix discusses DWR consistency with the State Plan of Flood Control (SPFC) and project consistency with USACE, CVFPB, and DWR flood standards and regulations.</p> <p>Appendix 6A also contains a discussion of potential changes in water surface elevation. a</p>
1601	271	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Actions are significant impacts if they increase the frequency of flooding (California</p>	<p>The proposed project would not increase the frequency of flooding due to construction and operations. Please see response to comments 1601-254, 1601-259, and 1601-270.</p>

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		<p>Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	
1601	272	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Actions are significant impacts if they have the potential to cause seepage, levee settlement, wind erosion. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.
1601	273	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Actions are significant impacts if they have the potential to cause scour, sedimentation, subsidence adjacent to levees (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.
1601	274	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Impact on the levee system is considered potentially significant if a Program action would substantially decrease any of the following: levee stability, inspection, maintenance, or repair capabilities, levee slope protection, emergency response capabilities, channel capacity or the ability of levees to withstand seismic loading. (California Bay-Delta Authority</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.</p> <p>Before and/or during construction of the CWF water conveyance facilities, project proponents will explore opportunities with local reclamation districts and the Central Valley Flood Protection Board (CVFPB) to address potential conflicts regarding levee maintenance, inspection, and flood fighting activities on project and non-project levees. DWR will look to enter into agreements with local reclamation districts with jurisdiction in the Delta to ensure levee management activities by both government and local agencies are not interrupted during construction of the water conveyance facilities. In addition, DWR will comply with all applicable flood protection requirements and regulations to ensure flood neutrality during construction and</p>

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		<p>(CALFED) Sig Criteria</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>operations of the CWF.</p>
1601	275	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Economic criteria can be used to judge the significance of physical changes to the environment. Costs and expected benefits are described for each alternative and quantified where possible.</p> <p>Changes that exceed 10% in either costs of flood control or expected benefits are considered potentially significant (adverse and beneficial, respectively) for this analysis. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.</p>
1601	276	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Actions are significant impacts if they place within a 100-year flood hazard area structures that would impede or redirect flood flows. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>The analysis directly below this impact indicates the proposed project would not increase flood potential and would not result in an impedance or redirection of flood flows or conditions. Please see Appendix 6A of the FEIR/EIS for more information on potential effects to flood protection under the new proposed project, Alternative 4A. For more information also see response to comments 1601-254, 1601-259, and 1601-270.</p>
1601	277	<p>Document Section: Chapter 6 - Surface Water</p>	<p>Please see Appendix 6A of the FEIR/EIS for information on potential impacts to flood protection and levees. Actions under the proposed project would not increase the risk of loss, injury, or death involving flooding because project proponents would be required to comply with applicable flood standards and regulations to</p>

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		<p>Issue:</p> <p>Actions are significant impacts if they expose people or structures to a significant risk or loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP has failed to evaluate this impact criteria consistent with previous and related scope environmental documents. The EIR/EIS has failed to identify, evaluate, quantify and disclose some of these significant impacts and to include measures to avoid, minimize and mitigate these significant impacts. The BDCP EIR/EIS should be revised to include these omitted and deficiently addressed impact analyses and recirculate the document after these material changes have been made.</p>	<p>ensure flood neutrality during construction and operations of the proposed project, including the incorporation of specific features into the final project design to avoid increases in flood risk.</p>
1601	278	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP results in increased flood risks in the Delta.</p> <p>Comment:</p> <p>The BDCP Proposed Project includes many components that increase the opportunity for and risks of flooding. These BDCP project components which increase Delta flood risks include: new levees (aquatic habitat restoration levees, new riparian habitat setback levees, new forebay levees); changes in tributary channel and floodway flow capacities (Yolo Bypass change in flow capacity from restoration structures and vegetation, intake encroachment on a channel, dewatering impoundments during construction of intakes, intake levee setbacks, riparian habitat restoration levee setbacks); altered flow velocities and flow vectors (BDCP aquatic habitat restorations will discharge water from inundated areas during tidal ebbs causing flows from those inundated lands to be discharge directly at the adjacent levee); structural alteration and disruption of structural integrity of levees (intake construction, dewatering impoundments during construction of intakes, tunnel and pipeline boring under levees, construction of facilities within 200 feet (both horizontal and vertical distance) of a levee (this is a U.S. Army Corps of Engineers (USACE) 4040 permit criteria)); encroachment on and construction in a Federal Emergency Management Agency (FEMA) floodplain (all of the BDCP proposed facilities are in FEMA floodplain, habitat restoration structural features and vegetation alter flood flows in a floodplain); redirected flood risks and flood flows (the BDCP alters channel capacities, the North Delta Forebay blocks flood flows in the event of a levee breach and redirects those flood flows to different islands, tracts and districts); increases in population levels and geographic distribution of burrowing animals from the BDCP habitat restoration (burrowing animal holes and burrows in levees are attributed to most if not all blue sky levee failures); reduction in depth of localized water tables from BDCP aquatic habitat restorations (saturated soils increase the risk of levee failure from liquefaction in an earthquake event). The BDCP EIR/EIS has failed to identify, characterize, quantify and disclose some of these BDCP caused significant risks and potential impacts to flood risks in the Delta. The BDCP EIR/EIS failed to identify feasible measures to avoid, minimize and mitigate these significant impacts. For these omissions, the BDCP EIR/EIS is incomplete and deficient and should be revised and recirculated.</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.</p>

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1601	279	<p>Document Section: Chapter 6 - Surface Water, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>From the table we can calculate the Plastic Limit is 21%. (Liquid Limit - Plasticity Index)</p> <p>Comment:</p> <p>The Liquidity Limit is 44%, the moisture content is 33% and the Plastic Limit is 21%. These numbers are averages of all the cores and there is no standard deviation analysis done from the individual cores. The average moisture content is closer to the Liquidity Limit (11%) than the Plastic Limit (12%). This means the average soil is closer to liquefaction than it is a solid soil. It is likely, given variation in conditions and from sample to sample, that some of the tunnel alignment soil conditions are already in or very near a liquefaction condition. If the tunnel boring machine (TBM) construction disturbs the current subsurface conditions and equilibrium this data shows that their could be a soil liquefaction event. The TBMs are not set up to function in liquefied soils and a liquefaction of subsurface conditions could easily result in a TBM failure and surface subsidence and loss of levee integrity. The BDCP EIR/EIS has not done any of the appropriate level of analysis of this risk even though it has some of the data available to conduct these important and prudent analyses. These analyses must be completed, with a much larger and more representative sample size, in order for the BDCP EIR/EIS to meet the test of best available science or conducting a project-level analysis that would warrant issuance of any construction-related permits. The EIR/EIS should be revised to include this information and analyses and should be recirculated for public comment once this material new information is included.</p>	<p>Geotechnical studies will include a subsurface investigation program to identify the types of soil avoidance or soil stabilization measures that should be implemented to ensure that the water conveyance facilities are designed and constructed in accordance with applicable state and federal standards. The nature of the geotechnical studies is described in Appendix 3B, Environmental Commitments (Section 3B.2.1) of the RDEIR/SDEIS.</p> <p>For more information on reusable tunnel material, please see Master Response 12.</p>
1601	280	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Intake designs proposed by the BDCP pierce U.S. Army Corps of Engineers (USACE) project levees and did not provide adequate consideration to other designs with lower risk of levee failure.</p> <p>Comment:</p> <p>The BDCP did not consider "up and over" intake designs that do not directly disrupt levee integrity and structure as the current BDCP proposed designs do. A good recent precedent for the up and over intake design can be found at the Anderson Cottonwood diversion project. The BDCP should provide supporting rationale as to why this alternative lower risk intake design was not considered and should include this alternative intake design in their alternatives analyses.</p>	<p>The proposed intake design for the BDCP and Alternative 4A, is fully described the Modified Pipeline/Tunnel Conceptual Engineering Report (CER) prepared for the California WaterFix. Earlier versions of the CER did look at other possible designs for intake facilities, but the current design located on the east bank of the Sacramento River would largely avoid encroachment into the river and would provide the levee stability required to meet Corps of Engineers levee requirements. The potential risks of the intake design will be addressed as part of the Corps Section 408 permitting process. The EIR/EIS indicates in Chapter 7, Surface Water that no major impairment of flow is expected at intake facilities and this conclusion will be confirmed with additional hydraulic analysis conducted during the Corps permitting process. For information on intake location analysis, please see Appendix3F.</p>
1601	281	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP levee and floodway modifications redirect flood risks.</p> <p>Comment:</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.</p>

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		<p>The BDCP Proposed Project components both increase and decrease flow capacities and alter the location, nature and degree of flood risks. In locations that the BDCP project has reduced flow capacities, it has increased the risk of flooding at that location. In this case, the BDCP has redirected a flood risk to this location that would have under existing and No Action conditions occurred farther downstream. In locations where the BDCP project has increased flow capacities, it has redirected the flood risk that would have occurred at that location and shifted that risk to locations further downstream as compared to the existing and No Action conditions. The BDCP has large structures (e.g. North Delta Forebay, South Delta Forebay, intake protective ring levees (both temporary during construction and permanent), and habitat restoration levees) built in the floodplain that in the event of a flood would redirect those flood flows to locations that would not have had the same level of flood risk under the existing and No Action conditions. These redirected flood risks are an unacceptable significant impact of the BDCP project. The BDCP has failed to fully identify, characterize, quantify and disclose the sources and degrees of redirected flood impacts from the BDCP project. The BDCP has also failed to incorporate designs and provisions to avoid, minimize and mitigate these significant redirected flood impacts. As an example, a simple relocation and redesign of the North Delta Forebay would avoid and minimize the redirected flood risks from the redirecting of flood flows to other tracts, islands and districts. The U.S. Army Corps of Engineers (USACE) should not issue permits for a project with redirected flood impacts.</p>	
1601	282	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Inundation flows of the Yolo Bypass proposed by the BDCP will reduce flow capacity of the floodway and result in redirect flood impacts.</p> <p>Comment:</p> <p>The increased frequency and duration of inundation of the bypass from the BDCP project will contribute to the sediment deposition that occurs as suspended sediment falls out of suspension as water velocities slow in the bypass. Sedimentation of the bypass that is reducing flow capacity is already occurring. "Deposits forming at the entrance to Colusa and Yolo Bypasses increase stage thresholds for flows entering the floodway, exacerbating flood risk in the main channel downstream of the entrance." "In addition to decreasing flow capacity, these deposits promote colonization of vegetation, which, in turn, increases roughness and decreases flood conveyance." (Status of the Lower Sacramento Valley Flood-Control System within the Context of Its Natural Geomorphic Setting." Nat. Hazards Rev. 9, SPECIAL ISSUE: Flooding in the Central Valley, 104-115.) Through these two factors (plus others) the inundation flows proposed by the BDCP will reduce flow capacity of the bypass and therefore redirect flood impacts downstream of the bypass on the Sacramento River and its distributaries.</p>	Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.
1601	283	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Inundation flows of the Yolo Bypass proposed by the BDCP will reduce flow capacity of the floodway and result in redirect flood impacts.</p>	It should be noted that habitat restoration to be completed under the 2008 USFWS and 2009 NMFS biological opinions in Suisun Marsh and Yolo Bypass, respectively, are included in the No Action Alternative analyzed in the Final EIR/EIS as well as Alternatives 4A, 2D, and 5A. Therefore, there would be no changes related to conditions in Yolo Bypass under the new Proposed Project (Alternative 4A) and Alternatives 2D and 5A as compared to the No Action Alternative. Separate engineering and environmental documentation is being completed by DWR and Reclamation to develop habitat restoration program in Yolo Bypass and evaluate potential changed conditions, including effects on agriculture from changes in the extent and

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		<p>Comment:</p> <p>Inundation flows will carry weed seeds with it and increase weed pressure and maintenance requirements in areas that are inundated by BDCP flows. If BDCP inundation of farmland is frequent enough, the land will be abandoned (not cultivated) so weeds, shrubs and trees will colonize these areas and reduce flood flow capacities. The BDCP EIR/EIS did not propose a vegetation management plan to address these issues. The BDCP EIR/EIS did not identify, evaluate, characterize, quantify or disclose this impact of the BDCP proposal. The BDCP EIR/EIS did not describe the maintenance activities and their impacts associated with the increased frequency, magnitude and duration of the BDCP proposed Yolo Bypass inundation.</p>	<p>duration of inundation in the Yolo Bypass.</p> <p>In the EIR/EIS, it is assumed under all action alternatives and the new No Action Alternative that agricultural practices would be continued throughout the Yolo Bypass as under Existing Conditions. As shown in Appendix 5A, Section C, of the EIR/EIS, the increased inundation of the Yolo Bypass would continue to occur primarily in December through April, as under Existing Conditions.</p>
1601	284	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP Proposed Project includes new levees for the north and south Forebays, levee setbacks for habitat restoration, north Delta intakes and for the aquatic habitat restorations.</p> <p>Comment:</p> <p>According to the U.S. Army Corps of Engineers (USACE), a Levee is a structure that only infrequently holds back water and a Dam is a structure that holds back water most of the time. Technically, almost all of the levees proposed by the BDCP are actually dams as they would function to hold back water all of the time. These new BDCP structures should be constructed to USACE dam structural specifications. The BDCP EIR/EIS did not address the USACE impoundment types (levee vs. dam) or the structural and construction requirements for them respectively. The BDCP cost calculations did not address the costs of building levees to USACE dam structural criteria.</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270.</p>
1601	285	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP did not define who would be responsible for decision making for operations of the Fremont Weir flow bypass operations.</p> <p>Comment:</p> <p>If the facility is operable, who will operate it? Who will make decisions about maintenance of the facilities and carry out the maintenance activities? Until these responsibilities are made clear, the document is incomplete. Without knowing who is responsible, the agencies cannot hold anyone or any agency accountable. Without the ability for the agencies to determine accountability, they cannot have reasonable assurance of the implementation and success of the project achieving the species protections and contributions to conservation. Without these assurances, the agencies cannot approve this document, use as it for decision support or issue permits based upon it.</p>	<p>Alternatives 1A-8 presented in this Final EIR/EIS include Yolo Bypass improvements as CM2 of the BDCP conservation strategy. When CM2 is incorporated, it is incorporated at a programmatic level, and therefore lacks project-level details. The analysis for CMs 2-22 was completed at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis.</p> <p>Alternative 4A does not include an HCP or Conservation Measures, and does not propose any actions affecting the Yolo Bypass, such as CM2. However, Yolo Bypass improvements and habitat enhancements will still be implemented under the No Action Alternative as separate activities pursuant to the Reasonable and Prudent Alternative Actions in the 2009 NMFS BiOp. Those activities will be the subject of separate environmental review.</p> <p>For information regarding operational components please see Chapter 3 of the FEIR/EIS.</p>
1601	286	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p>	<p>Please see Appendix 6A of the FEIR/EIS for a discussion on impacts of restoration-related environmental commitments and conservation measures, including the removal of Conservation Measure 2 under the new proposed project, Alternative 4A. Instead, Yolo Bypass Enhancements would be assumed to occur as part of the No Action Alternative because it is required by the existing BiOps. Also, see Master Response 2 regarding</p>

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		<p>The BDCP-proposed modifications to Lisbon Weir are unclear.</p> <p>Comment:</p> <p>The BDCP EIR/EIS does not identify the owner of the weir, describe the nature of the proposed modifications or disclose how those modifications would affect the function, access or maintenance requirements of the facility. These deficiencies in the project description and impacts must be rectified and the EIR/EIS revised to address these issues.</p>	<p>program vs project level detail in the EIR/EIS documents.</p> <p>For information regarding the progress of Yolo Bypass projects please refer the DWR's program website. This will include the development of the Lisbon Weir component.</p>
1601	287	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>BDCP project aquatic habitat restorations increase the risk of levee failure and maintenance requirements of levees on lands adjacent to them.</p> <p>Comment:</p> <p>BDCP aquatic habitat restorations will discharge water from inundated areas during tidal ebbs causing flows from those inundated lands to be discharged directly at the adjacent levee. This flow directed at the adjacent levee will increase the risk of levee failure and increase the levee maintenance and monitoring required at these locations. The BDCP has not identified, characterized, quantified or disclosed this significant impact nor has it proposed any measures to avoid, minimize or mitigate these significant impacts. Any assurances from the BDCP that the subsequent environmental documents it proposes to complete prior to implementing these actions will address these significant impacts are inadequate given that the approval of the conveyance project is contingent upon the habitat function and contributions to recovery from these restorations and the operations of the facilities are profoundly affected by the water quality impacts that would occur with these undefined habitat restorations. The project-level design of these aquatic habitat restorations provides an opportunity for the BDCP to minimize these significant impacts to adjacent levees, but the BDCP has deferred addressing these significant impacts to a subsequent later date as yet undetermined and disclosed. "In order to avoid negative impacts to neighboring islands and Delta water quality, the project must be designed to largely maintain the current configuration of levees around the Dutch Slough parcels. To allow for tidal restoration, the levees must necessarily be breached, but these breaches should be relatively small and engineered so that they do not expand over time. Partial or complete removal of the levees would increase wave fetch and potentially increase wave erosion on neighboring Delta islands. Increased erosion of levees on neighboring islands would increase levee maintenance costs for neighboring landowners and could result in levee failure on neighboring islands. Partial or complete removal of the levees could alter Delta hydrodynamics and potentially increase salinity levels in drinking water exported from the Delta." (Dutch Slough Tidal Marsh Restoration Project Preliminary Opportunities and Constraints Report, Natural Heritage Institute February 20, 2004 - <a href="http://www.n-h-i.org/dutchslough/Documents/AMWG%20Docs/Opportunities_and_Constraints_Final_Report.pdf">http://www.n-h-i.org/dutchslough/Documents/AMWG%20Docs/Opportunities_and_Constraints_Final_Report.pdf</a>) The BDCP could have anticipated these impacts and proposed at this time in this document measures to avoid, minimize and mitigate this significant impact. As an example of a feasible mitigation measure, the BDCP could have proposed to pay for upgrading, increased maintenance and increased monitoring of those adjacent levees. The BDCP did not propose these common sense feasible mitigations and also failed to include those costs in their cost estimates for the project. The BDCP EIR/EIS also did not identify,</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270 for information on flood management. Regarding habitat restoration, please see response to comment 1601-226.</p>

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		characterize, quantify or disclose the impacts that would occur with the implementation of this common sense and feasible mitigation. The BDCP EIR/EIS document is incomplete and deficient on this entire impact topic.	
1601	288	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Clifton Court Forebay does not meet DSOD safety standards.</p> <p>Comment:</p> <p>Clifton Court Forebay does not meet Division of Safety of Dams (DSOD) structural requirements. Since Clifton Court is part of the BDCP Proposed Project and will be modified by the project, Clifton Court should be brought up to all appropriate and applicable safety standards. The BDCP EIR/EIS failed to disclose in the Environmental Settings the current safety deficiencies of the current Clifton Court Forebay facility. The BDCP EIR/EIS impact analysis failed to evaluate the risks of the Clifton Court safety deficiencies. The BDCP Proposed Project modifications to Clifton Court failed to identify how the forebay would be modified to meet DSOD safety standards. The BDCP did not identify the costs or funding sources for bringing the Clifton Court Forebay up to safety standards. Each of these omissions by the EIR/EIS document is serious and material deficiencies. Once these material deficiencies are corrected, the document should be recirculated for another round of public comment.</p>	<p>All of the improvements to Clifton Court Forebay associated with the California WaterFix and other Alternatives are disclosed in the EIR/EIS and in the Modified Pipeline Tunnel CER posted on the BDCP website. All of the proposed improvements will be subject to DSOD requirements, which would not create any new footprint or other environmental effects not already disclosed in the EIR/EIS. Please refer to environmental commitments included in Appendix 3B and the CER for a description of slurry wall structures that would be incorporated into the Clifton Court Forebay improvement designs.</p>
1601	289	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Yolo Bypass conservation measure diversion operations and inundation were not defined sufficiently such that they could be incorporated in modeling for the surface water and water quality impact analyses.</p> <p>Comment:</p> <p>The BDCP lack of definition of Yolo Bypass conservation flow rules for how much, when and under what conditions supplemental inundating flows would be released by the BDCP into the bypass to not provide detail to include in modeling (water supply, surface water and water quality impacts) or in land use impact analysis (agriculture and recreation). Yolo Bypass operations were not defined sufficient to include in CALSIM modeling assumptions and CALSIM II has an inadequate analytical output temporal resolution to be of sufficient detail to evaluate the impacts of Yolo Bypass diversion flows. Timing, duration and magnitude of BDCP Yolo Bypass inundation flows are required in order for impacts on agriculture need to be defined enough to evaluate the magnitude, frequency, duration and geographic extent of impacts. Until the BDCP provides the detailed operating rules for the Yolo Bypass conservation measure inundation operations, the BDCP EIR/EIS impact analysis will remain incomplete and deficient with undisclosed impacts.</p>	<p>The CALSIM II models for Alternatives 1 through 9 include diversions into the Yolo Bypass assuming an operable gate near or on Fremont Weir. The assumptions for diversion of water into the Yolo Bypass are presented in Appendix 5A, Section B (CALSIM II and DSM2 Modeling Simulations and Assumptions) and in Tables 5A-B10 through 5A-B18. Additional details, including the use recent bathymetric data and HEC-RAS models to develop these criteria are presented in Appendix 5D, Yolo Bypass Floodplain Hydraulics.</p> <p>As described in Section 3.6.2 of Chapter 3, Description of Alternatives, descriptions of the restoration actions in CM2 (Yolo Bypass floodplain restoration) in the Draft EIR/EIS include general locations; and potential physical modifications and construction efforts necessary to implement habitat conservation–related activities. These descriptions include enough detail to support program-level impact analyses related to habitat and land use conversions. While general locations are provided, specific locations for these conservation actions have not been identified at this time. Therefore, the analyses consider typical construction, operation, and maintenance activities that would be undertaken for implementation of the habitat restoration and enhancement efforts. As appropriate, project-level implementation of the conservation actions would be subject to additional environmental review. The Draft EIR/EIS does include mitigation measures where appropriate that would be considered in the additional environmental reviews (see Master Response 2, Project Level versus Program Level). For more information on habitat restoration, please see response to comment 1601-226.</p>
1601	290	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p>	<p>The analysis for CMs 2-21 was completed at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis. Also, the RDEIR/SDEIS, released in 2015, introduced a new preferred alternative, 4A, which does not include a HCP or conservation measures. The alternative</p>

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		<p>Large expanses of open water from subtidal and intertidal habitat restorations create new opportunities for wave erosion and wind fetch.</p> <p>Comment:</p> <p>The BDCP is proposing 65,000 acres of aquatic habitat restoration. This represents over 100 square miles of open water that can generate large waves that create erosion of levees, mobilize sediments (with methylated mercury, DDT and other contaminants), and create boating and fishing recreation hazards. As a current example, Liberty Island flooding and resulting wave action has nearly destroyed large sections of the western levee of the Sacramento Deep Water Ship Channel. Once the western levee is completely destroyed, the waves will begin to erode the eastern levee which will put additional areas at risk of flooding, e.g. Prospect Island and Egbert Tract in this example. As another example, Franks Tract is a small, flooded island just south of the San Joaquin River. Franks Tract is a notorious boating hazard in the Delta for large waves during high wind events (common in the Central Delta) and has been responsible for swamping and damaging many recreational boats. Waves from Franks Tract can impede and even prohibit navigation in the area (including the San Joaquin Deep Water Ship Channel) for any vessel smaller than an ocean going boat. The BDCP proposes aquatic habitat restoration areas of open water that are many times the size of Liberty Island and Franks Tract. BDCP must avoid and minimize this problem created by their proposed aquatic habitat restorations by providing specific aquatic habitat restoration designs to avoid, minimize and mitigate these significant impacts. These avoidance and minimization measures could include barrier islands to break up open areas and absorb wind and waves and armoring levee in and adjacent to the restorations. In high water conditions, wind can stack water and overtop levees where the normal high water elevations would not have overtopped the levees. There are several locations in the Delta that already have this well-documented phenomenon occur, e.g. Twitchell Island and Sherman Island. The BDCP aquatic restorations would increase the magnitude, duration and frequency of this wind fetch levee overtopping affect. BDCP should have analyzed this impact and proposed measures to avoid and minimize this affect. Some of those should have included the previously mentioned mitigations as well as to raise levees and provide back side of levee erosion protection in areas that are vulnerable to levee overtopping from wind fetch.</p>	<p>implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Alternative 4A, therefore, would not create as many opportunities for expansive open water restoration. Please refer to Impact GEO-16 in Chapter 9, Geology and Seismicity, regarding impacts from seismic water events, and Chapter 16, Surface Water, regarding flooding and erosion impacts. For more information on habitat restoration, please see response to comment 1601-226. Also see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270 for information on levees and flood management.</p>
1601	291	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>BDCP proposes to utilize a "gassy tunnel protocol" for the boring machines. This is because of methane and natural gas that is naturally occurring in the areas where the tunnel boring is proposed. The protocols are to reduce the risks of explosions from these gasses.</p> <p>Comment:</p> <p>The BDCP acknowledges that there is a risk of explosion during the tunnel boring process by adopting the gassy tunnel drilling protocol. The BDCP EIR/EIS document fails to disclose what impacts would occur in the event of a tunnel boring machine (TBM) or tunnel explosion. The BDCP EIR/EIS document fails to provide a description of the emergency operations that it would implement in the event of a TBM or tunnel explosion. The BDCP EIR/EIS document fails to identify the types and potential magnitude of impacts that would occur with a TBM or tunnel explosion and from the resulting emergency response action</p>	<p>The proposed project does not propose to utilize gassy tunnel protocol, rather, the water conveyance tunnels may receive a Cal-OSHA classification of "gassy or extrahazardous", and if this were the case, specialized tunneling equipment would be required in accordance with the tunnel safety orders (Title 8, Division 1, Chapter 4, Subchapter 20, Article 8, "Tunnel Classifications"). Whether there is or isn't a real risk of explosion in the construction footprint of the water conveyance facility is not yet known. Geotechnical studies will be done prior to construction to assess the potential for encountering natural gas. Studies will be done prior to construction to identify the minimum allowable distance between existing gas wells and tunnel excavation. Abandoned wells would be tested to confirm that they have been abandoned according to DOGGR well abandonment requirements. Those wells not abandoned according to these requirements will be improved. In addition, to avoid the potential conflicts with shaft construction and disposal areas, the utility and infrastructure relocation will be coordinated with local agencies and owners.</p> <p>The construction contractor would be required to prepare an emergency plan prior to construction of the tunnels (Title 8, Division 1, Chapter 4, Subchapter 20, Article 9, "Emergency Plan and Precautions"). This plan would outline the duties and responsibilities of all employees in the event of a fire, explosion or other emergency. The plan would include maps, evacuation plans, rescue procedures, communication protocol,</p>

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		<p>plan. The BDCP fails to disclose the level of risk of explosion that remains after the protocols have theoretically reduced the risk of explosion during construction. The EIR/EIS also fails to disclose what level of risk there is from explosion from gas accumulation during operation and non-operation periods of the tunnels. There is a human health risk to the workers and residents from a potential explosion and an explosion could cause levees to fail either from direct impact or indirectly through vibration and liquefaction. These risks were not identified, characterized or disclosed in the EIR/EIS. This risk can be avoided by utilizing surface canals or by alternatives that modify south Delta facilities or utilize upstream and/or downstream storage as an alternative to north Delta diversions and tunnels.</p>	<p>and check-in/check-out procedures. Copies of the plan would be given to the local fire or designated off-site rescue teams and Cal/OSHA.</p>
1601	292	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Tunnel boring machines may encounter gas and water well casings that were not documented and the BDCP EIR/EIS has not disclosed the risks of tunnel boring machine (TBM) operations problems or impacts from rescue operations.</p> <p>Comment:</p> <p>Many gas wells have been drilled and abandoned in the Delta over the last 100 years or so. Some gas well records have been lost or are incomplete (omissions) and some records include incorrect identification, status and/or location (errors). There are no comprehensive databases of all the wells that have been drilled. The databases that do exist are a collection and compilation of data that was available. Well drilling companies are competitive with each other so they are typically not willing to share their company databases. No one in the natural gas industry will purport to have a database that does encompass all of the wells that have been drilled in the Delta. Given the preceding, it is a virtual certainty that the information that the BDCP is using on well locations it is in error and is incomplete. When the BDCP tunnel boring machines hit these active or inactive gas wells, there are hazards for rapid gas accumulation in the tunnel, explosions, disruption to gas production and transmission lines, and damage to the tunnel boring machine that can require rescue operations and delays to construction schedules as disclosed in the BDCP EIR/EIS. Recently, a tunnel boring machine in Seattle was stopped and had to be rescued after hitting an undocumented pipe. <a href="http://en.wikipedia.org/wiki/Bertha_(tunnel_boring_machine)">http://en.wikipedia.org/wiki/Bertha_(tunnel_boring_machine)</a> - "On December 6, 2013, the machine's progress was halted by an unexpected impediment.[4] After a month's investigation, WSDOT announced the machine's cutting blades encountered a 8 in (200 mm) diameter, 119 ft (36 m) long steel pipe, one of several well casings left over from previous drilling"... This experience would indicate that the TBM would also be vulnerable to running into operating and abandoned water wells. There are many of those in the Delta and there is little to no documentation available on them. The risk of the BDCP tunneling machine encountering a gas or water well is not slight and the impacts of it not inconsequential. The BDCP EIR/EIS document fails to identify, characterize, and disclose these hazards. In the event of an gas explosion or a boring machine rescue operation from running into a well, there are additional risks to construction personnel, adjacent residents and workers, and to levee integrities. The BDCP has not proposed any measures to avoid, minimize or mitigate these risks. The BDCP has failed to even describe the methods that would be used in a TBM rescue that could occur and the risks that process engages and impacts that process precipitates. Modern natural gas exploration utilizes strings of acoustic transponders to map vibration and seismic charge waves reflectance's off of subsurface structures. The BDCP could feasibly reduce and minimize the risk of running into gas and</p>	<p>As discussed in Chapter 24, "Hazards and Hazardous Materials", of the EIR/EIS, the average depth of natural gas developmental wells in the United State is approximately 6,500 feet, and the average depth of natural gas exploratory wells is approximately 6,800 feet (U.S. Energy Information Administration 2014). The proposed water conveyance tunnel(s) under the action alternatives would be constructed at depths of approximately 100 to 160 feet below mean sea level. Therefore, it is unlikely that gas wells would be encountered by tunnel boring machines. In addition, pre-construction subsurface geotechnical investigations will be done at selected locations along the water conveyance alignment and the associated appurtenant facilities (e.g., river intakes, pumping plants, and construction and vent shafts). The proposed subsurface exploration will primarily consist of both field tests and laboratory soil sample testing. The field tests will consist of soil borings, cone penetration testing, seismic profiling, pressure meter testing, excavation of test pits, installation of piezometers and groundwater extraction wells, dissolved gas sampling, and conducting bore-hole permeability tests.</p> <p>Please also see response to comment 1601-292.</p>

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		<p>water wells by using this same existing and generally accepted subsurface mapping tool to map shallow depths (0-200' working depths of the TBM and related facilities, e.g. dewatering rings around TBM access shafts) to detect these unmapped, unaccounted for and incorrect locations of existing and abandoned gas and water wells. The BDCP has not included the costs of the mapping to detect water and gas wells along the conveyance corridor to minimize these significant impacts and has not included any contingency costs for potential TBM rescues nor avoidance, minimization or mitigation measures for the impacts of those TBM rescue operations.</p>	
1601	293	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Tunnel boring machine (TBM) destabilization of levees from vibration and liquefaction.</p> <p>Comment:</p> <p>San Francisco Public Utilities Commission (SFPUC) TBM caused failure in the San Francisco Bay Cargill Salt Pond levee. The risk of levee failure during tunnel boring is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 1]. The risks of levee failure (a water conveyance) from BDCP Proposed Project is significant. The BDCP did not propose any measures to avoid, minimize or mitigate these impacts.</p>	Please see Appendix 6A of the Final EIR/EIS for potential impacts from tunnel boring operations.
1601	294	[ATT 1: Photo of partial levee failure as tunnel boring machine passed underneath.]	Please see Appendix 6A of the FEIR/EIS for potential impacts from tunnel boring operations.
1601	295	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>BDCP will dewater groundwater around intake, tunnel headworks and tunnel access construction sites which will collapse water bearing strata in the soil which will result in subsidence.</p> <p>Comment:</p> <p>Once clay soil water bearing strata are collapsed, they do not recover their structure, water holding capacity or their previous soil volume. This collapse results in a permanent subsidence of the ground surface, which can damage structures and levees, alter drainage patterns and groundwater depth. Inadequate drainage from subsidence and elevated water tables alter the suitability of soil for agriculture and its productivity. This alteration of drainage and productivity will cause a reclassification of a prime productivity soil to a lower rating which is a significant impact of the project. Changes of soil ratings at the construction dewatering sites was not identified, evaluated or disclosed in the BDCP EIR/EIS document. The BDCP also failed to propose mitigation measures to address this significant impact. Mitigations could include, but are not limited to: fill dirt for subsided areas, coffer dams to limit the amount of groundwater dewatering that has to be done, groundwater injection to restore affected groundwater depression cones, etc.</p>	<p>Figure 7-27 in Chapter 7 Groundwater shows the primary locations where groundwater levels could decline as a result of dewatering operations. Such areas are the vicinity of the intakes and intake pumping plants, the intermediate forebay, and the expanded Byron Tract Forebay and Clifton Court Forebay. As described in Section 7.3.3.2 of Chapter 7, the "radius of influence" of the dewatering, which is the horizontal distance from the boundary of an excavation to the point where groundwater levels would be 5 feet or more below the static groundwater level as a result of dewatering, would be approximately 2,600 feet in the vicinity of the intakes, the intermediate forebay, and the expanded Byron Tract Forebay. (The forecasted 2,600-foot radius is viewed as a worst-case scenario, in that it assumes that no measures are implemented to control the extent or degree of groundwater decline.) The predicted groundwater decline areas, therefore, are also where soil subsidence could occur, both if measures are not implemented to control the extent of the radius of influence or degree of decline and soil characteristics are conducive to significant subsidence. As shown on Figure 7-7, the maximum decline in groundwater level from dewatering in these areas would be approximately 30 feet. The amount of soil subsidence would be much less than the amount of groundwater decline. As described in Section 10.1.2.3 Rates of Subsidence and Current Conditions in Chapter 10, soils with very high organic matter content (i.e., peats and mucks) would be comparatively more prone to subsidence than mineral soils. As shown in Figure 10-2 in Chapter 10, the soils in the vicinity of the intake pumping plants, the intermediate forebay, and the expanded Byron Tract Forebay (where groundwater decline could be the greatest) do not have a high organic matter content beyond near surface materials. Consequently, significant subsidence is not expected to occur at these locations.</p> <p>As described in Impact GEO-2, a California-certified engineering geologist would recommend measures in a geotechnical report to address settlement by dewatering, such as seepage cutoff walls and barriers, shoring, grouting of the bottom of the excavation, and monitoring of nearby structures, and existing utilities. Seepage cut-off walls, such as sheet pile walls and slurry cut-off walls would isolate the areas to be dewatered (shorten the radius of influence) and minimize the extent of potential subsidence. Additional geotechnical exploration and analyses will be performed as part of next engineering phase. Pre-construction</p>

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			<p>survey will be conducted to assess the existing conditions of the levees and sensitive structures in the construction site vicinity. During construction, sensitive structures and the levees will be monitored for settlement. If settlements above the tolerable limits are observed, dewatering will be stopped until appropriate measures are taken to address the problems.</p> <p>Additionally, Mitigation Measure GW-1 provides for implementation of measures to offset domestic and agricultural water supply losses (and by association, crops) attributable to construction dewatering activities.</p> <p>Alteration of drainage patterns and groundwater depth due to implementation of the project are issues that are discussed under Impact AG-2, "Other Effects on Agriculture as a Result of Constructing and Operating the Proposed Water Conveyance Facility" and AG-4, "Other Effects on Agriculture as a Result of Implementing the Proposed Conservation Measures 2–11, 13, 15, 16, 20, and 21" or "Other Effects on Agriculture as a Result of Implementing the Proposed Environmental Commitments 3, 4, 6–12, 15, and 16". Impacts would be significant and unavoidable even after implementation of Mitigation Measure AG-1 and GW-5 because (i) seepage minimization may be infeasible in some instances, (ii) conservation or preservation by means of acquiring agricultural land conservation interests, even at one-to-one ratio, may not avoid a net loss of Important Farmland and (iii) the proposed optional agricultural stewardship approach does not focus principally on physical effects, but rather, focuses on supporting the Delta as an evolving place by encouraging existing owners and operators to continue working on the land while maintaining the long-term viability of regional agricultural economies and the economic health of local governments and special districts in the Delta.</p>
1601	296	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP proposed project result in increased risk of levee failure from altered water tables from construction dewatering.</p> <p>Comment:</p> <p>The BDCP dewatering of construction areas adjacent to or near tributaries increases the groundwater hydraulic gradient from the tributary to the land. This increase in hydraulic groundwater gradient will increase the flow of water under and through the levee from the tributary to the BDCP construction dewatering caused groundwater level depression. The increase of flow of water under and through the levee from the BDCP dewatering will result in reduced levee integrity (increase levee fragility curves) from increased levee saturation, increase risk of subsidence and levee slumping. The BDCP EIR/EIS fails to adequately identify, characterize, quantify and disclose these significant impacts to potential levee failures from BDCP dewatering operations.</p>	<p>Please see Appendix 6A of the Final EIR/EIS for information on potential impacts from dewatering during construction of the proposed project.</p>
1601	297	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP proposed project results in increased risk of levee failure of adjacent levees from potential failures of BDCP levees.</p> <p>Comment:</p> <p>If the BDCP constructed levees for the conveyance or habitat restorations fail for any reason either during construction or for the duration of the 50 year project period, the failure</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270 for information on levees and flood management.</p>

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		<p>would result in channel scour, redirected flows and flow velocities, potential damage from scour of adjacent levee toe structures, erosion of adjacent levees from BDCP levee breach redirected flows and flow velocities, and cascading levee failures. "Exit scours also commonly occurred at the downstream ends of leveed parts of the floodplain" (Gregg K. Schalk, Robert B. Jacobson, Missouri. Dept. of Natural Resources, Geological Survey (U.S.) U.S. Dept. of the Interior, U.S. Geological Survey, 1997 - Nature - 72 pages). Cascading levee failures are a well-documented occurrence in the Delta, particularly on the Mokelumne River where one levee failure results in the water exiting the flooded island and eroding and breaching the next downstream island.</p>	
1601	298	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP has not proposed any measures to decommission their facilities or address the ongoing impacts to the Delta at the end of the planned and permitted project period.</p> <p>Comment:</p> <p>The levees constructed for the conveyance and habitat restorations need to be deconstructed at the end of the 50-year project period or the BDCP needs to include provisions and guarantees of maintenance and protection of these facilities and mitigations for their significant and on-going impacts in perpetuity. The BDCP proposals have not included any provisions or costs for addressing the on-going liabilities or maintenance required either decommission their facilities at the end of the project period or to avoid, or identified actions to avoid, minimize or mitigate the ongoing significant impacts and risks from these facilities.</p>	<p>The new proposed project, Alternative 4A, will not operate under a 50-year permit term and substantially reduces the amount of planned habitat restoration considered under the previously preferred alternative, Alternative 4. Please see Chapter 3, FEIR/EIS, for the project description of the new proposed project. Nevertheless, project proponents will be responsible for levees modified by the proposed project and will pay for management and maintenance, either directly or indirectly through agreements with local agencies. Also see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270 for more information on levees and flood management.</p>
1601	299	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP has proposed fisheries attraction flows.</p> <p>Comment:</p> <p>The BDCP proposed fisheries attraction flows provide an incremental amount of flow on naturally occurring higher flow events. The BDCP has failed to identify, characterize, quantify and disclose the effect of these additional flow increments of high flow events on levee saturation. Once levees are saturated, they are prone to slumping and potential failure if flow levels are brought down too rapidly. The BDCP has failed to analyze the level of risk the additional BDCP flow increment on fisheries attraction flows pose to levee saturation and they have not defined the ramp down flow criteria of these events to avoid, minimize and mitigate the significant impacts on levee integrity from the fisheries attraction flows. The BDCP EIR/EIS document is incomplete and deficient for not considering and disclosing these effects of the BDCP project.</p>	<p>Please see Appendix 6A of the FEIR/EIS for potential impacts to flood flow conveyance and capacity under the proposed project. Also, see Chapter 2 of the FEIR/EIS for information on operations under the new proposed project, Alternative 4A. The proposed project incorporates existing criteria from the 2008 and 2009 BiOps (including Fall X2), and adds additional criteria for spring outflow to ensure maintenance of longfin smelt abundance. Generally, spring outflow would be set to levels similar of those under the No Action Alternative (NAA). However, adjustments to north Delta intake operations could occur as described in the Collaborative Science and Adaptive Management Program (see Section 4).</p> <p>For more information on operational criteria and adaptive management, please see Master Response 28 and Master Response 33, respectively.</p>
1601	300	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP proposed project results in increased risk of levee failure from backwater effects</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270 for more information on levees and flood management.</p> <p>Additionally, as discussed in the FEIR/EIS, Appendix 3F, DWR performed preliminary hydraulic modeling to evaluate potential impacts of proposed intake structures for CM1 along the Sacramento River on river</p>

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		<p>of intake structures.</p> <p>Comment:</p> <p>The BDCP intake design encroaches on the existing Sacramento River channel cross section. The backwater effect of the north Delta intake reduction in channel cross-section results in a backwater effect that increases the stage elevation of water upstream of the BDCP facility installations. The increase in stage elevation of the Sacramento River from the BDCP intakes increases levee overtopping risk and hydraulic head differential with the land side of the levee groundwater elevations. Both of these backwater effects from the BDCP are significant impacts on the local levee integrity and flood risks. The increase in flood risk at these locations is also a redirected flood impact. The BDCP EIR/EIS failed to adequately identify, characterize, quantify and disclose these impacts from the BDCP proposed project and alternatives. In order to meet the requirements for project-level impact analyses that would warrant issuance of construction-related permits for the BDCP, the BDCP analysis should include 2D modeling of the backwater effects of each of the proposed intake locations. The currently proposed BDCP intake locations were insufficiently justified and were not adjusted to avoid, minimize and mitigate significant impacts, so even if the requisite bathometric mapping of the intake locations and backwater effects modeling had been conducted, they will need to be redone when the intake locations are appropriately revised.</p>	<p>hydraulics. The modeling results indicated on-bank intakes, as proposed under the BDCP/CWF, would have minimal impacts on river hydraulics. As part of future engineering, additional hydraulic modeling will be performed to accommodate design refinements and to comply with U.S.C. Title 33 – Navigation and Navigable Waters Section 408 and other permitting requirements.</p> <p>Regarding mitigation, please see Master Response 22.</p>
1601	301	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP proposed project result in increased risk of levee failure and impacts from dredging.</p> <p>Comment:</p> <p>Some of the BDCP proposed project habitat restorations and facilities will require dredging and the BDCP has not adequately identified, evaluated, quantified or disclosed the level of risks from this high impact and high-risk activity. As an example, the channel approach from the Sacramento River to the BDCP Proposed Project fishway modifications at Fremont Weir will require periodic dredging to maintain connectivity and fish access. The BDCP has not developed dredging plans for the location, method, frequency, extent of disturbance, seasonal timing of operations. The dredging would have to occur right up to the flood control facilities, so the risks are not slight that there could be an accident that would compromise the structural integrity of this important flood control facility. Dredging would also expose the structural footings of the facility to potential hydraulic undermining and seepage which could also threaten the integrity of the structure. The BDCP has not developed any avoidance, minimization or mitigation measures for the significant impacts from dredging activity. Dredging may also be required to develop and maintain some of the aquatic habitat restorations, but the BDCP has not disclosed those impacts either.</p>	<p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270 for more information on levees and flood management. Regarding habitat restoration, please see response to comment 1601-226.</p> <p>Additionally, for information on Disposal and Reuse of Spoils, Reusable Tunnel Material, and Dredged Material please see Appendix 3B and Master Response 12.</p>
1601	302	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP proposed project result in increased risk of levee failure from barge loading areas.</p>	<p>Please see Chapter 19 (Transportation) and 15 (Recreation) in the FEIR/EIS for potential impacts to navigation and recreation, respectively. Potential ground motion impacts from barge unloading facilities are discussed in Chapter 9 (Geology and Seismicity).</p>

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		<p>Comment:</p> <p>Barge loading areas would impede commercial and recreational navigation, increase risk of levee breaches from barge collisions and levee structural integrity disruption. The BDCP EIS/R has failed to identify, characterize, quantify and disclose the risks and significant impacts from barge loading areas for the proposed project. The BDCP EIR/EIS is incomplete and deficient for these omissions.</p>	
1601	303	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Backwater effects of intake #3 encroachment on the Sacramento River cross section would increase the frequency, magnitude and duration of flooding of the Merritt Island Park and Boat Launch.</p> <p>Comment:</p> <p>This redirected flow impact reduces recreational opportunities in the area.</p>	<p>Please see Appendix 6A of the Final EIR/EIS for potential changes in water surface elevation and for potential impacts to flood flow conveyance and capacity as a result of the proposed project. The analysis summary provided indicates there would not be impedence or redirection of flood flows due to construction and operations of the water conveyance facilities.</p> <p>As discussed in the FEIR/EIS, Appendix 3F, DWR performed preliminary hydraulic modeling to evaluate potential impacts of proposed intake structures for CM1 along the Sacramento River on river hydraulics. The modeling results indicated on-bank intakes, as proposed under the BDCP/CWF, would have minimal impacts on river hydraulics. As part of future engineering, additional hydraulic modeling will be performed to accommodate design refinements and to comply with U.S.C. Title 33 – Navigation and Navigable Waters Section 408 and other permitting requirements.</p> <p>For impacts to recreational opportunities, please see Chapter 15, Recreation, FEIR/EIS.</p>
1601	304	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>All of the intakes are located at sections of the river either at or in close proximity to bends in the river which result in complex and dynamic water velocities at the fish screen face for managing criteria sweeping velocities.</p> <p>Comment:</p> <p>The proposed intake locations near bends in the river are hydraulically complex with lack of uniform velocities vertically through the water column and horizontally across the river cross section. These near river bend proposed intake location water velocities are particularly complex and dynamic during approaching tidal slack flows and reverse flows as the positive flow thalweg will cease and then form in different locations in the cross section of the river under reverse flows. As an example of the complexity of intake location, bends in the river, thalweg, and flow velocities; intake #1 just upstream of Scribner Bend is on the outside of a curve where the thalweg will be located during normal downstream flows. The intake extends downstream to just upstream of where Scribner Bend starts. Scribner Bend is a sharp bend in the river and the thalweg switches sides of the river about the mid-point of where the proposed screens would be located. Sweeping velocities might be adequate at the upstream end of the screen, but not meet sweeping criteria in the mid- or downstream sections of the screen. The downstream-most end of the intake screen experiences near bank reverse flow circulation under positive flow conditions as a result of sharpness of the river curve and the strength of the thalweg switching sides of the river. We do not need published literature citations to validate this flow phenomenon in this location as the thalweg is readily visible under most conditions and fishing at that location with a bobber will demonstrate the reverse flow circulation described. Since the intakes are supposed to be operated to maintain a minimum sweeping velocity, the complex, dynamic, and</p>	<p>The bases for intake locations are presented in Appendix 3F, Intake Location Analysis, of the EIR/EIS. One of the key objectives from this analysis was to locate the intakes within the straight reaches to extent possible to avoid complex flow patterns, scour, and sediment issues. However, the Sacramento River has many bends; and another objective was to locate the intakes just below an outside bend due to the presence of deeper water, higher sweeping flow velocities, and lower sedimentation potential.</p> <p>Three-dimensional models are generally used for pre-design of intakes following the development of final intake design criteria, and completion of detailed bathymetric data of the areas located upstream and downstream of the intake locations. Such models would be required for construction permits from the U.S. Army Corps of Engineers and state agencies following the preparation of design plans and specifications. For the planning studies and the EIR/EIS, bathymetric data collected by DWR was used in a two-dimensional model to inform the selection of the intake locations, as described in Appendix 3F, Intake Location Analysis.</p> <p>Alternatives 4 through 9 do not include Intake 1 near Scribner Bend as compared to Alternatives 1 through 6. Results of the aquatic resources analyses presented in Chapter 11, Fish and Aquatic Resources, provide the differences to fish related to locations and number of intakes.</p>

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		<p>un-uniform flow velocities make it uncertain that the facilities will uniformly comply with maintaining criteria sweeping velocities during operations. Site bathymetry and 2D modeling of water velocities under different flow, tidal and diversion operations were inadequate to reflect the range of conditions the BDCP proposes to operate under. Site-specific bathymetry and modeling should be done for each of the proposed intake locations and analyses and diversion operating rules developed and tested to ensure that fish screen criteria sweeping velocities are met. Until this level of analysis of the proposed facilities is conducted, the BDCP EIR/EIS document is incomplete and deficient in the analysis of project-level impacts and therefore should not be issued construction- or environmental-related permits (e.g. incidental take permits (ITPs)).</p>	
1601	305	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The Tunnel headworks platform and forebay redirect flood impacts.</p> <p>Comment:</p> <p>It is well documented and commonly known in the Delta that floodwaters that breach any part of an island will break out of the island at the downstream-most end (which is lower elevation) of the island. "... the levees surrounding McCormack-Williamson Tract tend to either overtop or fail, flooding the island. When this happens, a 'surge' of floodwaters continues south through the island, threatening adjacent islands. In 1986, levee breaches occurred on both Dead Horse Island and Staten Island as a result of the surge from McCormack-Williamson Tract, flooding both Dead Horse and Staten Islands. The 'surge' caused significant damage to Wimpy's Marina and the New Hope Bridge, and flooded portions of Interstate 5." (North Delta Flood Control and Ecosystem Restoration Project EIS/R, Department of Water Resources). "When a levee was breached, the force of the water usually caused a levee break on the opposite side of the island, where the wave of water first hit the opposite levee head on. They all knew that the broken levee could easily surge across the main channel and dash against the levee of Lambert Island, which is where they stood, a domino effect, wiping out the levee they stood on..." ("Two Sloughs", Sally Small, iUniverse, September 30, 2008). Under existing conditions, if there is a levee breach anywhere upstream on the tract (RD 813) that is just south of the town of Hood and north of Pierson District, the flood waters would be directed toward the lower elevations at the southern end of the tract and the flood waters would breach the levee near the confluence of Railroad Cut and Snodgrass Slough. The flood waters would then most likely be carried in whole or in their majority down Snodgrass Slough were the flood pressures would be dissipated and naturally distributed.</p> <p>The downstream secondary breaching of a flooded island is the normal way that flood pressure is released from inside of an island or tract and in this case, the location and orientation of Snodgrass Slough is a result of the fluvial geomorphic processes from the flood pressure release process. The BDCP proposed project places large elevated forebay levees that block this pathway for natural release of flood pressures and redirects those impacts to the west side of the tract so that the flood pressures would breach into Pierson District and Randall Island. With the construction of the proposed project, in the event a levee failure in the tract in which the proposed forebay is located, the flood waters would be redirected into Pierson District and Randall Island. The BDCP proposed project redirected flood impacts will inundate thousands of acres of land that would have been spared under</p>	<p>Alternative 4A includes a substantially smaller Intermediate Forebay (approximately 37 acres) on the Glannvale Tract. The entire 131-acre site established for the Intermediate Forebay would provide buffer areas to store additional flows and reduce effects of high water flows. The Intermediate Forebay concept was modified based on this and similar comments received on the 2013 Draft EIR/EIS.</p> <p>Please see Appendix 6A of the Final EIR/EIS and response to comments 1601-254, 1601-259, and 1601-270 for more information on levees and flood management.</p>

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		<p>the no action/no project condition had the pathway for natural flood pressure release down Snodgrass Slough not been physically blocked by the project. Included in those thousands of acres at much higher risk of flooding with the implementation of the project on Randall Island and Pierson District include, the town of Courtland (population 600+), hundreds of additional rural residences, State Highway 160, Bates Elementary School, Courtland Fire Department, a regional telephone switching center, microwave communication relays, 2 regional TV transmission towers, numerous natural gas wells and pipelines, both of the only local cold storage plants for refrigerating pears and apples (the loss of these would affect all of the pear and apple production in the region), three of the four pear and apple packing houses in the Delta (the loss of these would affect all of the pear and apple production in northern California), the only regional scale hay storage and trans-shipping facility (loss would affect forage production in all of northern California) and numerous other businesses.</p>	
1601	306	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Fortification of so much of the east side levees of the Sacramento River in the intake reach (estimated at 35-40% of the levee length in this reach) above the current levee construction standards reduces the risk of failure of the levees on the east side of the river.</p> <p>Comment:</p> <p>A reduction in the flood risk of the east side of the river results in an increase in the flood risk on the west side of the same reach of the river (especially with backwater affects from the intakes). Increased risk of flooding on the west side of the Sacramento River in the intake reach includes Merritt Island, Netherlands and New Holland Tracts (including the town of Clarksburg 600+ residents), hundreds of rural residents, Clarksburg Elementary, Clarksburg Charter School, Delta High School, Clarksburg Fire Department, a dozen wineries and other local businesses and the tracts upstream of Netherlands affected by intake #1. Since there is no flood cutoff from Netherlands to the upstream tract and a breach or levee overtopping anywhere in this area would flood the entire area from West Sacramento where Jefferson Rd comes down the Sacramento Deep Water Ship Channel to the Freeport Bridge and from Elk and Sutter Sloughs across to the Deep Water Ship Channel all the way down past Courtland Rd to Minor Slough on the south end. This area of increased flood risks from the redirected flood impacts of the project comprises a significant portion of the entire area of the statutory Delta. The BDCP EIR/EIS has failed to identify, evaluate, quantify and mitigate this significant impact. The BDCP proposed project results in a redirected flood risk and impact and should not be issued 404 permits from the U.S. Army Corps of Engineers (USACE) until these redirected flood impacts are completely mitigated.</p>	<p>Chapter 6, Surface Water indicates changes in Sacramento River flows and upstream reservoir storage associated with the preferred alternative, Alternative 4A, would not be substantial enough to conclude that significant flooding effects would result from constructing the proposed diversion intake structures. Potential redirected levee effects from facility construction, if any potential exists, would be addressed through the Corps Section 408 permitting process. Please also refer Appendix 6A, BDCP/California WaterFix Coordination with Flood Management Requirements and Appendix 1F, Supplemental Information for USACE Permitting Requirements.</p>
1601	307	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP Proposed Project impacts results in significant impacts to Delta levee fragility rating curves which could result decertification of levees by the U.S. Army Corps of Engineers (USACE).</p> <p>Comment:</p>	<p>Please refer Appendix 6A, BDCP/California WaterFix Coordination with Flood Management Requirements and Appendix 1F, Supplemental Information for USACE Permitting Requirements.</p>

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		<p>The BDCP Proposed Project and alternatives significantly impact levee integrity in a number of ways, including: increase of water tables and soil saturation in locations with aquatic habitat restorations; levee saturation from water on both sides of a levee from aquatic habitat restorations; increase in the rate and severity of levee slumping from increased water surface elevations from fisheries attraction flow operations and backwater effects from intake structure river cross section reductions; increase in the frequency, magnitude and duration of levee overtopping from backwater effects from intakes and large open water areas that create the opportunity for increased wind velocities and increased wind fetch; increased opportunity for under levee seeps and boils from aquatic habitat restorations onto adjacent lands; disrupted levee integrity and continuity from construction of new levees, integration of on bank intakes into levees, and conjunction of new and setback levees with existing levees; construction of facilities within 200 feet of an existing levee; vibration of levees during construction, tunnel boring, and operations; intertidal and subtidal aquatic habitat restoration tidal exchange flow velocity scour and flow impacts on adjacent levees; and dewatering of groundwater during construction and operations that cause an increased hydraulic gradient from the adjacent tributary to the depressed groundwater level on the land side. The BDCP EIR/EIS document has failed to identify, evaluate, quantify and disclose the significant impacts of the BDCP degradation of the levee fragility curve ratings and the implications and impacts of derating of the levees by the USACE. The BDCP has proposed no measures to avoid, minimize or mitigate these significant impacts. The BDCP EIR/EIS document is incomplete and deficient and should not be issued 404, 402 or 303 permits on the basis of this document. The document should be revised to address these impacts and recirculated after these material changes.</p> <p>The BDCP could avoid, minimize and mitigate these impacts by brining all of the levees in the Delta to the same standard as those created at the intake sites, to design the intakes such that they do not cause any backwater effects (the EIR/EIS needs a detailed design and analysis, not just assurances that the design won't result in a backwater effect), develop ramp-down rules for fisheries attraction flows that avoid increasing the risk of levee slumping, by improving levees vulnerable to overtopping, by incorporating wind and wave breaks into their habitat restorations, by providing detailed designs of tidal and subtidal habitat restoration levee breaches so that design features to avoid scouring and flow impacts on adjacent levees can be incorporated into the project description and evaluated, avoiding citing aquatic habitat restorations where both sides of a levee would be wetted, by constructing slurry walls in levees where the hydraulic gradient from the tributary to the land side groundwater levels would be affected by project dewatering, by incorporating emergency response teams and resources to address boils and seeps in the Delta as part of the BDCP, by not constructing within 200 feet of an existing levee, by constructing and tunnel boring only during periods where water elevations are at or below normal levels to avoid these vibrations when levees are more saturated by water and more prone to liquefaction from the BDCP construction-related vibrations, provide free flood insurance for residences and businesses that have increased flood risks due to BDCP impacts, provide compensation in perpetuity for maintenance for levees that are decertified by the USACE.</p>	
1601	308	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>The BDCP changes the rate of siltation, deposition, and erosion that will modify channel morphology.</p>	Please see Appendix 6A of the Final EIR/EIS regarding sedimentation issues under the proposed project.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment:</p> <p>The intakes remove sediment load from the river during diversion operations. The amount and texture of suspended sediment load in the river is an important component in channel morphology. With the reduced sediment load in the river from the BDCP project diversions, scour holes can form in the channel where they otherwise would not have formed. These scour holes can compromise the toe of the levee, reduce the structural integrity of the levee, increase the risk of levee failure and cause levee failures in locations where they would not have occurred without the project removal of sediment from the river. The BDCP has provided some estimates as to the quantities of sediments removed from the river by the diversion operations, but the BDCP EIR/EIS has failed to evaluate and characterize the impact to the river geomorphology and levee integrity from the sediment removal. The project can minimize this impact by putting the sediment that it separates out from the diverted water back into the river. This avoidance and minimization action has the added benefit of avoiding the impacts from land disposal of the sediments collected from the diversions.</p>	
1601	309	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-1: Changes in SWP or CVP reservoir flood storage capacity.</p> <p>Comment:</p> <p>The EIR/EIS significance calls indicate a "less than significant" impact call both prior to and after avoidance, minimization and mitigation measures and a "Not Adverse" call for NEPA after mitigation. These impact calls are incorrect and inconsistent with each other. The NEPA Not Adverse call indicates there is some effect, but CEQA indicates it is negative, this is an inconsistent impact call. The NEPA call for Not Adverse indicates that there is a change in storage, but it is not Adverse, no effect or beneficial. Any change in flood storage capacity cannot be a change and yet not have a positive or negative affect so the Not Adverse NEPA impact call in this case is impossible and therefore incorrect. Any changes in carryover storage that exceed the U.S. Army Corps of Engineers (USACE) flood storage reserve requirements increase flood risk. Any change in a risk with the magnitude of potential consequences as flooding is not less than significant. How can a reduction in flood storage capacity be defined as not adverse? More storage for flood is clearly beneficial and less storage is clearly adverse. This impact call should clearly be corrected to be "adverse". The USACE should not provide permits to a project that violate flood control objectives or erodes the flood control protections provided by the CVP/SWP reservoirs. Any change in impact calls is a material change to the document and requires that the document be recirculated for another opportunity for public comment.</p>	<p>As presented in Tables C-2-1 through C-2-13, C-3-1 through C-3-13, and C-4-1 through C-4-13 in Appendix 5A, Section C, Modeling Results, of the Draft EIR/EIS, monthly storage in the SWP and CVP reservoirs is less under the No Action Alternative and the action alternatives than under the Existing Conditions except for February through April in wetter years. Overall, the number of months in which the total storage is within 10,000 acre-feet of the flood curve decrease under all alternatives as compared to the Existing Conditions, as shown in Table 6-6 in Chapter 6, Surface Water of the Draft EIR/EIS. Therefore, the CEQA impact analysis result is considered to be "less than significant." These changes include the effects of the climate change in addition to changes due to the alternatives.</p> <p>Under NEPA, storage does increase under the action alternatives as compared to the No Action Alternative as presented in Tables C-2-14 through C-2-25, C-3-14 through C-3-25, and C-4-14 through C-4-25, in Appendix 5A, Section C. Overall, the number of months in which total storage is within 10,000 acre-feet of the flood curve increase in December through March (see Table 6-7). However, the increase would be less than 2 percent (see Table 6-4), which is considered to be representative of similar conditions within results of the CALSIM II model which uses a monthly time-step. Therefore, the NEPA impact analysis result is considered to be "not adverse."</p> <p>It should be noted that the terminology "less than significant" and "not adverse" are based upon CEQA and NEPA guidelines, respectively.</p>
1601	310	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-2: Changes in Sacramento and San Joaquin River flood flows.</p> <p>Comment:</p> <p>The EIR/EIS significance calls for the Proposed Project indicate a "less than significant"</p>	<p>The changes considered under SW-2 is related to flows in the rivers, and not storage in the reservoirs which are analyzed under SW-1. As described in the Response to Comment 1601-309, the number of months in which the total storage is within 10,000 acre-feet of the flood curve decrease under all alternatives as compared to the Existing Conditions, as shown in Table 6-6 in Chapter 6, Surface Water of the Draft EIR/EIS. Therefore, the CEQA impact analysis result is considered to be "less than significant." These changes include the effects of the climate change in addition to changes due to the alternatives. The number of months in which total storage is within 10,000 acre-feet of the flood curve increase in December through March under the alternatives as compared to the No Action Alternative (see Table 6-7). However, the increase would be</p>

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		<p>impact call both prior to and after avoidance, minimization and mitigation measures and a "Not Adverse" call for NEPA after mitigation. These impact calls are incorrect. Any changes in carryover storage that exceed the U.S. Army Corps of Engineers (USACE) flood storage reserve requirements increase flood risk. Any change in a risk with the magnitude of potential consequences as flooding is not less than significant. How can a reduction in flood storage capacity be defined as not adverse? More storage for flood is clearly beneficial and less storage is clearly adverse. This impact call should clearly be corrected to be "adverse". The USACE should not provide permits to a project that violate flood control objectives or erodes the flood control protections provided by the CVP/SWP reservoirs. Any change in impact calls is a material change to the document and requires that the document be recirculated for another opportunity for public comment.</p>	<p>less than 2 percent (see Table 6-4), which is considered to be representative of similar conditions within results of the CALSIM II model which uses a monthly time-step. Therefore, the NEPA impact analysis result is considered to be "not adverse."</p> <p>It should be noted that the terminology "less than significant" and "not adverse" are based upon CEQA and NEPA guidelines, respectively.</p>
1601	311	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-4: Substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner that would result in flooding during construction of conveyance facilities.</p> <p>Comment:</p> <p>The EIR/EIS has incongruous impact calls on No Action (NA) and Proposed Project (PP). The NEPA call for this resource is "not adverse", but the CEQA call indicates an adverse "less than significant" impact. The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The No Action has less impact before mitigation than Proposed Project. Since the Proposed Project only achieves a similar level of impact with mitigation as the No Action does without mitigation, with regard to these resources, they would be better off under the NA than the PP. With regards to these resources, the No Action should be selected as the project rather than the Proposed Project. The incongruous impact call between NEPA and CEQA needs to be reconciled. Any change in impact calls is a material change in the document that warrants recirculation.</p>	<p>The impacts considered under SW-4 are related to construction of the facilities included in the action alternatives. Therefore, there are no impacts under the Existing Conditions or the No Action Alternative because there are no construction activities. For construction of the facilities under the action alternatives, implementation of the mitigation measures would reduce the potential impacts to a level of "less than significant" and "not adverse." The determination of impacts include the assumption of implementation of mitigation measures, as shown in Table ES-9 in the Executive Summary of the Draft EIR/EIS.</p> <p>It should be noted that the terminology "less than significant" and "not adverse" are based upon CEQA and NEPA guidelines, respectively.</p>
1601	312	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-5: Substantially alter the existing drainage pattern or substantially increase the rate or amount of surface runoff in a manner that would result in flooding during construction of habitat restoration area facilities</p> <p>Comment:</p> <p>The No Action (NA) has less impact before mitigation than Proposed Project (PP). Since the Proposed Project only achieves a similar level of impact with mitigation as the No Action does without mitigation, with regard to these resources, they would be better off under the</p>	<p>The impacts considered under SW-5 are related to construction of the facilities included in the action alternatives. Please see response to comment 1601-311.</p>

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		NA than the PP. With regards to these resources, the No Action should be selected as the project rather than the Proposed Project.	
1601	313	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-6: Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.</p> <p>Comment:</p> <p>The No Action (NA) has less impact before mitigation than Proposed Project (PP). Since the Proposed Project only achieves a similar level of impact with mitigation as the No Action does without mitigation, with regard to these resources, they would be better off under the NA than the PP. With regards to these resources, the No Action should be selected as the project rather than the Proposed Project.</p>	The impacts considered under SW-6 are related to construction of the facilities included in the action alternatives. Please see response to comment 1601-311.
1601	314	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-7: Expose people or structures to a significant risk of loss, injury or death involving flooding due to the construction of new conveyance facilities.</p> <p>Comment:</p> <p>The EIR/EIS has incongruous impact calls on No Action and Proposed Project. The NEPA call for this resource is "not adverse", but the CEQA call indicates an adverse "less than significant" impact. The No Action has less impact before mitigation than Proposed Project. Since the Proposed Project only achieves a similar level of impact with mitigation as the No Action does without mitigation, with regard to these resources, they would be better off under the No Action than the Proposed Project. With regards to these resources, the No Action should be selected as the project rather than the Proposed Project. The incongruous impact call between NEPA and CEQA needs to be reconciled. Any change in impact calls is a material change in the document that warrants recirculation.</p>	The impacts considered under SW-7 are related to construction of the facilities included in the action alternatives. Please see response to comment 1601-311.
1601	315	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-8: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding due to habitat restoration.</p> <p>Comment:</p> <p>The EIR/EIS has incongruous impact calls on No Action and Proposed Project. The NEPA call for this resource is "not adverse", but the CEQA call indicates an adverse "less than significant" impact. The No Action has less impact before mitigation than Proposed Project. Since the Proposed Project only achieves a similar level of impact with mitigation as the No Action does without mitigation, with regard to these resources, they would be better off</p>	The impacts considered under SW-8 are related to construction of the facilities included in the action alternatives. Please see response to comment 1601-311.

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		<p>under the No Action than the Proposed Project. With regards to these resources, the No Action should be selected as the project rather than the Proposed Project. The incongruous impact call between NEPA and CEQA needs to be reconciled. Any change in impact calls is a material change in the document that warrants recirculation.</p>	
1601	316	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>SW-9: Place within a 100-year flood hazard area structures which would impede or redirect flood flows, or be subject to inundation by mudflow.</p> <p>Comment:</p> <p>The EIR/EIS has incongruous impact calls on No Action and Proposed Project. The NEPA call for this resource is "not adverse", but the</p> <p>CEQA call indicates an adverse "less than significant" impact. Both of the NEPA and CEQA impact calls Proposed Project are incorrect as the project redirects flood impacts that are not mitigated. The intermediate forebay and adjacent intake block flood flows, that in the event of an upstream levee breach on the tract on which they are located, from breaching out the bottom end of that tract into Snodgrass Slough as it would have done under the No Action condition. The BDCP Proposed Project would redirect these flood flows onto Randall Island and Pierson District. The incorrect impact call for NEPA and CEQA needs to be corrected to a significant and adverse impact respectively. The mitigation measure identified in the EIR/EIS does not address redirected flood impacts. Additional mitigation measures are required to avoid, minimize and mitigate this significant redirected flood impact. Any change in impact calls is a material change in the document that warrants recirculation.</p>	<p>The impacts considered under SW-9 are related to construction of the facilities included in Alternatives 1 through 9. Therefore, there are no impacts under the Existing Conditions or the No Action Alternative because there are no construction activities. For construction of the facilities under Alternatives 1 through 9, implementation of the mitigation measures would reduce the potential impacts to a level of "less than significant" and "not adverse." The determination of impacts include the assumption of implementation of mitigation measures, as shown in Table ES-9 in the Executive Summary of the Draft EIR/EIS.</p> <p>The intermediate Forebay would need to be consistent with the Sacramento County requirements to reduce the risk of flooding, as described in Chapter 6, Surface Water, including floodplain zoning and restrictions in FEMA-designated regulatory floodplains. The facilities would be constructed with Mitigation Measure SW-4 actions that would require completion of drainage studies to assess the need for, and to finalize, other drainage-related design measures, such as a new onsite drainage system or new cross drainage facilities. Based on study findings, if it is determined that onsite stormwater detention storage is required, detention facilities will be located within the existing construction area. The flood waters from upgradient levee breaches also could be diverted to detention basins adjacent to the intermediate forebay. The detention basin would be designed for use if the forebay emergency spillway was operated, as described in Chapter 3, Description of Alternatives, and Appendix 3C, Construction Assumptions for Water Conveyance Facilities.</p> <p>It should be noted that the terminology "less than significant" and "not adverse" are based upon CEQA and NEPA guidelines, respectively.</p> <p>For more information on flood management please see Appendix 6A of the Final EIR/EIS.</p>
1601	317	<p>Document Section: Chapter 6 - Surface Water</p> <p>Issue:</p> <p>Private lands which are publicly condemned for the BDCP facilities and habitat restorations will no longer pay fees to the local Reclamation Districts.</p> <p>Comment:</p> <p>Reclamation Districts are funded by assessments on their service area land owners. When the BDCP takes land away from the land owners it is also taking revenue from the Reclamation Districts. Although economic impacts are not considered in the environmental analysis, the impacts of the loss of funding on levee maintenance and other real physical impacts of the reduction in funding are within the scope of what the environmental document is supposed to evaluate under NEPA and CEQA. This impact was not identified, characterized, quantified or disclosed in the BDCP EIR/EIS and therefore the document is incomplete and deficient.</p>	<p>Tax base is discussed in Impact ECON-4 of Chapter 16, Socioeconomics, of the Final EIR/EIS. Under Alternative 4A, publicly-owned water conveyance facilities would be constructed on land of which some is currently held by private owners. Property tax and assessment revenue generated by lands that would be transferred from private to public is estimated to total \$6.7 million over the construction period. Typically, decreases in revenue could potentially result in the loss of a substantial share of some agencies' tax bases and particularly for smaller districts affected by a project. However, California Water Code (Section 85089 subdivision 9b) specifies that the entities constructing and operating a new Delta conveyance facility will fully mitigate for the loss of property tax revenues or assessments levied by local governments or special districts. This Water Code requirement will ensure that tax revenues forgone as a result of transferring land from private to public ownership will be fully offset.</p> <p>Additionally, as noted previously, although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation.</p>

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			<p>Proposition 1 funds and other state and public dollars will be directed exclusively for public benefits unassociated with any regulatory compliance responsibilities.</p> <p>Additional priority restoration projects will be identified through regional and locally-led planning processes facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process for integrated planning in the Yolo Bypass is underway. The Delta Conservancy will lead the implementation of identified restoration projects, in collaboration with local governments and with a priority on using public lands in the Delta.</p>
1601	318	<p>Document Section: Chapter 6 - Surface Water, Reusable Tunnel Material Testing Report - Section 3.1.3</p> <p>Issue:</p> <p>The water permeability of the polymer treated samples is much lower than the untreated samples.</p> <p>Comment:</p> <p>The water infiltration rate of the treated tunnel muck is much lower than the untreated materials. The analysis should also have included a comparison to the infiltration rates of the soils that would be covered by the tunnel muck disposal to determine the impacts to soil suitability for agriculture, habitat, groundwater recharge, surface erosion, cumulative drainage, and surface water drainage quantity and quality. The BDCP EIR/EIS failed to conduct these assessments on the impacts of the infiltration rates of the tunnel muck disposal.</p>	<p>Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1).</p> <p>A berm of compacted imported soil would be built around the perimeter of the RTM storage area to ensure containment. An impervious liner would be placed on the invert and interior slopes of the berm to prevent groundwater contamination as described in Appendix 3C, Construction Assumptions for Water Conveyance Facilities, Appendix A, RDEIR/SDIES.</p> <p>For more information on reusable tunnel material please see Master Response 12.</p>
1601	319	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Continued variability in CVP/SWP service area deliveries (rather than consistent deliveries that are based on a sustainable system) are causing groundwater overdrafts.</p> <p>Comment:</p> <p>The variability in water supply delivery from the CVP/SWP is results in groundwater overdrafts as a substitute water supply in water short years. The groundwater overdraft in the CVP/SWP service area results in surface and groundwater quality degradation (salts, etc.) and subsidence which is damaging infrastructure (canal capacities, drainage, roads). The BDCP Proposed Project operations do not do anything to reduce the year-to-year variability in water supply deliveries which causes the over-reliance on groundwater as a substitute water supply. This on-going impact of the CVP/SWP has never been mitigated and needs to be addressed on order for the CVP/SWP existing operations to be covered by this EIR/EIS and subsequent permits. As expressed in other related comments, the BDCP Proposed Project must meet its stated "water supply reliability" purpose by only promising (contracting) an amount of water that it can consistently deliver such that it does not result in the current constant overdraft of groundwater.</p>	<p>The BDCP EIR/EIS evaluates the changes in the SWP and CVP water contract deliveries under the alternatives as compared to the Existing Conditions and the No Action Alternative. As described in Chapter 5, Water Supply, and Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, the ability of the SWP and CVP to deliver water contract amounts has been modified over the past 60 years due to increased use of senior water rights upstream of SWP and CVP water service area and regulatory criteria. The alternatives, including the No Action Alternative, were developed to deliver SWP and CVP water to extent possible with the understanding that full contract amounts would not be delivered on average for the alternatives considered in the EIR/EIS. It is assumed that the proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change. The proposed project is not a comprehensive, statewide water plan, but is instead aimed at addressing many complex and long-standing issues related to the operations of the SWP and CVP in the Delta. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures).</p> <p>The proposed project would not significantly impact local water supplies. While groundwater levels could be temporarily lowered in localized areas during the dewatering phases of construction, groundwater would return to pre-pumping levels over the course of several months following the dewatering phase. Mitigation has been proposed to maintain water supplies in areas affected by construction dewatering. Additionally, the lead agencies would relocate and/or replace wells, pipelines, power lines, drainage systems, and other infrastructure that are needed for ongoing agricultural uses and would be adversely affected by project</p>

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			<p>construction or operation. For additional information regarding proposed agricultural mitigation, please see Master Response 18.</p> <p>Construction of the proposed project's facilities will occur in a manner specifically designed to avoid adverse effects on groundwater. As described in Appendix 3C, Table 3C-7, of the 2013 Public Draft EIR/EIS, ponds to store reusable tunnel materials and spoils material would be designed with the invert at least 5 feet above seasonally high groundwater and impervious liners along the invert and interior slopes of the ponds to avoid contamination. The tunneling operation would use biodegradable polymers that would be combined with the excavated soil to allow conveyance of the soil slurry, or reusable tunnel material. The polymers would decompose over time.</p> <p>In some locations within the State, groundwater is regulated through judicial review related to adjudication proceedings in the court system. Many counties and regional agencies, or groups of agencies, have adopted groundwater management plans and/or ordinances. Governor Brown recently signed into law three bills that address groundwater management in California. These bills direct local agencies to develop groundwater management plans and allows the state to monitor and intervene if local agencies fail to do so.</p> <p>For more information regarding groundwater impacts and their associated mitigation of the proposed project please see Section 4.3.3 Groundwater of Section 4 in the RDEIR/SDIES. Updated information on groundwater effects of water conveyance alternatives can be found in Appendix A Chapter 7 of the RDEIR/SDIES.</p>
1601	320	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Covered activities do not address all of the current CVP/SWP system (upstream tributaries, existing canals, on-going effects of water deliveries, etc.).</p> <p>Comment:</p> <p>The BDCP EIR/EIS did not address impacts from the current CVP/SWP operations from leaks, salt accumulation, erosion loss of habitat, degradation of beneficial uses, disposal of contaminants, greenhouse gas contributions, etc. Since this EIR/EIS document does not address the on-going impacts of the CVP/SWP and existing facilities maintenance, the BDCP project should not be awarded any permits which cover these activities.</p>	<p>The Draft EIR/EIS evaluates changed conditions under the No Action Alternative and Alternatives 1 through 9 as compared to the Existing Conditions; and under Alternatives 1 through 9 as compared to the No Action Alternative. Under CEQA and NEPA, the EIR/EIS does not need to mitigate adverse conditions under ongoing Existing Conditions or under the future No Action Alternative.</p>
1601	321	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Alter water levels in a groundwater basin sufficiently to substantially increase pumping costs or cause land subsidence. (Monterey Accord Sig Criteria)</p> <p>Comment:</p> <p>Comments on the existing condition CVP/SWP groundwater overdraft in the service areas from year to year variations in water supply deliveries and similar comments on the BDCP proposed project operations failure to address these on-going impacts.</p>	<p>The EIR/EIS evaluates changed conditions under the No Action Alternative and the action alternatives as compared to the Existing Conditions; and under the action alternatives as compared to the No Action Alternative. Under CEQA and NEPA, the EIR/EIS does not need to mitigate adverse conditions under ongoing Existing Conditions or under the future No Action Alternative. Under CEQA and NEPA, if conditions under an alternative are the same or similar as under the Existing Conditions or the No Action Alternative, the results of the impact analysis would be considered as “no impact” due to the implementation of the alternative.</p> <p>As discussed in Chapter 7 of the Final EIR/EIS, each action alternative would have impacts on groundwater levels in the water delivery areas during operation of the water conveyance facilities. Under the No Action Alternative, 4,043 thousand acre-feet per year (TAF/year) would be delivered to regions south of the Delta. Among the action alternatives, Alternative 8 would result in the lowest deliveries, at 2,899 total TAF/year, resulting in more groundwater pumping; Alternatives 1A, 1B, and 1C would result in the greatest deliveries, at 4,974 TAF/year, resulting in less groundwater pumping. Alternatives 4, 4A, 2D, and 5A would all result in</p>

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			more deliveries and less groundwater pumping than under the No Action Alternative, by delivering 4,782 TAF/year under Alternative 4 (Operational Scenario 1); 4,470 TAF/year under Alternative 4A; 4,886 TAF/year under Alternative 2D; and 4,704 TAF/year under Alternative 5A. A summary of these impacts can be found in Table ES-8 in the Executive Summary of the Final EIR/EIS.
1601	322	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Substantially deplete groundwater supplies or cause substantial interference with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>The existing CVP/SWP and the BDCP Proposed Project operations result in and continue to result in an over-reliance upon groundwater supplies as an alternative water supply when water supply deliveries from the CVP/SWP vary.</p>	Please see response to comment 1601-319 and response to comment 1601-321.
1601	323	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Evaluation of impacts on ground water resources should be more comprehensive and should have included changes in ground water quality, changes in the quantity of ground water available for existing or potential beneficial uses, changes in the depth to ground water and the magnitude and direction of the hydraulic gradient.</p> <p>Comment:</p> <p>Adverse groundwater impacts should be judged to be significant if they do not comply with regulatory standards, plans, or policies. The impact significance should also be based on the degree of harm the impacts may cause to humans or the environment. Any degradation of water quality that may reduce the existing or potential beneficial uses of the water should be considered significant. The reduction in the quantity and quality of ground water available for beneficial uses can occur based on the aerial extent, seasonal timing compared to changes in sensitivity of resources (i.e. agricultural production sensitivity to groundwater quality is typically higher in the spring as compared to fall), duration of occurrence, frequency of occurrence, and permanence of the groundwater quality or quantity available. The BDCP EIR/EIS significance criteria failed to encompass the scope of potential groundwater impacts.</p>	<p>As presented in Chapter 7, Groundwater, the EIR/EIS evaluates changes in groundwater quality and depths of groundwater under the alternatives as compared to the Existing Conditions and the No Action Alternative. Under Alternatives 1 through 8, groundwater would be affected in the Delta due to construction of the facilities, and result in significant and unavoidable impacts under CEQA and adverse impacts under NEPA. Under Alternatives 4, 6, 7, 8, and 9, groundwater would be affected in the SWP and CVP service located south of the Delta because of reductions in SWP and CVP water deliveries as compared to the Existing Conditions and the No Action Alternative. These alternatives would result in significant and unavoidable impacts under CEQA and adverse impacts under NEPA. Also see response to comment 1601-321.</p> <p>Please also see Master Response 3 for a discussion of the project purpose and need.</p>
1601	324	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>During construction BDCP will dewater groundwater around intake, tunnel headworks and tunnel access construction sites (dewater to 100') which will dewater local groundwater wells and permanently collapse water bearing strata in the soil.</p> <p>Comment:</p>	As described under Impact GW-1 in Chapter 7, Groundwater, in the EIR/EIS, it is anticipated that the groundwater changes due to dewatering activities during construction of the intakes and the expanded forebay near Clifton Court Forebay under Alternatives 1 through 8. Deep groundwater dewatering also would occur at the tunnel shafts (see Chapter 7 in the Partially Recirculated Draft EIR/Supplemental Draft EIS). As described in the Draft EIR/EIS, the impacts would be temporary, but would be significant and unavoidable under CEQA and adverse under NEPA during construction. Based upon information provided by the U.S. Geological Survey in the CVGSM model, the effects of the dewatering activities would continue for several months following the end of dewatering activities when groundwater elevations would return to conditions similar to pre-construction conditions. Chapter 7 also includes Mitigation Measure GW-1 that

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		<p>Local groundwater wells that are in the cone of depression of groundwater levels from the BDCP dewatering will either go dry or have to pull water from deeper (incurring reduced water production and increased operating energy costs). Once clay soil water bearing strata are collapsed, they do not recover their structure, water holding capacity or their previous soil volume. This groundwater aquifer collapse results in a permanent reduction in available groundwater resources. Changes of groundwater resources and availability at the construction dewatering sites and areas that are groundwater hydraulically connected to them was not identified, evaluated or disclosed in the BDCP EIR/EIS document. This impact can be minimized and mitigated by BDCP providing alternative water supplies in perpetuity for the groundwater resources that may be affected by the project.</p>	<p>provides for a monitoring procedure and options for maintaining adequate water supplies for land owners that experience a reduction in groundwater production from wells within 2,600 feet of construction-related dewatering activities. The effects of dewatering could be reduced through installation of seepage cutoff walls during dewatering. Implementing Mitigation Measure GW-1 would help address these effects; however, the impact may remain significant because replacement water supplies may not meet the preexisting demands or planned land use demands of the affected party. In some cases this impact might temporarily be significant and unavoidable until groundwater elevations recover to conditions similar to preconstruction conditions, which could require several months after dewatering operations cease.</p> <p>For more information please see response to comment 1601-319.</p>
1601	325	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>The executive summary of impact calls have deviated from using the same significance criteria for the No Action as compared to those used to evaluate impacts for the Proposed Project and other alternatives.</p> <p>Comment:</p> <p>The No Action has several significant impacts that are not addressed for mitigation. These unmitigated significant impacts include San Joaquin Basin Flows, Tulare Basin groundwater levels; and Other Portions of the Export Service Areas -- Groundwater supplies, recharge, and local groundwater table levels. Since the No Action covered activities are included as part of the Proposed Project for the issuance of permits, the Proposed Project needs to incorporate measures to avoid, minimize and mitigate these No Action significant impacts. The Proposed Project does not include any measures to avoid, minimize and mitigate these impacts, so the Proposed Project is deficient and does not meet NEPA and CEQA requirements. The BDCP EIR/EIS can address this deficiency by including avoidance, minimization and mitigation measures to the No Action significant impacts which are part of the BDCP Proposed Project covered activities. Inclusion of these measures will constitute a material change to the environmental document which will warrant recirculation of the EIR/EIS for another round of public comment.</p>	<p>The EIR/EIS evaluates changed conditions under the No Action Alternative and the action alternatives as compared to the Existing Conditions; and under the action alternatives as compared to the No Action Alternative. Under CEQA and NEPA, the EIR/EIS does not need to mitigate adverse conditions under ongoing Existing Conditions or under the future No Action Alternative. Under CEQA and NEPA, if conditions under an alternative are the same or similar as under the Existing Conditions or the No Action Alternative, the results of the impact analysis would be considered as “no impact” due to the implementation of the alternative.</p>
1601	326	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Groundwater impact calls in the executive summary did not include impacts for the No Action. The BDCP is seeking take permits which include coverage of the existing CVP/SWP operations and on-going impacts. These impacts of the current CVP/SWP operations and on-going impacts are part of the No Action condition.</p> <p>Comment:</p> <p>The BDCP EIR/EIS executive summary of impact calls incorrectly represented the impacts of the No Action by not including impact calls of the No Action on the GW1 - GW10 impact calls. Instead the No Action is represented in impact calls that do not correspond to the impact calls made for the Proposed Project and Alternatives. The impact calls for the No Action correctly identify the significant impacts of the CVP/SWP operations on groundwater</p>	<p>Please see response to comment 1601-325. For information on groundwater please see Chapter 7 of the Final EIR/EIS. Regarding compliance with the endangered species act, please see Master Response 29.</p>

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		<p>in the Tulare basin (flows and levels) and for other areas of the CVP/SWP service areas for groundwater levels, supplies, and recharge. The Proposed project is incorrectly identified as having less than significant impacts before and after mitigation for these same operational impacts.</p>	
1601	327	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Groundwater impact calls in the executive summary did not clearly indicate which impact calls were for which Conservation Measures.</p> <p>Comment:</p> <p>It is difficult to interpret the summary without an indication of which impacts are attributable to which conservation measures.</p>	<p>Groundwater Impacts GW-1 through GW-5 and GW-8 through GW-10 are related to the construction and operation of the conveyance facilities. Groundwater impacts GW-6 and GW-7 are related to implementation of future actions under Conservation Measures 2 through 22, as noted in the Groundwater Impact titles in Table ES-9 in the Executive Summary in the Draft EIR/EIS. It should be noted that groundwater impacts associated with wetland restoration in Suisun Marsh is only considered in the comparison of the alternatives as compared to the Existing Conditions because the Suisun Marsh restoration is included in the No Action Alternative and the action alternatives.</p>
1601	328	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-1: During construction, deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, or reduce the production capacity of preexisting nearby wells.</p> <p>Comment:</p> <p>The BDCP EIR/EIS does not explain why this impact is still Significant and Unavoidable after mitigation. All of these significant impacts are practical to mitigate by the project with a sufficient level of effort. The scale and level of effort for the avoidance, minimization and mitigation measures must be commensurate with the scale and cost of the proposed project. If the BDCP had put sufficient effort into avoiding, minimizing and fully mitigating impacts of the proposed project, there would be significantly less impact in scope, type and severity. The BDCP needs to develop appropriate mitigations to reduce this impact to less than significant after avoidance, minimization and mitigation measures are applied.</p>	<p>As described under Impact GW-1 in Chapter 7, Groundwater, in the EIR/EIS, the impacts due to dewatering during construction of the conveyance facilities may not be able to be fully mitigated to a level of less than significant or become not adverse because replacement water supplies may not meet the preexisting demands or planned land use demands of the affected party, including agricultural production wells. The effects of dewatering could be reduced through installation of seepage cutoff walls during dewatering. Implementing Mitigation Measure GW-1 would help address these effects; however, the impact may remain significant and unavoidable and adverse until groundwater elevations recover to preconstruction conditions, which could require several months after dewatering operations cease.</p> <p>For a discussion on significant and unavoidable impacts, please see Master Response 10. For more information also see response to comment 1601-319. For information on mitigation please see Master Response 22.</p>
1601	329	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-2: During operations, deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, or reduce the production capacity of preexisting nearby wells.</p> <p>Comment:</p> <p>The BDCP forebays will raise water tables in properties adjacent to them. Water tables that are elevated into the root zones of the crops creates water logging, a reduction in soil oxygen exchange, adds service load to drain tile systems and wicks salts into the root zone. If water tables are raised into the root zone of crops for more than a few weeks during the dormant season or for any duration any other time of year, the permanent crop will not longer be viable in that location. If salt wicking from the raised water table increases soil</p>	<p>The Groundwater Impact GW-2 addresses effects on wells due to operations of the conveyance facilities. Seepage of water could add volume to groundwater near the forebays under Alternatives 1 through 8, and therefore, the impacts would be less than significant and not adverse. However, groundwater could flow into the surface water canals under Alternatives 1B, 1C, 2B, 2C, 6B, and 6C, and therefore, the impacts to nearby groundwater wells under these alternatives could be significant and unavoidable and adverse.</p> <p>Impacts to agricultural drainage and production due to seepage are addressed under GW-4, GW-5, and AG-2 impacts.</p> <p>For more information on agricultural impact mitigation, please see Master Response 18. For a discussion of significant and unavoidable impacts, please see Master Response 10.</p> <p>Again, as already noted, the originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However,</p>

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		<p>Electrical Conductivity (EC) sufficiently, yield losses will occur. If EC values are raised to a higher level, certain salt sensitive crops will no longer be viable to grow on that land. If EC values are raised to an even higher level, the land may not be suitable to grow any crop and is therefore effectively converted from agricultural production to non-agricultural land uses which is a significant impact. Water table increase impacts from BDCP aquatic and wetland habitat restorations can be avoided, minimized and mitigated by: using geotechnical fabrics on habitat levees to reduce seepage to adjacent properties, using slurry walls in levees to prevent and reduce groundwater migration, use of toe drains outside of habitat restoration levees and install shallow groundwater wells in areas with increased water tables. The toe drains and shallow groundwater wells would need to be pumped out to draw down the water tables on the affected lands.</p>	<p>restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p>
1601	330	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-3: Degrade groundwater quality during construction and operation of conveyance facilities.</p> <p>Comment:</p> <p>These are clearly two very different types of impacts and they should not be lumped together into a single impact call. Other significance criteria used by other disciplines make separate impact calls for construction vs. operational impacts and the groundwater section should separate them to be consistent and provide adequate disclosure. Presumably construction-related impacts are temporary and operating impacts presumably are for the 50 year lifespan of the project or perhaps in perpetuity. The BDCP EIR/EIS does not distinguish the duration, scope, or magnitude of this impact such that these can be differentiated.</p>	<p>Under Groundwater Impact GW-3, the groundwater quality impact analysis separately identifies potential changes in conditions during construction and operations in Chapter 7, Groundwater, of the EIR/EIS. Because the results of the impact analyses are consistent during construction and operation, the results are combined into one row on Table ES-9 in the Executive Summary.</p>
1601	331	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-4: During construction of conveyance facilities, interfere with agricultural drainage in the Delta</p> <p>Comment:</p> <p>The NEPA call of "Not Adverse" after mitigation is incorrect. Even if drainages are replumbed as mitigation prior to disruption by construction there is still an operational disruption to the drainage during mitigation construction. The correct call should be "Adverse".</p>	<p>Groundwater Impact GW-4 addresses changes to drainage operations with respect to groundwater conditions following implementation of Mitigation Measure GW-1. Therefore, the changes are considered to be less than significant and not adverse with respect to groundwater.</p> <p>However, the effects on agricultural activities are addressed under Agricultural Impact AG-2 (see Chapter 14, Agricultural Resources, in the Draft BDCP EIR/EIS). The impacts to agricultural production due to temporary construction activities that could result in disruption of irrigation or drainage infrastructure, and could jeopardize agricultural production. Implementation of Mitigation Measures AG-1, GW-1, GW-5, and WQ-11 will reduce the severity of these impacts by implementing activities such as siting project footprints to encourage continued agricultural production; monitoring changes in groundwater levels during construction; monitoring seepage effects; relocating or replacing agricultural infrastructure in support of continued agricultural activities; identifying, evaluating, developing, and implementing feasible phased actions to reduce EC levels; engaging counties, owners/operators, and other stakeholders in developing optional agricultural stewardship approaches; and/or preserving agricultural land through off-site easements or other agricultural land conservation interests.</p> <p>However, these impacts remain significant and unavoidable and adverse to agricultural resources. For a discussion on significant and unavoidable impacts please see Master Response 10. For more information on agricultural impact mitigation please see Master Response 18.</p>

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1601	332	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-5: During operations of new facilities, interfere with agricultural drainage in the Delta. The BDCP EIR/EIS executive summary of mitigation actions says, "Deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, reduce the production capacity of preexisting nearby wells, or interfere with agricultural drainage as a result of implementing CM2-CM22".</p> <p>Comment:</p> <p>The BDCP EIR/EIS determined that the remaining impacts after mitigation is significant and unavoidable. In reality, the entirety of the impact can be mitigated with sufficient effort, so the BDCP is just trying to avoid spending money to fix the problems that the project created. All of these significant impacts are practical to mitigate by the project with a sufficient level of effort. As an example, toe drains at the base of the levees to intercept seepage water are highly practical and widely utilized. The scope and costs of implementing this simple and direct minimization measure is small in comparison to the scope and cost of the BDCP project. The BDCP needs to develop appropriate mitigations to reduce this impact to less than significant.</p>	<p>Groundwater Impact GW-5 is related to the programmatic analyses of Conservation Measures 2 through 22. The location, design criteria, and configuration of restoration areas will be defined in the future. During future planning and design efforts for these Conservation Measures, specific mitigation measures would be evaluated, including installation or improvement of subsurface agricultural drainage or equivalent drainage measures, such as toe drains. Mitigation measures are anticipated to reduce this impact to a less than significant level in most instances, though in some instances mitigation may be infeasible or may not fully reduce the impacts. Therefore the impacts are considered in this programmatic analysis as significant and unavoidable under CEQA and adverse under NEPA.</p> <p>For a discussion on significant and unavoidable impacts please see Master Response 10.</p>
1601	333	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-6: Deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, reduce the production capacity of preexisting nearby wells, or interfere with agricultural drainage as a result of implementing CM2-CM22</p> <p>Comment:</p> <p>The BDCP aquatic and wetland habitat restorations will raise water tables in properties adjacent to them. Water tables that are elevated into the root zones of the crops creates water logging, a reduction in soil oxygen exchange, adds service load to drain tile systems and wicks salts into the root zone. If water tables are raised into the root zone of crops for more than a few weeks during the dormant season or for any duration any other time of year, the permanent crop will not longer be viable in that location. If salt wicking from the raised water table increases soil Electrical Conductivity (EC) sufficiently, yield losses will occur. If EC values are raised to a higher level, certain salt sensitive crops will no longer be viable to grow on that land. If EC values are raised to an even higher level, the land may not be suitable to grow any crop and is therefore effectively converted from agricultural production to non-agricultural land uses which by CEQA guidance on significance criteria is a significant impact. Water table increase impacts from BDCP aquatic and wetland habitat restorations can be avoided, minimized and mitigated by: using geotechnical fabrics on habitat levees to reduce seepage to adjacent properties, using slurry walls in levees to prevent and reduce groundwater migration, use of toe drains outside of habitat restoration levees and install shallow groundwater wells in areas with increased water tables. The toe drains and shallow groundwater wells would need to be pumped out to draw down the water tables on the affected lands.</p>	<p>Implementation of wetlands restoration are anticipated to increase groundwater recharge and groundwater levels in some areas. The magnitude of these effects depends on existing groundwater levels and land uses. The location, design criteria, and configuration of restoration areas will be defined in the future. During future planning and design efforts for these Conservation Measures, specific mitigation measures would be evaluated, including installation or improvement of subsurface agricultural drainage or equivalent drainage measures. Mitigation measures are anticipated to reduce this impact to a less than significant level in most instances, though in some instances mitigation may be infeasible or may not fully reduce the impacts. Therefore the impacts are considered in this programmatic analysis as significant and unavoidable under CEQA and adverse under NEPA.</p> <p>Also see response to comment 1601-329 regarding habitat restoration.</p>

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1601	334	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-8: During operations, deplete groundwater supplies or interfere with groundwater recharge, alter groundwater levels, or reduce the production capacity of preexisting nearby wells</p> <p>Comment:</p> <p>The EIR/EIS document claim that there is "no feasible mitigation for this impact" is incorrect. The BDCP can do injection wells to restore depleted groundwater levels and groundwater interception wells for increased groundwater elevations. DWR uses groundwater interception wells adjacent to the Thermalito Afterbay at its Oroville facilities to mitigate for increases in local groundwater elevations.</p>	<p>Groundwater Impact GW-8 is associated with changes in groundwater elevations in the SWP and CVP service areas located to the south of the Delta due to changes in SWP and CVP water supplies. Under Alternatives 4 through 9 in the Draft EIR/EIS, the SWP and CVP water supplies would be less than under the Existing Conditions and the No Action Alternative. Therefore, it is assumed that water users would increase groundwater pumping under these alternatives. These impacts would not be mitigated by groundwater interception or injection well installation because the impacts are different than impacts related to seepage near Thermalito Afterbay.</p>
1601	335	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>GW-10: Result in groundwater level-induced land subsidence</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact call of "less than significant" both before and after mitigation is incorrect. The No Action is correctly indicated as having a significant impact for this resource. These two impact calls are in direct contradiction with each other. Variations in water supply deliveries in the No Action and in the Proposed Project result in over utilization of ground water as an alternative water supply in the service areas. Overdraft of groundwater in the service areas has historically caused land subsidence (over 40' in some areas), is continuing to cause additional land subsidence under the current conditions and will cause additional land subsidence under the No Action and Proposed Project future condition. These impacts are definitely not less than significant. Subsidence has collapsed water bearing strata and permanently reduced the groundwater supply potential. Groundwater depths have been increased which has increased groundwater pumping costs. Subsidence has and will continue to disrupt infrastructure, including water conveyance and drainage capacity, roads, pipelines, fiber optic lines, telephone and power lines, and levee integrity and fragility. The BDCP can mitigate the impact of variable quantities of water deliveries on groundwater level-induced land subsidence by not committing to deliver more water than it can reliably and consistently deliver. In the up-coming water delivery contract renewals, the contracted delivery amounts should be based on a sustainable and consistent delivery quantity that the CVP/SWP can deliver. Once contract amounts have been adjusted down to these levels, land use and water supply expectations will adapt to the new amount of available water. Groundwater will not continue to be depleted under these contract amounts, because use of groundwater supply on a consistent basis will be understood to be un-economic and unsustainable and therefore will not be drawn upon at all or above what is determined to be sustained by groundwater recharge.</p>	<p>As discussed in Section 7.3.3.1, in Chapter 7 of the Final EIR/EIS, changes in potential subsidence, as determined by the U.S. Geological Survey CVHM model, under the No Action Alternative as compared to the Existing Conditions would be considered to be minimal and not adverse. Similar changes are anticipated to occur under Alternatives 6 through 9 as compared to the Existing Conditions and the No Action Alternative. Less potential for subsidence would occur under other alternatives because the SWP and CVP water deliveries would increase as compared to the Existing Conditions and the No Action Alternative.</p>
1601	336	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p>	<p>Salinity in the Delta is a function of the amount and timing of freshwater input from the major tributaries, tidal action from San Francisco Bay, and exports from the Delta. During the late winter and spring months of seasonally elevated flows, and in wet years, seawater intrusion is limited and the Delta has mostly low</p>

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		<p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta and use of groundwater as a substitute water supply during periods of BDCP degraded surface water quality will poison the soils and crops.</p> <p>Comment:</p> <p>The BDCP EIR/EIS has identified a significant and unavoidable degradation of water quality in the Delta from increased saltwater intrusion from BDCP proposed operations. The BDCP EIR/EIS has failed to adequately evaluate how these significant surface water quality impacts effect groundwater quality. When surface water quality is reduced in the Delta due to BDCP operations, growers will utilize groundwater as a substitution for their BDCP compromised senior surface water rights and diversions. This increased reliance upon groundwater as a substitution water supply during periods of BDCP degraded surface water quality will result in increased groundwater withdrawals and increased hydraulic gradient from the tributary to the groundwater basin. The BDCP caused increase in hydraulic gradient from the tributary to the groundwater will pull water from the BDCP degraded water quality in the tributary into the adjacent groundwater profile. The lower quality (higher electrical conductivity (EC) and boron) water from the tributary will flow in on top of the deeper groundwater with little to no mixing with better quality deeper groundwater. The deeper groundwater quality may not be significantly affected for some time as it approaches the wellhead groundwater cone depression, but it will be degraded over time. The more immediate effect of the higher EC and Boron layer degraded water quality of near surface groundwater will occur nearly immediately. Groundwater tables are near the soil surface and in the crop root zone in most of the Delta in portions if not the entire year.</p>	<p>salinity. During low-flow summer and fall months, and during dry years, lower freshwater flows result in greater amounts of seawater intrusion. Staff from DWR and USBR constantly monitor Delta water quality conditions and adjust operations of the SWP and CVP in real time as necessary to meet water quality objectives set by the State Water Resource Control Board protection of agricultural water supply, municipal and industrial drinking water supply, and fish and wildlife beneficial uses.</p> <p>Without implementation of large-scale habitat restoration, the effects on salinity under the action alternatives as compared to the No Action Alternative would be less than with large-scale restoration. For example under Alternative 4A, salinity generally would be similar or less than under No Action Alternative in the central Delta (e.g., near Jersey Point, Rock Slough, and along Sacramento River downstream of Steamboat Slough). However, salinity would increase under Alternative 4A as compared to the No Action Alternative in July through September along the Sacramento River near Collinsville and Emmaton; and generally decrease or be similar in remaining months, as presented in Appendix 5A, Section C, of the EIR/EIS. Please see Chapter 8 and associated appendices in the EIR/EIS and Master Response 14 on water quality.</p> <p>Regarding bromide, impact WQ-5 in Section 4.3.4, Water Quality, of the RDEIR/SDEIS examines the potential effects on bromide concentrations resulting from facilities operations and maintenance of the proposed project. Increases in exceedances of the 100 µg/L assessment threshold concentration for protecting against the formation of disinfection byproducts in treated drinking water would be 6% or less at all locations assessed, which is considered to be less than substantial long-term degradation of water quality. Further, the use of seasonal intakes for municipal water supply is opportunistic in the areas affected (Antioch and Mallard Island), largely driven by acceptable water quality, and opportunity to use these intakes would remain. As such, the levels of bromide degradation that may occur under the Alternative 4A would not be of sufficient magnitude to cause substantially increased risk for adverse effects on any beneficial uses of water bodies within the affected environment.</p> <p>Therefore, it is not anticipated that groundwater quality would substantially change under Alternative 4A as compared to the No Action Alternative due to operations of the conveyance facilities.</p> <p>As described in Chapter 7 of the EIR/EIS, groundwater quality is anticipated to be lower under action alternatives with large-scale habitat restoration as compared to the No Action Alternative.</p> <p>For a discussion on significant and unavoidable impacts, please see Master Response 10.</p>
1601	337	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta and use of groundwater as a substitute water supply during periods of BDCP degraded surface water quality will poison the soils and crops.</p> <p>Comment:</p> <p>Salts wick up through the soil from shallow groundwater by capillary action with soil particle interstitial spaces. Even though the salts from the tributaries may not reach the wellheads for several years, the near surface migration of salts from the tributary recharge of the BDCP depressed groundwater cone will start affecting the salinity of the root zones of the crops near the edges of the islands in the first season or two. Once salts have been pulled into the shallow groundwater, it will be nearly impossible for the grower to manage the salts. In</p>	<p>Please see response to comment 1601-336. Also see Master Response 18 for information on agricultural impact mitigation. Also see Chapter 14 of the Final EIR/EIS, Agricultural Resources.</p>

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		<p>areas of deeper groundwater (e.g. Southern Central Valley), a grower can flush salts down and out of the root zone. In the Delta, because of the shallow groundwater table, irrigations to flush salts out of the root zone will only raise the water table and cause the salts to wick higher into the root zone. The leaching irrigation has nowhere to go so it will only slightly dilute the salts, but again the salts will wick up through the soil. Even a thin layer of degraded groundwater quality that occurs in or near the root zone could make larger portions of the Delta unfarmable in a matter of just a few years. This BDCP impact converts the farmland to a different land use (non-farming) which by CEQA significance criteria is a significant impact. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of reduced shallow groundwater quality in the Delta that would be caused by the BDCP proposed operations. The BDCP can minimize this significant impact by actually complying with the current water quality requirements instead of frequently violating them as the current CVP/SWP operations do. The BDCP can mitigate this impact by providing alternative water supplies to areas of degraded surface water supplies so that the growers do not have to rely upon groundwater as an alternative supply.</p>	
1601	338	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from reclamation district operations to draining the islands.</p> <p>Comment:</p> <p>Many islands in the Delta have land elevations that are at, near or below the water levels of their surrounding tributaries. The only way the islands are maintained from becoming flooded by seepage from the tributaries is to nearly continuously pump water out from the drainage ditches in the Reclamation District back into the tributary. By the Reclamation District pumping the water off of the island or tract, the groundwater levels are maintained to levels that are farmable (3 to 8 foot minimum depending on crop type and season). The amount of shallow groundwater pumping and rate of turnover of shallow groundwater recharge from the tributary is dependent upon several factors. The more porous the levees and soils, the faster the movement of tributary water into the shallow groundwater. The larger the difference between the tributary water elevation and the groundwater height (hydraulic gradient), the faster the movement of tributary water into the shallow groundwater. Even a thin layer of degraded groundwater quality that occurs in or near the root zone could make large portions of the Delta unfarmable in a matter of just a few years. This BDCP impact of surface water quality degradation that causes shallow groundwater quality degradation will result in a conversion of farmland to a different land use (non-farming) which according to CEQA guidance significance criteria is a significant impact. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. This minimization measure would need to be complemented by the BDCP also providing an alternative surface water supply of non-degraded quality for the</p>	Please see response to comment 1601-336 and response to comment 1601-337.

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		farmers to use as an alternate water supply. These suggested avoidance and minimization measures are practical, feasible, well tested and accepted and are small in scale in comparison to the scope and cost of the overall BDCP proposal.	
1601	339	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p> <p>Due to the shallow groundwater tables in the Delta, many open ground fields and most permanent crop plantings utilize drain tile to maintain groundwater levels and keep groundwater moving to protect their crops and the productivity of the soils. Most permanent crop plantings are adjacent to the levees due to their higher elevation, better drainage and better soils. This means that the drain tiles that are under most of permanent crops planted in the Delta are right next to the tributaries. Drain tiles are typically installed at 6 to 10 feet deep, depending on soil type, crop type, groundwater table elevations and topography (drainage). The drain tile function is to reduce the groundwater table elevations, creating a localized groundwater table depression to protect the soil and crops from groundwater elevations that are too shallow. The groundwater collected from the drain tile is transported via drainage pipes to the lower elevation drainage ditches that are located near the center of the islands and tracts. This necessary drain tile function creates the same increased hydraulic gradient from the island groundwater table from the surrounding tributaries. The impacts from the degraded groundwater quality from the BDCP operations will occur even more quickly with drain tile operation interactions than the impacts to shallow groundwater quality. Degraded surface water quality from the BDCP operations will be pulled into the shallow groundwater table where the drain tiles are functioning in the same manner. The drain tiles will collect this degraded quality groundwater and drain the water to the main drainage ditches. These drainage ditches are also water supply ditches that are pumped out of to irrigate other fields. These central drains/water supply ditches is how water supply is delivered to most fields that are in the interior of the islands and tracts. Through the function of the drain tile and drainage of those systems into the water supply ditches in the middle of the islands and tracts, the degraded shallow groundwater from BDCP operations have now been translated back into additional impacts to water quality of surface water supplies for the interior fields. Because of the proximity of the drain tiles to the tributaries and the function of the drain tile to translocate the drainage water to the main ditches, this mode of impact could occur very quickly, e.g. the first year of degraded surface water quality from the BDCP operations. The scope of this impact is not small either.</p>	Please see response to comment 1601-336 and response to comment 1601-337.
1601	340	<p>Document Section: Chapter 7 - Groundwater</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p>	Please see response to comment 1601-336 and response to comment 1601-337.

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		<p>Most of the islands and tracts, with the exception of some of the most interior Delta and lowest elevation islands, are ringed by permanent crop plantings at their outside edges. Cumulatively, these represent several hundred miles of tributary length that have drain tiles installed adjacent to them. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta and the translation of that shallow groundwater quality degradation into a subsequent degradation of additional surface water supply water quality that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. The BDCP can further minimize this significant impact by providing for and maintaining sump pumps for the tail water coming out of the drain tile systems. The sump pump would discharge the drain tile water back into the tributary rather than letting the degraded shallow groundwater contaminating the surface water supplies at the main drain/water supply ditches. The use of sump pumps on drain tile systems is a common practice in the southern central valley as the topographic gradients are not sufficient to allow drain tile function without the sump pumps. Because the use of sump pumps on drain tile systems is common practice in the CVP/SWP service areas, the BDCP cannot claim that there are no feasible, practicable measures to avoid, minimize or mitigate this significant impact of the BDCP proposed operations.</p>	
1601	341	<p>Document Section: Chapter 7 - Groundwater, Reusable Tunnel Material Testing Report - Section 3.1.3</p> <p>Issue:</p> <p>The water permeability of the polymer treated samples is much lower than the untreated samples.</p> <p>Comment:</p> <p>The water infiltration rate of the treated tunnel muck is much lower than the untreated materials. The analysis should also have included a comparison to the infiltration rates of the soils that would be covered by the tunnel muck disposal to determine the impacts to soil suitability for agriculture, habitat, groundwater recharge, surface erosion, cumulative drainage, and surface water drainage quantity and quality. The BDCP EIR/EIS failed to conduct these assessments on the impacts of the infiltration rates of the tunnel muck disposal.</p>	<p>Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1).</p> <p>A berm of compacted imported soil would be built around the perimeter of the RTM storage area to ensure containment. An impervious liner would be placed on the invert and interior slopes of the berm to prevent groundwater contamination as described in Appendix 3C, found in Construction Assumptions for Water Conveyance Facilities, Appendix A of the RDEIR/SDEIS.</p> <p>For more information on reusable tunnel material please see Master Response 12.</p>
1601	342	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The Regional Water Quality Control Board's revision to the Basin Plan are not covered by the scope of the BDCP EIR/EIS.</p> <p>Comment:</p> <p>The BDCP EIR/EIS document does not address the environmental impacts of revising the</p>	<p>The preferred alternative, Alternative 4A assumes the current SWRCB Decision 1641 and BiOp requirements and thus would meet the current flow, water quality and other requirements currently established to protect beneficial uses. Alternative 8 does address an increased outflow scenario and its effects are fully analyzed. It is not appropriate to assume potential revisions to the Water Quality Control Plan (WQCP) in the EIR/EIS analyses, but the EIR/EIS does provide supplemental information for the SWRCB in Appendix 5E which explores a range of Delta outflows in the context of those proposed under the preferred alternative. Should the SWRCB adopt a new Delta WQCP, DWR would comply with its requirements.</p> <p>For more information on operational criteria, please see Master Response 28. Master Response 33 discusses</p>

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		<p>Basin Plan standards. The Basin Plan is being revised so that it can set standards that the BDCP project can meet, as the water board cannot issue a 401 permit on a project that will consistently violate the water quality standards. Rather than the project having to be designed and operated such that it complies with the current water quality standards in the current Basin Plan to protect the beneficial uses of water as they are currently defined, the Basin Plan is being revised to lower the bar so that the project can degrade water quality without being in violation of the standards and therefore can be issued a 401 permit. The BDCP EIR/EIS did not do an analysis of the impacts of the changes in the water quality standards in the revised Basin Plan, so the BDCP EIR/EIS does not provide environmental coverage for that revision. The water board needs to do its own CEQA document to evaluate the impacts of the revisions to the Basin Plan.</p>	<p>adaptive management. For information on permitting please see Master Response 45.</p>
1601	343	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP EIR/EIS states, "Until the Federal Energy Regulatory Commission (FERC) issues the new license for the Oroville Project, DWR will not substantially change the operations of the facilities."</p> <p>Comment:</p> <p>This statement is incorrect. There are some of the elements of the State Water Resources Control Board (SWRCB) 401 Mandatory Conditioning that are more restrictive and the Oroville project has to operate to the negotiated new license terms pending the license issuance.</p>	<p>As described in Appendix 5A of the Final EIR/EIS, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions, the Existing Conditions, No Action Alternative, and Alternatives 1 through 9 assume continuation of operations of the SWP Feather River operations in accordance with the settlement agreement developed under the Federal Energy Regulatory Commission (FERC) process because this represents continuation of existing policy and management into the future. If the final adopted FERC license contains different operational criteria, the operations of the SWP and CVP will be reviewed to determine if future engineering and environmental analyses are required which may lead to changes in SWP and CVP operations, including future operations of the proposed project facilities.</p> <p>For more information on operational criteria, please see Master Response 28. Master Response 33 discusses adaptive management.</p>
1601	344	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Under BDCP proposed operations, the Oroville facilities no longer complies with the Operations Criteria and Plan (OCAP) Biological Opinion (BO), 1983 California Department of Fish and Game (DFG) Operating Agreement or the Federal Energy Regulatory Commission (FERC) Negotiated Settlement Agreement.</p> <p>Comment:</p> <p>The BDCP reoperates Oroville to provide additional water supply in the spring and reduces exports during the summer to end up with a similar amount of storage at the end of September reservoir carryover storage. Reducing exports during the summer denies the Oroville facilities an important downstream water temperature control action, increased flows. Increased flows in the summer (which the Oroville Facilities are now less capable of doing under the BDCP proposed operations) carries release water temperatures farther downstream than lower flows. The increase in flow velocity and the increased volume of water to warm means that the same water temperature at facilities release will result in compliance with water temperature requirements farther downstream. The Oroville facilities have water temperature compliance requirements from the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) OCAP BOs, State Water Resources Control Board (SWRCB) 401 Certificate, 1983 Operating Agreement with DFG, and from the Negotiated FERC Settlement Agreement that due to the BDCP proposed operations</p>	<p>Under all action alternatives, Lake Oroville would be operated in accordance with the operations criteria identified under the Existing Conditions, including the current annual FERC license and California Department of Fish and Wildlife 1983 Operating Agreement. However, this would result in lower reservoir surface water elevations and higher temperatures during the summer months in the Feather River. As described in the EIR/EIS, these effects would be significant and unavoidable under several of the action alternatives. Alternative 4A does not includemodified discharge patterns for Lake Oroville. As described in Appendix 5A, Section C, of the Final EIR/EIS, modeling results indicate that reservoir surface water elevations in Lake Oroville would be similar or higher except in June through August under the proposed project (Alternative 4A) as compared to the No Action Alternative. The lower reservoir surface water elevations in June through August would result in higher temperatures during the summer months in the Feather River under Alternative 4A as compared to the No Action Alternative.</p> <p>It should be noted that the surface water elevations in Lake Oroville are lower than under the Existing Conditions in all months primarily due to climate change and sea level rise assumptions under Alternative 4A as compared to Existing Conditions. These changes would occur with or without implementation of the proposed project and would result in increased water temperatures in the downstream rivers.</p> <p>For more information on operational criteria, please see Master Response 28. Master Response 33 discusses adaptive management.</p>

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		would be in violation of these requirements on a more frequent basis than under the No Action condition.	
1601	345	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP EIR/EIS states, "This covered activity would also include improvements and routine maintenance of the Fremont Weir and Yolo Bypass..."</p> <p>Comment:</p> <p>The BDCP description of covered activities of these facilities is incomplete, misleading and is inadequate in level of detail to merit issuance of coverage under permits based on this environmental document. The BDCP proposes these improvements as a "near- term" activity which it plans to implement based on the environmental analysis in its current EIR/EIS. As an example of undisclosed impacts, the BDCP document does not identify, characterize, quantify or disclose the amount, timing, type, frequency and locations of dredging to maintain the channel approach to the fish ladders from the river and for the channels leading from the bypass to the fish ladders. High flows can regularly erase these channels that are required for fish passage to be functional and dredging could be required on an annual or even more frequent basis. Dredging is a high impact activity and the BDCP provides no detailed description of these activities sufficient to allow any meaningful analysis or disclosure. Further, the BDCP provides no measures to avoid, minimize, or mitigate the significant impacts that always occur with dredging. The BDCP EIR/EIS is incomplete in its analysis and disclosure, is deficient and requires this additional analysis, should be recirculated after this analysis is completed and should not be provided with coverage of these activities without the additional level of detail and disclosure. An accurate, stable, and finite project description is the sine qua non of an informative and legally sufficient EIR. (County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 193.) An adequate project description is necessary to ensure that CEQA's goals of providing information about a project's environmental impacts will not be rendered useless. The description of a project in an EIR must be sufficient to provide public agencies and the public with detailed information about the effects the proposed project is likely to have on the environment. (Dry Creek Citizens Coalition v. County of Tulare (1999) 70 Cal.App.4th 20, 26.)</p>	<p>Although more information is available regarding the Yolo Bypass improvements included in some of the action alternatives, this conservation measure is analyzed at a program level of detail versus a project-level of detail, therefore some of the project details are unknown at this time. If an alternative that includes Yolo Bypass actions is approved, additional project level analysis for this action may be required prior to implementation. It should be noted that the current preferred CEQA and NEPA alternative (Alternative 4A) does not include Yolo Bypass improvements. Please refer also to Master Response 2 which describes the EIR/EIS approach to project versus program level analyses.</p>
1601	346	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Reduce stream flow in any natural water body sufficiently to substantially impair designated beneficial uses or violate water quality objectives. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>The BDCP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	<p>Lead agencies have developed the appropriate significance criteria based on each resource area and considering the requirements for a CEQA impact analyses.</p> <p>As related to Water Quality, the Lead Agencies based the significance criteria on current regulatory standards.</p> <p>For more information on water quality, please see Master Response 14. Information on permitting can be found in Master Response 45. For information on operational criteria and adaptive management, please see Master Response 28 and Master Response 33, respectively.</p>
1601	347	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p>	<p>Please see response to comment 1601-346.</p>

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		<p>Violate any water quality standards or waste discharge requirements. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents. It is illegal for the State Water Resource Control Board (SWRCB) to issue permits to a project that they know will be in violation of water quality and waste discharge requirements. The BDCP must analyze this exact impact criteria, not only to be consistent with previous agency precedent setting documents, but also so the SWRCB can assess the project for compliance with current and pending regulations which have bearing on the issuance of 401, discharge permits and other permits. Without this exact impact assessment in the EIR/EIS, the SWRCB should not issue permits to the BDCP. The SWRCB also must not lower water quality requirements to accommodate the BDCP operational conditions so they would not be in violation of the revised lower water quality requirements. The current water quality requirements have been established to protect and conserve the beneficial uses of the waters of the state. The level of protection must not be eroded to accommodate the political will of the proponents of the BDCP. Any relaxation of water quality requirements to accommodate the BDCP will be challenged in court.</p>	
1601	348	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Substantially alter an existing drainage pattern of the site or area, including alteration of the course of a stream or river, in a manner that would result in substantial erosion, siltation on- or off-site. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents. The BDCP must analyze and disclose this exact impact criteria, not only to be consistent with previous agency precedent setting documents, but because the BDCP proposed project precipitates these exact same types of impacts on a very large scale with very significant impacts.</p>	<p>This impact discussion is presented in Chapter 6, Surface Water, of the Final EIR/EIS under Impact SW-4 and SW-5 for each action alternative. Also see response to comment 1601-346.</p>
1601	349	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Impacts on water quality are considered significant if: beneficial uses of the water are adversely affected, existing regulatory standards are exceeded, or an undesirable effect on public health or environmental receptors is produced. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	<p>There is no requirement for the Lead Agencies to use the same significance criteria as other projects. The significance criteria used in the Water Quality chapter were chosen specifically to address water quality concerns associated with this project. Also see response to comment 1601-346.</p>
1601	350	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p>	<p>Please see response to comment 1601-346.</p>

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		<p>The impact significance criteria for water quality variables that have regulatory objectives or numerical standards, such as those contained in the 1995 Water Quality Control Plan (WQCP), are developed from the following general considerations: Numerical water quality objectives have been established to protect beneficial uses, and therefore represent concentrations or values that should not be exceeded; violation of the limits would be significant. Natural variability caused by tidal flows, river inflows, agricultural drainage, and biological processes in the Delta channels is sometimes quite large relative to the numerical standards or mean values of water quality variables. Changes in water quality variables that are greater than natural variations, but are within the limits established by numerical water quality objectives, may cause significant impacts; criterion for determining significant monthly changes is necessary. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	
1601	351	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Increases in electrical conductivity (EC) values that result in exceedance of the maximum objective at specified locations in the Delta are considered to be significant water quality impacts. Monthly changes in EC values are also considered to be significant if they exceed 10% of the applicable objective. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	Please see response to comment 1601-346.
1601	352	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Electrical conductivity (EC) objectives (i.e., X2) specified in the 1995 Water Quality Control Plan (WQCP) are applicable at Chipps Island during several months (February-June of most years). The maximum EC objective at Chipps Island is about 2,640 micro-Siemens per centimeter (<math>\mu\text{S}/\text{cm}</math>) (corresponding to a 2-parts per thousand (ppt) salinity at Chipps Island) and must be satisfied for a specified number of days each month, depending on the previous month's runoff. For Chipps Island, the threshold of 10% change is equivalent to an allowable increase of 264 <math>\mu\text{S}/\text{cm}</math> when the 2,640-<math>\mu\text{S}/\text{cm}</math> estuarine objective is applicable (as long as the EC objective is not exceeded). (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	Please see response to comment 1601-346.
1601	353	Document Section: Chapter 8 - Water Quality	Please see response to comment 1601-346.

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		<p>Issue:</p> <p>Agricultural objectives for electrical conductivity (EC), ranging from 450 micro-Siemens per centimeter (<math>\mu\text{S}/\text{cm}</math>) to 2,200 <math>\mu\text{S}/\text{cm}</math>, are applicable at Jersey Point from April through August 15. Similar EC objectives are applicable at Emmaton. At Emmaton and Jersey Point, the threshold of 10% change is equivalent to an allowable increase of 45 <math>\mu\text{S}/\text{cm}</math> when the 450-<math>\mu\text{S}/\text{cm}</math> EC objective is applicable. Both locations have 30-day moving average EC objectives of 1,000 <math>\mu\text{S}/\text{cm}</math>. The threshold of a 10% change is equivalent to an allowable increase of 100 <math>\mu\text{S}/\text{cm}</math> at the south Delta compliance locations. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	
1601	354	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>There are objectives of 250-milligrams per liter (mg/l) Cl- concentration at the four south Delta export locations (Contra Costa Water District (CCWD) Rock Slough, CCWD Old River, SWP Banks, and CVP Tracy). The CCWD at Rock Slough chloride is also subject to a 150-mg/l objective for about half of each calendar year (5 months in critical years, 8 months in wet years). (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	Please see response to comment 1601-346.
1601	355	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Increases in monthly export Dissolved Organic Carbon (DOC) of more than 10% of the mean DOC concentration (assumed to be about 4 milligrams per liter (mg/l)), or about 0.4 mg/l, are considered to be significant water quality impacts. (South Delta Improvements Program (SDIP) Sig Criteria and Yuba Accord)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	Please see response to comment 1601-346.
1601	356	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The minimum dissolved oxygen (DO) objectives in the Stockton Deep Water Ship Channel (DWSC) are 5 milligrams per liter (mg/l) from December through August and 6 mg/l from September through November (to protect adult migration of Chinook salmon). Any monthly</p>	Please see response to comment 1601-346.

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		<p>estimated DO concentration less than the applicable objective is considered to be a significant impact. Any reduction in a monthly estimated DO concentration that is more than 10% of the applicable objective (0.5 mg/l) is also considered to be a significant impact. (South Delta Improvements Program (SDIP) and Yuba Accord Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	
1601	357	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Reduces the quality of an agency's SWP water supply or another agency's Delta water supply such that it is more difficult to treat to meet applicable federal or state drinking water standards for finished water or to maintain existing finished water quality. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>The BCDP EIR/EIS should use the same significance criteria as other previous and related precedent-setting documents.</p>	Please see response to comment 1601-346.
1601	358	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The current CVP/SWP operations are frequently in violation of the current water quality requirements.</p> <p>Comment:</p> <p>The BDCP seeks a relaxation of water quality requirements from a revised Regional Water Quality Control Board Basin Plan Standards so that it can operate without violating the water quality requirements. The Water Board should not reduce the stringency of water quality compliance requirements just so the CVP/SWP can continue to cause these significant impacts without also being in violation of the law. The Water Board should not revise the Basin Plan standards or issue a 401 Certification for the CVP/SWP or the BDCP until the project completely and consistently complies with current water quality standards.</p>	Please see response to comment 1601-342. For information on the public trust, please see Master Response 13.
1601	359	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Aquatic habitat restoration plan level of detail is insufficient to allow any meaningful analysis of water quality effects or understanding of interactions of these actions with the BDCP proposed CVP/SWP operations.</p> <p>Comment:</p> <p>The BDCP does not describe or disclose the proposed aquatic habitat characteristics in a level of detail sufficient to support the evaluation of the nature and magnitude of impacts</p>	<p>Alternatives that were presented in the Draft EIR/EIS evaluated restoration conservation measures at a program level of detail that match the level of detail in the Draft BDCP. Operations modeling analyses performed with CALSIM II and DSM2 included assumptions about tidal wetland restoration actions proposed under the alternatives to approximate the effect these changes could have on Delta hydrodynamics. These assumptions are included in Appendix 5A, EIR/EIS, Modeling Technical Appendix.</p> <p>For more information on project level versus program level analysis, please see Master Response 2.</p>

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		<p>from these actions. An accurate, stable, and finite project description is the sine qua non of an informative and legally sufficient EIR. (County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 193.) An adequate project description is necessary to ensure that CEQA's goals of providing information about a project's environmental impacts will not be rendered useless. The description of a project in an EIR must be sufficient to provide public agencies and the public with detailed information about the effects the proposed project is likely to have on the environment. (Dry Creek Citizens Coalition v. County of Tulare (1999) 70 Cal.App.4th 20, 26.) The BDCP description of these actions does not disclose water depth, substrate, in-situ and mobilized sediments, channel complexity, turbidity, food base, hydraulic characteristics of tidal interchange, time requirements for habitat functionality to develop after implementation, and hydraulic complexity development. Without these specific descriptions of the proposed aquatic habitat restorations, there cannot be an appropriate evaluation of methylization of Hg, turbidity, dissolved oxygen (DO), concentration of salts and other water quality constituents from evaporation and transpiration, habitat type and quality, contribution to species conservation, and other water quality impacts. Water quality impacts from these proposed BDCP aquatic habitat restorations affect compliance with water quality standards that are CVP/SWP operating requirements. The water quality impact from these BDCP proposed habitat restorations are intensely interactive with the CVP/SWP operations. Without sufficient detail on the habitat restorations, the impacts of their water quality changes on CVP/SWP operations cannot be determined. The BDCP description of the proposed aquatic habitat restorations and their analysis of them are deficient and are insufficient to support issuance of incidental take permits for the proposed CVP/SWP operations, the conveyance or restoration actions. The BDCP should provide adequate level of detail such that an appropriate environmental analysis of these proposed aquatic habitat restorations could be evaluated, characterized, quantified and disclosed. Once that is done then avoidance, minimization and mitigation measures can be proposed by the BDCP for the significant impacts from these proposed actions.</p>	
1601	360	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>There is insufficient information on the design, function, size, location, timing, sequence of implementation and combinations of habitat restoration actions to evaluate the effects on species even at a programmatic level.</p> <p>Comment:</p> <p>As an example of the deficiency of the description of the proposed aquatic habitat restorations, the current descriptions do not identify and are insufficient to determine if the aquatic habitat restorations would be sediment sinks or sources. The locations and sizes of the levee breaches on lands to be inundated for the aquatic habitat restorations to determine if the restorations would be sediment contributors or sinks and the BDCP did not disclose the location or sizes of proposed aquatic habitat restorations. This is an important water quality impact determination, so without this necessary level of detail, the potential impact of the proposed aquatic habitat restorations cannot be determined. There are additional deficiencies in the description of the aquatic habitat restorations that do not describe the depth of water and rates circulation. This information is required to evaluate if the aquatic habitat restorations would promote mercury methylization or export Dissolved Organic Carbon (DOC) impacts. Since these impacts cannot be determined, even at a</p>	<p>The aquatic restoration actions referred to in this comment are evaluated at a program level of detail in the Draft EIR/EIS to reflect the level of detail presented in the Draft BDCP. Should an alternative presented in the Draft EIR/EIS be approved, additional environmental review of individual projects implementing these conservation measures could be required to disclose project level impacts. Also see response to comment 1601-359.</p>

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		<p>programmatic level based on the level of description of the habitat restoration measures provided by the BDCP, the agencies cannot justify issuing permits on the BDCP project or credit these habitat restorations with contributions to conservation.</p>	
1601	361	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP EIR/EIS impact analyses did not include sediment transport models, sediment and contaminant fate and associated contaminant mobilization from Yolo Bypass inundation flows or other habitat restorations.</p> <p>Comment:</p> <p>Since the BDCP proposed project did not have specific operating rules for the magnitude, frequency and duration of Yolo Bypass inundation flows, it is not currently possible for the project to have done the necessary sediment transport, contaminant mobilization, and sediment and contaminant fate analysis that are a prerequisite for a project-level analysis that would be required for construction-related permits for this action. The Yolo Bypass will have a number of contaminants in the soil from historical agricultural practices, endemic soil characteristics and from upstream contaminants that have settled in the bypass that would all be at risk of being mobilized and increased in the magnitude duration and frequency of mobilization as compared to the existing condition and No Action condition by the BDCP proposed bypass inundation operations. Known water quality factors and contaminants in the Yolo Bypass inundation analysis should have included, but are not necessarily limited to: DDT and its derivative products, Hg, Pb, Se, Fe, salts and Dissolved Organic Carbon. In order to complete a project-level of analysis, the BDCP would need to: use detailed topographic mapping of the Yolo Bypass (DWR has high resolution LIDAR mapping of the bypass but didn't use it in the analysis); include detailed designs for the modifications to Fremont Weir (the BDCP did not include); include detailed designs for Yolo Bypass modifications (the BDCP did not include) to channel flows and to minimize fish stranding; include vegetation management plans (the BDCP did not include) and models that would estimate vegetative impairments to bypass flow capacities and redirections of flow velocities; include detailed operating rules for inundation flows (the BDCP did not include) including the conditions under which inundation flows would occur, the magnitude of flows under those conditions, and the durations of flows under those conditions; and ramping rates for both increasing and decreasing inundation flows. Once the project has those requisite project level descriptions of this action, the EIR/EIS could utilize the best available science to conduct sediment and contaminant mobilization, transport and fate analyses. The BDCP proposes to implement this restoration action based on the analysis in this BDCP EIR/EIS, but the omissions in the plan detail and omissions in the analysis result in a document that is inadequate to support construction-related permitting. The BDCP EIR/EIS document is clearly incomplete and deficient to support project-level construction-related permitting to implement this proposed restoration action. If the BDCP EIR/EIS is not revised and recirculated to support this project-level of analysis, this restoration action will require a subsequent environmental document. The BDCP's proposed project assumes the Yolo Bypass will be implemented in the near-term so unless the current EIR/EIS document is revised and recirculated, the BDCP will fail to meet the implementation schedule for this conservation measure. If this and other near-term restoration actions will be addressed in subsequent environmental documents, the BDCP will not meet it's implementation timeline. If the BDCP does subsequent environmental documents for restoration actions that are</p>	<p>The Yolo Bypass restoration action is not included in the proposed project (Alternative 4A) and is being evaluated and permitted separately from the CWF. For more information on habitat restoration please see response to comment 1601-226. Also see Master Response 2 for information on project level versus program level analysis.</p>

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		planned to be implemented temporally coincident/concurrent with the construction of the conveyance would clearly be piece-mealing the environmental process.	
1601	362	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Periodic dredging to maintain BDCP facilities would have similar impacts as their initial construction activities.</p> <p>Comment:</p> <p>The BDCP proposed project has not defined or disclosed a schedule and plan for dredging maintenance of proposed facilities. As an example, the Fremont Weir fish passage will require periodic dredging of the channel to connect the river to the fish ladder and the fish ladder to the channel that connects it to the Tule Drain. The BDCP has provided no estimates of the volume and frequency of dredge material excavation, disposal of dredge spoils, the water quality impacts, or habitat impacts that would occur from these operations. The BDCP EIR/EIS should include a dredging plan and environmental analysis at least equivalent in level of detail and specificity as the Initial Draft Study of the Sacramento Weir Sediment Removal Project, dated March 12, 2009 prepared by DWR Division of Flood Management. The impacts of the dredging maintenance of the facilities are similar to those of the original construction impacts, including: air quality, water quality, traffic, fisheries, terrestrial species, aesthetics, recreation, etc. The BDCP has not developed dredging plans for the location, method, frequency, extent of disturbance, seasonal timing of operations. The BDCP has not developed any avoidance, minimization or mitigation measures for the significant water quality impacts from dredging activity. Dredging may also be required to develop and maintain some of the aquatic habitat restorations, but the BDCP has not disclosed those significant water quality impacts either.</p>	<p>The effects of dredging for operations of the conveyance facilities under Conservation Measure 1 are described in the Final EIR/EIS under Impact WQ-29: Effects on TSS and Turbidity Resulting from Facilities Operations and Maintenance (CM1). Implementation of changes in the Yolo Bypass under Conservation Measure 2 in the EIR/EIS is only considered in a programmatic manner for Alternatives 1 through 9 to implement BDCP. This information can be found in the Final EIR/EIS, Impact WQ-30: Effects on TSS and Turbidity Resulting from Implementation of CM2–CM21. Please see Appendix 3B of the Final EIR/EIS for more information on dredging.</p> <p>It also should be noted that habitat restoration to be completed under the 2008 USFWS and 2009 NMFS biological opinions in Suisun Marsh and Yolo Bypass, respectively, are included in the No Action Alternative analyzed in the Final EIR/EIS as well as Alternatives 4A, 2D, and 5A. Therefore, there would be no changes related to dredging maintenance activities in Yolo Bypass under the new Proposed Project (Alternative 4A) and Alternatives 2D and 5A as compared to the No Action Alternative. Separate engineering and environmental documentation is being completed by DWR and Reclamation to develop habitat restoration program in Yolo Bypass and evaluate potential changed conditions, including periodic dredging.</p>
1601	363	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Section 404 guidelines state at 40 CFR 230.10(b) that "No discharge of dredged or fill material shall be permitted if it: (1) Causes or contributes to violations of any applicable State water quality standard."</p> <p>Comment:</p> <p>Tunnel spoils from the BDCP proposed conveyance will be disposed as fill material. The tunnel spoils will contain contaminants that are endemic to the Delta, e.g. Hg, Se, Pb, etc. The BDCP has proposed no measures to prevent the tunnel spoil material from erosional deposition (wind and water) into waters of the U.S. The deposition of the contaminated soils into the waters of the U.S. will cause and/or contribute to violations of water quality standards and therefore, the BDCP project should not be awarded either a 401 or 404 permit. The water quality degradation also impairs the habitat quality of essential habitat for the Endangered Giant Garter Snake which inhabits the ditches that are adjacent to BDCP proposed tunnel spoil disposal areas.</p>	<p>Please refer to Appendix 3B which provides the following environmental commitments to avoid adverse effects from RTM storage</p> <ul style="list-style-type: none"> <li>• 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material</li> <li>• 3B.2.5 Stormwater Pollution Prevention Plans, and</li> <li>• 3B.2.6 Develop and Implement Erosion and Sediment Control Plans</li> </ul> <p>The potential for RTM storage areas effects on wildlife species including the giant garter snake are fully addressed in Chapter 12, Terrestrial Biological Resources.</p> <p>More information on reusable tunnel material please see Master Response 12. Information on permitting can be found in Master Response 45. Also see Master Response 14 and Chapter 8 of the Final EIR/EIS for information on water quality. For information on compliance with the Endangered Species Act, please see Master Response 29.</p>
1601	364	Document Section: Chapter 8 - Water Quality	Timing, magnitude, and duration of salinity (EC) changes were considered in the evaluation of EC impacts on

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		<p>Issue:</p> <p>The BDCP analysis of water quality violations does not take into account the duration, frequency, magnitude and timing of water quality violations.</p> <p>Comment:</p> <p>The BDCP analysis compares the number of water quality violations of the proposed project and alternatives to the baselines, but does not adequately evaluate the differences in the timing, magnitude and duration of water quality exceedances and the implications of those characterizations on impacts to other resources. As an example, salinity exceedances are important to agriculture, but the impacts of water quality salinity standards in the spring and early summer would be much more damaging than violations that occur in the late fall after the irrigation season in the Delta has largely been completed. Analyzing the magnitude, timing and duration of water quality exceedances is more important than the analysis of the number of exceedances in determining the impacts of the project and full and proper disclosure of impacts in the BDCP EIR/EIS. The document must be revised to characterize these important missing evaluations and impacts and recirculated to address these missing impacts and disclosures.</p>	<p>beneficial uses, including agricultural uses. It was based on these considerations that significant impacts were identified for certain alternatives. Further, duration was a factor in the calculation of water quality exceedances, in that certain EC objectives apply for a specific duration, which was assessed via the DSM2 output. Agricultural objectives for EC are in effect during the irrigation season, but not in the late fall after the irrigation season is over. Thus, in evaluating compliance with agricultural EC objectives, timing was taken into account.</p> <p>For more information on water quality, please see Master Response 14 and Chapter 8 of the Final EIR/EIS. Regarding operational criteria and adaptive management, please see Master Response 28 and Master Response 33, respectively.</p>
1601	365	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP EIR/EIS did not provide any rationale or supporting references to justify assumptions regarding the rate of increase in hydraulic complexity of maturing aquatic habitat restorations in their water quality modeling.</p> <p>Comment:</p> <p>DSM2 BDCP model runs had no assumption for channel complexity development over time on intertidal and subtidal aquatic habitat restorations. The DSM2 model runs assumed that the water just sloshed in and out of these habitat restorations like a bathtub without any channel roughness or complexity from development of dendritic channels or vegetation. As restored intertidal and subtidal habitat matures and begins to function, drainage channels form and tules and other aquatic vegetation and riparian vegetation that encroaches into the seasonally inundated channel margins develop. "Given the reliance on natural processes to restore marsh functions in San Pablo Bay, restoration is a process that occurs gradually, over a time frame of decades (Williams and Orr 2002)." "Channels form through differential deposition and tidal scour as the mudflats accrete, and are further defined as vegetation becomes established (French 1993; Beeftink and Rozema 1988; French and Stoddart 1992)." "Channels in restored marshes are expected to evolve toward a configuration of dynamic equilibrium with tidal flows." "Restored channels may change rapidly when their initial configuration is out of balance with equilibrium processes. For example, personal observations of an oversized excavated channel at inner (west) Muzzi Marsh indicate that the channel filled in with sediment significantly within the first decade." "Hydraulic modeling and equilibrium channel metrics developed for the San Francisco Estuary (e.g., Williams and others 2002; Simenstad and others 2000; PWA and others 1995; Grossinger 1995) can be used to assess the potential for rapid initial change of a restored channel." (<a href="http://escholarship.org/uc/item/8hj3d20t#page-10">http://escholarship.org/uc/item/8hj3d20t#page-10</a>) The preceding quote demonstrates that there are analytical tools available and suitable for characterizing the rate of change of</p>	<p>The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR strived to use the best available science throughout the effects analysis, consistent with the requirements of the ESA. Additionally, the official public review process for the proposed project provides an opportunity for formal public comment on the proposed project and project alternatives. Public and agency comments on the public draft have led to further refinement of the proposed project, as evidenced in the RDEIR/SDEIS.</p> <p>For the action alternatives that included large-scale habitat restoration, the analysis in the EIR/EIS is programmatic. Prior to implementation of habitat restoration, site-specific analyses, including more detailed hydrologic and geomorphic analyses would be required in subsequent engineering and environmental documentation, as described in Chapter 3 of the EIR/EIS. For more information on habitat restoration please see response to comment 1601-226.</p> <p>For more information on water quality, please see Master Response 14 and Chapter 8 of the Final EIR/EIS. Regarding operational criteria and adaptive management, please see Master Response 28 and Master Response 33, respectively.</p>

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		<p>hydraulic complexity, but the BDCP did not utilize these or other tools and did not apply the best available science to address this important characterization of their proposed aquatic habitat restorations. The real rate of tidal interchange from BDCP aquatic habitat restorations would be dramatically different from the current flawed BDCP assumption of zero resistance to tidal exchange. There are large implications to the usefulness of the BDCP environmental analysis with this fundamentally flawed and unsupported BDCP assumption of no channel complexity or change in complexity over time.</p> <p>Water quality and fisheries impact assessments are impacted by these analytical flaws. Channel and hydraulic complexity affect the speed and completeness of water turnover in tidal exchanges. The difference in the speed of the flows will affect fish habitat (velocity suitability) and mobilization of sediments and contaminants. The difference in the completeness of water turnover means that the restored habitat with the greater hydraulic complexity would not be as refreshed by new outside water as the current flawed BDCP assumption of no hydraulic complexity. The reduced water turnover from the actual hydraulic complexity of the restored habitat will result in a degradation of water quality from a build up of contaminant loads from evaporation and transpiration in the restored habitat as compared to what the BDCP analysis determined and disclosed. The build up water quality problems that would occur in a habitat with hydraulic complexity include increased Electrical Conductivity, Bo, Br, Se, Methylated Hg, dissolved organic carbon (DOC), and Pb concentrations and Dissolved Oxygen sags at a much greater rate than the current BDCP assumption with no hydraulic complexity of habitat with greater tidal exchange and more frequent turnover of the water. Water quality problems from BDCP habitat restorations directly affect CVP/SWP operations for water quality compliance. The unsupported and flawed assumption by the BDCP of no hydraulic complexity of aquatic habitat restorations and incorrect analyses of water quality impacts from the aquatic habitat restorations creates a fundamental flaw in the CVP/SWP water operations modeling and impact analysis. Once the water exchange characteristics of the BDCP aquatic habitat restorations have been corrected, there will be fundamental changes in CVP/SWP operations from constraints previously undisclosed by water quality impacts. The BDCP has used unsupported and incorrect assumptions on aquatic habitat hydraulic complexity and those flawed assumptions result in a significant understatement of impacts in the BDCP EIR/EIS. The BDCP has used incorrect assumptions and failed to utilize best available science and as a result, the current conclusions of the CM1 operations impact analysis are significantly flawed and systematically under-report significant impacts.</p>	
1601	366	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>BDCP used some generic assumptions regarding how and where intertidal and subtidal habitats would be connected to adjacent water bodies.</p> <p>Comment:</p> <p>The size and location of levee breaches makes a big difference on how much and what quality of water is tidally exchanged. As an example, there was a series of habitat restoration designs done on breaching some islands in the Suisun Marsh. They modeled a number of scenarios regarding the location and size of levee breaches. The breaches that were on the "upstream" side turned the habitat restorations into sediment sinks and the "downstream" breaches into sediment sources. Location of breaches makes a difference on</p>	<p>The aquatic restoration actions referred to in this comment are evaluated at a program level of detail in the Draft EIR/EIS to reflect the level of detail presented in the Draft BDCP. Should an alternative presented in the Draft EIR/EIS be approved, additional environmental review of individual projects implementing these conservation measures could be required to disclose project level impacts. For information on project level versus program level analysis please see Master Response 2.</p>

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		<p>the volume of water tidal exchanged and size will make a difference in the rate of exchange and both will affect development of habitat drainage channels. The BDCP EIR/EIS did not do any sensitivity analysis to justify their generic assumptions and therefore, the EIR/EIS cannot determine the water quality impacts, impacts of these water quality degradations on proposed CVP/SWP operations or the type, quantity or value of habitat created.</p>	
1601	367	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>BDCP previously only modeled one generic scenario for the size, timing, and combination of tidal and intertidal aquatic habitat restorations.</p> <p>Comment:</p> <p>The size, combination and sequence of aquatic habitat restoration implementation could make substantial differences in the intermediate time period analyses, especially for water quality. As a gross example, if all of the eastern or western aquatic restorations were done at once, they would have very different influences on tidal interactions from each other. The BDCP did not present any sensitivity analysis of multiple aquatic habitat restoration implementation scenarios. Without analyses of a range of these scenarios, the BDCP has provided no justification or support for their assumption that the one scenario that they did analyze in their EIR/EIS is in any way representative of the impacts that could and would occur from the implementation of the habitat restorations in the range of implementation scenarios the BDCP has described in the proposed project and alternatives. How, when, where, in what combination and in what design specifics (size, habitat type, water depth, tidal exchange characteristics, etc.) habitat is implemented has large water quality impacts and those water quality impacts drive water operations of the CVP/SWP. The water conveyance facilities and associated operations this EIR/EIS seeks permits to build and implement are based on this document, not on subsequent documents. The environmental analysis only discloses the impacts that occur under the one generalized habitat restoration implementation scenario and therefore the permits that are issued based on this analysis should only accommodate this one exact implementation assumption and specifically not provide the BDCP justification for implementing any habitat scenario that is any different than was included in the BDCP EIR/EIS analysis.</p>	<p>As presented in Appendix 5A, Section D, Attachment 5, Tidal Marsh Restoration Sensitivity Analysis, in the EIR/EIS, sensitivity analyses related to location of wetlands restoration area, methods to convey water to the restoration area, and locations of breach locations at Early Long-Term and Late Long-Term study periods were conducted as part of the EIR/EIS. The results of this analysis indicates that location of restored areas and breach locations can affect water quality in some portions of the Delta. Because the impact analysis for restoration activities is programmatic in the Draft BDCP EIR/EIS, it is anticipated that future evaluations of changes in water quality would be completed during project-specific analyses for restoration areas.</p>
1601	368	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP analysis of CM1, the proposed CVP/SWP conveyance facilities and operations, are purportedly analyzed at a project level of detail, but are interdependent with water quality interactions of aquatic habitat restorations that were only analyzed at a programmatic level of detail.</p> <p>Comment:</p> <p>Since water quality impacts from these restorations affect CVP/SWP operations, and CVP/SWP operations are supposed to be evaluated at a project level of detail in the EIR/EIS, a project level of detail on the habitat restorations and their impacts on water quality constraints on operations is required in order for the EIR/EIS analysis of CVP/SWP</p>	<p>As discussed in response to comment 1601-359, alternatives that were presented in the Draft EIR/EIS evaluated habitat restoration conservation measures at a program level of detail that match the level of detail in the Draft BDCP. Operations modeling analyses performed with CALSIM II and DSM2 included assumptions about tidal wetland restoration actions proposed under the alternatives to approximate the effect these changes could have on Delta hydrodynamics. These assumptions are included in Appendix 5A, EIR/EIS, Modeling Technical Appendix.</p> <p>Therefore, changes in water quality constituent concentrations are disclosed assuming the potential for restoration actions to change Delta hydrodynamic conditions. This approach provides a fair approximation of the operations impacts associated with the project alternatives and is considered to be a project-level analysis. Please also refer to Master Response 2 which describes the project-level versus program-level analysis for some of the alternatives.</p>

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		<p>operations to meet the test of project level of detail. The aquatic habitat restorations are not described and evaluated at a project level of detail and therefore the analysis of the CVP/SWP operations only qualifies as a programmatic analysis. The programmatic level of analysis of the CVP/SWP operations in the current EIR/EIS will require a subsequent environmental document with analyses at a project level of detail before construction-related or incidental take permits should be issued for the BDCP project.</p>	
1601	369	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>BDCP aquatic habitat restorations in the Delta increase the magnitude of total tidal exchange with the bay.</p> <p>Comment:</p> <p>The BDCP proposes 65,000 acres of tidal habitat restoration in CM4. Most of the areas proposed by the BDCP for this restoration action are deep in the central and west Delta which have the largest tidal influence from the bay. Even a very conservative assumption of an average of 2' of tidal range (+1' to minus 1') in these areas that would result in a 130,000 Acre Feet or 5.66 million Cubic Feet of additional tidal exchange that is in addition to the amount of current tidal exchange. This is a large increase in tidal exchange and represents a sizable fraction of the total current tidal exchange volume. This additional amount of tidal exchange will be even greater than this amount under the future increase in sea level rise assumptions utilized by the BDCP. The increase in the magnitude of tidal exchange will not only impact water quality and CVP/SWP operations, but also increase: channel scour and levee destabilization, sediment and contaminant mobilization, navigation hazards, fish movement and straying; and alter the quality, quality and distribution critical fisheries habitat for endangered fish species. The BDCP failed to evaluate a range of assumptions regarding the location, size, depth, and implementation sequence/combinations of aquatic habitat restoration on water quality conditions or disclose the potential impacts of these variations in aquatic habitat restoration implementation.</p>	<p>Please see response to comment 1601-368.</p>
1601	370	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>In 2013, the CVP/SWP was operated to a drier year set of operating rules than the hydrologic conditions that actually occurred. Water volumes in 2013 met the criteria for a "Dry" water year type, but the water operations were administratively changed to a "Critical Dry" water year type - see the letter and documentation from Central Delta Water Agency to Felicia Marcus, Chairman of the State Water Resource Control Board dated September 9, 2013. It is now in the record that the CVP/SWP operations do not always conform to the water year type hydrologic conditions that occur and therefore impacts from water operations sometimes occur in water year types that they otherwise would not.</p> <p>Comment:</p> <p>The BDCCP EIS/EIR impact analysis are conducted by running the operations models on the hydrologic period of record. These observed hydrologic conditions (that are classified into the water year types), are run against the proposed alternative operations. The resulting</p>	<p>The change in conditions under the action alternatives as compared to the Existing Conditions and No Action Alternative were analyzed over the entire 82-year hydrologic period, as shown graphically and in tables in Appendix 5A, Section C, and in associated appendices for Chapter 8 in the EIR/EIS. In several portions of the resource chapters of the EIR/EIS, results from the impact analysis were summarized by water year types for the sake of brevity. However, the entire 82-year hydrologic period, as shown graphically and in tables in Appendix 5A, Section C, and in associated appendices for Chapter 8 in the EIR/EIS were considered in the impact analysis and in development of appropriate mitigation measures.</p> <p>It should be noted that EIR/EIS impact analysis is an evaluation of long-term conditions, and does not consider SWP and CVP operations during emergency conditions, such as the recent droughts. During those periods, if SWP and CVP operations are changed, separate engineering and environmental documentation would be prepared.</p> <p>The proposed project aims to stabilize water supplies, and exports could only increase under certain circumstances. Water deliveries from the federal and state water projects under a fully-implemented Alternative 4A are projected to be about the same to the average annual amount diverted in the last 20 years. Although the proposed project would not increase the overall volume of Delta water exported, it</p>

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		<p>conditions from the operations (from the proposed alternative operating characteristics and rules) are then compared to the baseline scenarios (No Action and No Project). The differences between the alternative operations and the baseline (positive or negative) are interpreted for their impacts for each of the resources, e.g. water supply, water quality, fisheries, etc. The impacts are synthesized by water year type (which represents a set of operating rules). When you get to Dry and Critical Dry water year types, there are always impacts. These impacts are written off in the environmental documents because 1) there are impacts in the baseline condition, and, 2) because the impacts are unavoidable and the operating rules for those hydrologic conditions have typically done what they can to minimize those impacts. The differences in outcomes (compared to the baseline conditions) by water year type are then synthesized into an overall impact call for each resource for each of the alternative operations. The precedent the CVP/SWP established in 2013 by operating the CVP/SWP to a set of operating rules (and therefore impacts) which did not conform to the hydrologic conditions that actually occurred, corrupts the integrity of the analysis that the BDCP has done in the BDCP EIS/EIR. The EIS/EIR analysis will determine project impacts based on operations that mistakenly assume the project operations adhere to water year type hydrologic conditions that occur. If in some of those water years, the future operation impacts would actually be for a water year type other than the impacts were disclosed in the document, then the BDCP EIR/EIS has systematically understated the impacts. In the example of 2013, a water year type that would have in the impact modeling have been analyzed and reported as a Dry Year, would actually have the operational impacts of a Critically Dry year. This is important as not only does the document therefore systematically under-report impacts, but the impacts that occurred were avoidable and would not have occurred in the baseline condition. Because the actual operations of the project would not conform to water year type, as demonstrated by the 2013 CVP/SWP non-conformance, the entire premise of comparison of operations by water year type is corrupted and invalidated as a useful and accurate analytical process for the BDCP EIR/EIS.</p>	<p>would make the deliveries more predictable and reliable, while restoring an ecosystem in steep decline.</p> <p>The proposed intakes would only be permitted to operate with regulatory protections, including river water levels and flow, which would be determined based upon how much water is actually available in the system, the presence of threatened fish species, and water quality standards. Flow criteria will be applied month by month and according to water year type. More information on the ranges of water project diversions, based on water year types and specific flow criteria, can be found in BDCP, Chapter 3, Conservation Strategy.</p> <p>Monitoring for compliance with D-1641 requirements or any future requirements for SWP/CVP water supply operations would be conducted year-round in the future under the proposed project.</p> <p>For more information on operational criteria and adaptive management, please see Master Response 28 and Master Response 33, respectively. Information on drought operations and the proposed project can be found in Master Response 47.</p>
1601	371	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP modeling assumptions do not provide any supporting justification for the BDCP assuming that the water delivery contracts will be renewed at the current contract volumes.</p> <p>Comment:</p> <p>The BDCP's assumption that the existing water delivery contracts that will expire before the BDCP project would be fully implemented will be renewed with the same terms as current water delivery contract is flawed and unsupported. From the purpose and need statement in the BDCP EIR/EIS, it is more logical for the project to assume that water contract amounts would be adjusted to what the CVP/SWP can be reliably delivered. Reliability of water supply is one of the primary purposes of the BDCP project according to the BDCP EIR/EIS purpose and need. In order for the CVP/SWP to achieve water supply reliability in the future, the future contracts will have to incorporate consideration of future conditions to protect beneficial uses from climate change, sea level rise and on-going affects of continued water deliveries (e.g. water quality violations, degradation of other beneficial uses, etc.). Climate change, sea level rise and ongoing impacts of water deliveries were not included as factors of consideration for water delivery contract amounts in the previous contracts, but will be required considerations in the EIR/EIS that will be required for the water delivery contract renewals. With the required considerations of climate change, sea level rise and</p>	<p>Please see response to comment 1601-214.</p>

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		<p>on-going impacts of water deliveries it is more foreseeable to assume that contract renewal water delivery amounts will be reduced in the future as compared to the current water delivery contract amounts. If water delivery contract amounts were adjusted down to reflect what the system is able to sustainably and reliably deliver then environmental impacts of operations on the listed species would be greatly reduced and the need for the project significantly reduced. Water quality impacts from the CVP/SWP operations would also be reduced. The BDCP EIR/EIS needs to provide a solid rationale for the quantities that should result in the contract renewal process and incorporate those supported assumptions in the future operations and modeling impact analysis. As the EIR/EIS document currently stands, the assumption of renewed contracts at the current water delivery levels is unsupported and it is more reasonable in light of the requirements to incorporate climate change, sea level rise and on-going impacts of water delivery will result in a reduction in water supply delivery amounts in future contract renewals.</p>	
1601	372	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP ADEIR/EIS stated that the Oroville Facilities were operated to the 1983 U.S. Fish and Wildlife Service (FWS) Ops Agreement which is incorrect.</p> <p>Comment:</p> <p>Federal Energy Regulatory Commission (FERC) assumes license submitted in a negotiated settlement is operated to in the interim period between license submittal and final license issuance, so DWR should be operating to the new license terms under the existing condition as well as the No Action/No Project.</p>	<p>As presented in Sections 5.1. and 5.2 of Chapter 5, Water Supply, of the EIR/EIS, DWR operates the Oroville Complex in accordance with both the current annual FERC license and California Department of Fish and Wildlife 1983 Operating Agreement. The Existing Conditions and No Action Alternative assume continuation of these operational criteria.</p>
1601	373	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP EIR/EIS states that changes in salinity intrusion have occurred since the development of the Delta.</p> <p>Comment:</p> <p>The BDCP is conflating temporal coincidence with cause and affect relationships. True, the changes in distribution of salinity in the Delta occurred during a time period in which development occurred in the Delta, but that is not what caused the changes in salinity distribution in the Delta. The change in Delta salinity distribution is due to CVP and SWP changes in upstream hydrology from dams, from increased upstream riparian diversions, and from groundwater overdrafts adjacent to the upstream tributaries. These all have resulted in a profoundly altered hydrologic pattern and reduction of flows through the Delta. The magnitude of hydrologic changes have not been proportionately distributed among the flow contributing tributaries. Historically, the San Joaquin River was subject to large flushing flows during winter storms. This type of event rarely occurs now due to the upstream CVP storage, reduced groundwater tables adjacent to the river which absorb most of the tributary flows and due to clogged channels which developed as a result of the lack of these large flow events. These historic large flows were responsible for flushing salts and contaminants out of the system. The lack of these flushing flows and reduced overall flows</p>	<p>Please see response to comment 1601-246. The comment provides an opinion on the historic cause of salinity in the Delta. It does not raise any issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</p>

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		<p>through the Delta from impairment of the upstream hydrology is what has caused the change in salinity distribution in the Delta. This impact to the Delta from the upstream CVP/SWP operations is another reason that the geographic scope of the BDCP planning area should not have been artificially constrained to exclude these upstream locations as they are the origin of the problems in the Delta the BDCP proposes to fix.</p>	
1601	374	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Increased water temperatures would also cause decreased dissolved oxygen (DO) concentrations in water and would likely increase production of algae and some aquatic weeds (DWR 2006).</p> <p>Comment:</p> <p>Reduced rates of water turnover in large parts of the Delta from the BDCP will result in increased water temperatures in those areas. As determined by DWR in their 2006 Oroville Relicensing water quality report, increased water temperatures result in decreased DO and an increase in rate of production of algae and aquatic weeds. Increases in water temperature and reductions in DO degrade fisheries habitat quality and suitability in areas of the Delta that are designated as critical habitat for endangered species. Degradation of this critical habitat is an adverse modification of essential fish habitat for several endangered species (delta smelt, steelhead, sturgeon, spring-run Chinook salmon, etc. Degradation of this habitat also violates the beneficial uses of water as designated by the Central Valley Basin Plan, including: cold water fisheries, warm water fisheries, contact recreation, non-contact recreation, agriculture irrigation, drinking water and others.</p>	<p>As described in Section 8.3.1.7, Constituent-specific Considerations, for Dissolved Oxygen, Delta temperatures are primarily driven by ambient air temperatures, and the project operations have little effect. Thus, increases in water temperature in the Delta will primarily be associated with climate change, not the project alternatives assessed in the EIR/EIS.</p> <p>Information on climate change can be found in Master Response 19.</p>
1601	375	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Under proposed operations, the Oroville facilities no longer complies with the OCAP BO, 1983 DFG Operating Agreement or the Federal Energy Regulatory Commission (FERC) Negotiated Settlement Agreement.</p> <p>Comment:</p> <p>The BDCP reoperates Oroville to provide additional water supply in the spring and reduces exports during the summer to end up with a similar amount of storage at the end of September reservoir carryover storage. Reducing exports during the summer denies the Oroville facilities an important downstream water temperature control function, increased flows. Increased flows in the summer (which the Oroville Facilities are now less capable of doing under the BDCP proposed operations) carries release water temperatures farther downstream than lower flows. The increase in flow velocity and the increased volume of water to warm means that the same water temperature at facilities release will result in compliance with water temperature requirements farther downstream. The Oroville facilities have water temperature compliance requirements from the U.S. Fish and Wildlife Service (FWS) and National Marine and Fisheries Service (NMFS) Biological Opinions (BOs), State Water Resources Control Board (SWRCB) 401 Certificate, 1983 Operating Agreement with California Department of Fish and Game (DFG), and from the Negotiated FERC</p>	<p>Please see response to comment 1601-344.</p>

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		Settlement Agreement that due to the BDCP proposed operations would be in violation of these requirements on a more frequent basis than under the No Action condition. The degradation of water temperatures in the lower Feather River in the summer and early fall from the BDCP proposed operations will degrade salmonid holding and spawning habitat quality and quantity and increase salmonid prespawn mortality rates.	
1601	376	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Impacts of water quality have not been adequately addressed in the EIS/EIR. Complex and dynamic temporal and spatial distribution of a gradient of water quality constituent concentrations that affect water quality and designated beneficial uses requires that the entire model run results be used -- all time series and all output nodes. The current analysis just looks at averaged data at a few specific compliance points.</p> <p>Comment:</p> <p>The actual impacts to beneficial uses that the environmental document must evaluate and disclose occur across the entire area that the models address, not just some sample "compliance" nodes that may not be representative of what would actually occur. The BDCP project is massive and complex and its impacts are geographically distributed across the entire Delta. The impacts of the project cannot possibly be reasonably represented by evaluating water quality changes at a dozen or so compliance locations. The best available science requires that the output (all time series and all output nodes) from the water quality models be integrated into a Geographic Information System (GIS) and analyzed to determine the frequency, duration and magnitude of water quality exceedances. All of the data to conduct this analysis as described is readily available. The output node locations of the water quality model need to be entered into the GIS spatial database and the unique identifiers of the node be coded the same as the model output so the databases can be joined. Once the water quality model has been linked to the GIS spatial database, a simple query of will show what locations and quantify the amount of area in the Delta that exceed water quality standards, in specific geographic locations and distribution, for what periods of the year and by how much. A comprehensive impact analysis that does meet the test of best available science can easily be done using the method described and this type of approach is well documented in other environmental analysis. The DWR Oroville Facilities Relicensing studies utilized a strategy of using the entire water temperature model output to determine the suitability of coldwater fisheries habitat on the entire Feather River using the model output linkage to GIS approach so there is precedent for utilizing this more comprehensive use of model output data for environmental analysis for water projects with DWR as the State Lead Agency. The DWR reports utilized an index approach to characterize the quantity and quality of suitable fish habitat by species over time to evaluate and compare project alternatives. This approach represents the best available science, is accepted, has precedent use, was well accepted by the project participants and scientists and can readily be conducted with the data and resources that the BDCP already has so there is no excuse for them not to use this best available science to more accurately and comprehensively characterize the impacts of the BDCP project.</p>	<p>Locations were chosen such that the assessment of changes under the alternatives relative to baselines would be representative of changes in various portions of the Delta as a whole. Water quality in the Delta does vary spatially and temporally and there are many locations in the Delta that do and would not have identical water quality to the chosen locations for assessment. However, assessment was done on a comparative basis (i.e., alternatives as compared to baselines) to identify change in water quality. Given the purposes of the assessment, the effects of the project at the locations assessed are considered representative of the effects of the project in various portions of the Delta as a whole.</p> <p>The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR strived to use the best available science throughout the effects analysis, consistent with the requirements of the ESA. Additionally, the official public review process for the proposed project provides an opportunity for formal public comment on the proposed project and project alternatives. Public and agency comments on the public draft have led to further refinement of the proposed project, as evidenced in the RDEIR/SDEIS.</p>
1601	377	Document Section: Chapter 8 - Water Quality	CM13 proposes to use a variety of methods to control invasive aquatic plants, of which herbicide spraying is just one option. The area of treatment that would be funded by the conservation measure would range 1,700–3,300 acres (see Section 3.6.3.2 of Chapter 3, Description of Alternatives, of the Draft EIR/EIS), a

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		<p>Issue:</p> <p>The BDCP EIR/EIS does not address the impact on Dissolved Oxygen (DO) levels in the Delta from the other stressor conservation measure to remove invasive aquatic plants.</p> <p>Comment:</p> <p>The conservation measure will result in an increase in the herbicide spraying of aquatic weeds. The decay of large amounts of aquatic vegetation resulting from the conservation measures will increase biochemical oxygen demand and inorganic and organic nutrient supply. This will cause an increase in the severity, magnitude, geographic extent and frequency of DO deficiencies in the Delta. This reduction in DO quality will impair or make unsuitable water quality for Endangered Species Act (ESA) species critical habitat. The BDCP EIR/EIS needs to be revised to identify, characterize, quantify and disclose this significant impact.</p>	<p>limited area relative to the entire area of the Delta surface waters. Further, as described in Section 3.6.3.2 of Chapter 3, avoidance and minimization measures would be adopted and would likely be similar to those conditions identified in the existing CDBW program (including the associated biological opinion and EIR), which restrict where and when herbicide treatment may occur, establish allowable chemical concentrations in treated areas and adjacent water, and require extensive water quality monitoring. Thus, based on the size of the area to be treated and the measures to be used, this conservation was not considered to have an adverse effect on dissolved oxygen in the Delta that would adversely affect beneficial uses. This explanation has been added to Impact WQ-10 in Chapter 8 of the Final EIR/EIS.</p> <p>Please also see response to comment 1601-374.</p>
1601	378	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>BDCP aquatic habitat inundation in the Delta will increase the Dissolved Organic Carbons (DOC) contaminants in water that is diverted for drinking water.</p> <p>Comment:</p> <p>"Some forms of DOC play an important role in the formation of a variety of chemicals referred to as disinfection byproducts (DBPs), which are suspected carcinogens. These compounds are formed when water is disinfected in drinking water treatment plants. There are various forms of DOC, and some of them are more prone to forming DBPs than others (Fram 1999)." "A review of Jassby et al. (1993) indicates that restored tidal wetlands will export organic carbon to adjacent deep-water habitats..." "Some fraction of the DOC exported from tidal wetlands will likely be very reactive in formation of DBPs, but it is uncertain how large this source amount and reactivity would be compared to other sources of DOC. The amount and types of DOC created by a particular wetland restoration project may vary depending on construction methods used to restore the wetland." (<a href="http://www.n-h-i.org/dutchslough/Documents/AMWG%20Docs/Opportunities_and_Constraints_Final_Report.pdf">http://www.n-h-i.org/dutchslough/Documents/AMWG%20Docs/Opportunities_and_Constraints_Final_Report.pdf</a>) These references make it clear that the type, location, design and implementation of habitat restorations make potentially significant impacts on drinking water quality. Some of the BDCP proposed habitat restorations are in close physical proximity to drinking water intakes for significant metropolitan diversions, including, Stockton, Tracy, Byron, Antioch, Brentwood, Fairfield, Vacaville and most of the rest of Contra Costa and Solano Counties. Increasing the carcinogenic levels of drinking water supplies for such a large population is not an impact that should be brushed off by the BDCP project as "significant and unavoidable". The BDCP did not even identify reasonable, prudent and feasible mitigations to avoid, minimize and mitigate these significant impacts. An example of an easy and feasible method to minimize DOC impacts of aquatic habitat restorations is found in the Dutch Slough habitat restoration analysis, "Agricultural land opened to tidal action for wetland restoration might export more organic carbon than agricultural land that is covered with clean dredge spoils as part of project construction."</p>	<p>The Draft EIR/EIS fully addresses the potential for DOC effects related to substantial tidal restoration proposed under Conservation Measure 4. For Conservation Measure 4 please see Chapter 3, section 3.6.2.3 of the Draft EIR/EIS. Alternative 4A, the preferred alternative presented in the RDEIR/SDEIS indicates that effects of a greatly reduced level of tidal wetland restoration under this alternative would result in not adverse/less than significant impacts related to dissolved organic carbon concentrations. Also see Appendix 3B of the Final EIR/EIS discussing other commitments to address dissolved organic carbon.</p> <p>For more information on water quality, please see Master Response 14.</p>

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1601	379	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The CVP/SWP water diversions are operated seasonally. There are typically one to several months of the year that no or very little diversion occurs. The two 40' tunnels that are 35 miles long represents a volume of over 10,000 acre-feet (AF). Diversions of 500 cubic feet per second (cfs) will take over a week to move through the tunnel.</p> <p>Comment:</p> <p>Water diverted from the Sacramento River has a high Biological Oxygen Demand (BOD), is largely photosynthetic and aerobic based microbial population ecology, and is nutrient loaded. Without sunlight and oxygen in the tunnels, the volume of water in the tunnels will quickly go anaerobic and anoxic. If zebra or quaga mussels were to colonize the tunnel, that would make the DO problem even worse and more persistent. This anaerobic and anoxic condition creates taste and odor problems that make water unsuitable for drinking water supply or requires very expensive water treatment. Separating the contaminated water would be difficult and instead of this water volume being water supply, it becomes a hazardous material disposal problem.</p>	<p>The comment is concerned with two water quality conditions in the tunnels, one in which no diversions are occurring, the other in which low level pumping is occurring, resulting in a long transit time in the tunnels. The comment claims that adverse water quality conditions relative to dissolved oxygen would occur under both conditions. The claims that anoxic conditions will develop in the tunnels cannot be made with certainty.</p> <p>For the condition in which no pumping is occurring, it is likely there would be some ongoing decay and consumption of oxygen due to biological demand while water sits in the tunnels. The degree to which this occurs and will have an adverse effect when diversion operations resume will depend, in part, on how much settling of organic matter is achieved prior to water entering the tunnels, what the biological oxygen demand (BOD) is of water in the tunnels, how much water will remain in the tunnels following cessation of diversions, and other factors related to the water itself, such as temperature and abundance and composition of the bacterial community. Further analysis of the anticipated BOD of the water in the tunnels and how that demand would affect dissolved oxygen levels within tunnel water would be needed to more definitively address this question.</p> <p>Upon resuming Sacramento River diversions, any water in the tunnels would become mixed with the recently diverted river water, which would be highly oxygenated. A volume estimate of water in the tunnels relative to the amount that would be diverted from the Sacramento River may useful in showing that amount of water that may be left in the tunnels would not be enough to contribute to adverse water quality conditions in the Delta or SWP/CVP service areas, based on both its volume and its oxygen levels.</p> <p>When water is flowing in the tunnels it will fill the entire tunnel space. Under this condition it is expected that consumption of oxygen due to the presence of oxygen-demanding substances in the water would occur. However, the water entering the tunnel would be highly oxygenated, allowing for some reaeration. Oxygen demand typically exerts itself over a period of days to weeks under aerobic conditions, and it seems unlikely that full exertion of oxygen demand would occur within the tunnel if the transit time in the tunnels is on the order of a couple days or less. Additionally, anaerobic degradation of complex organic matter that typically composes the riverine BOD fraction proceeds much more slowly than in an oxygenated water column. As a result, anaerobic bacteria communities specialized to degrade BOD in an anoxic environment grow slowly, and any such communities that develop in the conveyance tunnels during low flow or stagnant periods will be flushed and scoured from the tunnels during high flow such that the communities do not persist or facilitate adverse water quality impacts during subsequent low and no-flow periods. Therefore, the resulting water quality in the tunnels may see some oxygen depletion due to BOD in the water; however it is uncertain that the BOD will be sufficient to result in the anoxic conditions claimed in the comment.</p>
1601	380	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP EIR/EIS does not address how contaminated water from water stored in tunnels during nonoperational periods would be disposed.</p> <p>Comment:</p> <p>With the large nutrient load and Biological Oxygen Demand (BOD) of water diverted from the Sacramento River and stored in the tunnel for weeks or even months during periods of low to no tunnel operations will result in anaerobic and anoxic water quality conditions. The BDCP has not disclosed how the contaminated water will be treated and disposed of. With as much as 10,000 acre-feet of contaminated water, treatment and disposal will have environmental consequences -- power, water flows, water tables, water quality, habitat</p>	<p>Please see response to comment 1601-379.</p>

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		suitability, etc.	
1601	381	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The tunnels are now designed to be gravity flow.</p> <p>Comment:</p> <p>Gravity flow implies slower water velocities in the tunnel, but the BDCP did not disclose the anticipated water velocities in the tunnel. There are sediment traps to separate sediment from water diverted from the river before it goes into the upstream forebay. The forebay will not be a lined basin. Any wind will create turbulence that will create a suspended sediment load. Without sufficient velocities in the tunnels (over approximately 5-6'/second), there will be sediment accumulation in the tunnel. This will lead to reduced flow capacities and contributions to the anaerobic and anoxic problem.</p>	Please see response to comment 1601-237.
1601	382	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Methylation of mercury from BDCP proposed aquatic habitat restorations has not been adequately evaluated in the EIR/EIS.</p> <p>Comment:</p> <p>Cache Creek is one of the largest if not the largest source for mercury contamination in the Delta. The BDCP has proposed several large scale aquatic habitat restoration programs that are downstream of this large and ongoing Mercury contamination source, including Calhoun Cut, Liberty Island, Little Holland Tract, Prospect Island, Egbert Tract, Hastings Island, Ryer Island, Grand Island, Decker Island, Twitchell Island, Three Mile Slough, and others. Aquatic habitat restoration conditions can convert mercury into methylated mercury which is much more readily assimilated into the food chain and bioaccumulated. The BDCP aquatic habitat restoration conditions have not been described in sufficient detail to determine at what rate the methylation of mercury would occur and the BDCP has failed to identify, characterize, quantify or disclose this significant impact. The BDCP EIR/EIS needs to provide greater detail on the aquatic habitat restoration water depths, water turnover rates, dissolved oxygen conditions, mercury deposition, mobilization rates and methylization rates. Further, the BDCP has failed to propose avoidance, minimization and mitigation measures to address this significant impact.</p>	<p>As discussed under Impact WQ-14 for Alternatives 1 through 9, tidal and other restoration actions proposed under the Draft EIR/EIS alternatives, including restoration within the Yolo Bypass and Cache Slough (Conservation Measures 2, 3, 4, and 5), have the potential to increase methylmercury bioaccumulation in biota in the restored habitat. Therefore, increases in mercury methylation in the habitat restoration areas is possible but uncertain depending on the specific restoration design implemented at a particular location. Increased methylmercury due to the restoration areas would constitute an additional loading of methylmercury to the Delta, independent of effects of the hydrodynamics associated with the restoration areas.</p> <p>As described in Section 3.6.2 of Chapter 3, Description of Alternatives, descriptions of the restoration actions in CM2 through CM5 in the Draft EIR/EIS include general locations; and potential physical modifications and construction efforts necessary to implement habitat conservation-related activities. These descriptions include enough detail to support program-level impact analyses related to habitat and land use conversions. While general locations are provided, specific locations for these conservation actions have not been identified at this time. Therefore, the analyses consider typical construction, operation, and maintenance activities that would be undertaken for implementation of the habitat restoration and enhancement efforts. As appropriate, project-level implementation of the conservation actions would be subject to additional environmental review. The Draft EIR/EIS does include mitigation measures where appropriate that would be considered in the additional environmental reviews (see Master Response 2, Project Level versus Program Level).</p> <p>To reduce the effects of methylmercury from restored wetlands, project-specific mercury management plans for restoration actions would need to be developed under ongoing programs and Conservation Measure 12 to incorporate relevant approaches recommended in Phase 1 Methylmercury TMDL control studies and other studies, such as: (1) Characterizing mercury, methylmercury, organic carbon, iron, and sulfate concentrations to better inform restoration design; (2) Sequestering methylmercury at restoration sites using low intensity chemical dosing techniques; (3) Minimizing microbial methylation associated with anoxic conditions by reducing the amount of organic material at a restoration site; (4) Designing restoration sites to enhance photo degeneration that converts methylmercury into a biologically unavailable, inorganic form of mercury; (5) Remediating restoration site soils with iron to reduce methylation in sulfide rich soils; and (6) Considering capping mercury laden sediments, where possible to reduce methylation potential. Because of the uncertainties associated with site-specific estimates of methylmercury concentrations and the uncertainties in source modeling and tissue modeling, the effectiveness of methylmercury management</p>

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			would need to be evaluated separately for each restoration effort, as part of design and implementation. Because of this uncertainty and the known potential for methylmercury creation in the Delta the potential effect of increasing methylmercury concentrations related to restoration, including restoration within the Yolo Bypass under CM2–CM22 was considered adverse.
1601	383	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>DSM2 model runs had no assumption for aquatic habitat restoration channel complexity development over time.</p> <p>Comment:</p> <p>The DSM2 model assumes that water just sloshes in and out of the aquatic habitat restorations like a reservoir or an open channel without any channel complexity or roughness. With these flawed assumptions of the rate of water movement in and out of the aquatic habitat restorations, the water quality-related impact assessments which utilized the DSM2 model output would therefore be completely inaccurate and misleading. This DSM2 modeling assumption error would result in an over estimation of the rate of turnover/refreshment of water in the aquatic habitat restorations. This error in the model output would under-estimate the degradation of water quality in the aquatic habitat as there would be a lower assimilative capacity of the water in the habitat restoration and increased concentrations of contaminants from evaporation and transpiration consumptive use than the DWM2 model output currently indicates. Due to this error and deficiency in the DSM2 model, the BDCP EIR/EIS analysis has under estimated the water quality impacts of the aquatic habitat restorations.</p>	<p>For the action alternatives that included large-scale habitat restoration, the analysis in the EIR/EIS is programmatic. Prior to implementation of habitat restoration, site-specific analyses, including more detailed hydrologic and geomorphic analyses would be required in subsequent engineering and environmental documentation, as described in Chapter 3 of the EIR/EIS. Also see response to comment 1601-359.</p> <p>For more information on modeling, please see Master Response 30.</p>
1601	384	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Updates to the DSM2 model prior to use in the BDCP analysis were incomplete and biased.</p> <p>Comment:</p> <p>DSM2 was updated for Delta channel bathymetry and to reflect the flooding of Liberty Island prior to the BDCP analyses. DSM2 was not updated for Delta Island consumptive use and drainage. The significantly out of date data on Delta consumptive use and related flow and water quality issues is a significant area of uncertainty and a significant limitation on the accuracy of the model results. The DSM2 model should be rerun with updated Delta consumptive use and drainage information to get a more accurate characterization of the conditions in the Delta and the impacts of the BDCP project.</p>	<p>The Delta consumptive use assumptions are considered to be similar in the Existing Conditions, No Action Alternative, and action alternatives. Because the EIR/EIS analysis using the DSM2 model is used in a comparative manner, any changes in Delta consumptive use would be similar under all scenarios and would not result in changes considered in the impact analysis of the action alternatives as compared to the No Action Alternative.</p> <p>For more information on modeling, please see Master Response 30.</p>
1601	385	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>DSM2-QUAL output was used as the input for several other models, including: Gilbert Food Web Regression, Pyrethroid, ammonia, Cu, Hg, Se, and other water quality constituent loading.</p>	Please see response to comment 1601-383.

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		<p>Comment:</p> <p>DSM2 inaccurately represented water exchange in the aquatic habitat restorations, so all models that utilized DSM2 output as input for subsequent modeling are biased and their results are based on flawed input data. Once the deficiencies of the DSM2 model have been addressed, the DSM2 model should be rerun and the subsequent dependent models also rerun and reanalyzed.</p>	
1601	386	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>DSM2-QUAL has a Dissolved Oxygen (DO) data output.</p> <p>Comment:</p> <p>Why was DSM2 DO model output not used in the BDCP impacts analysis? There is DO data available to calibrate this model (or to calibrate other available DO models). BDCP paid to developed and/or calibrate numerous other models for the impact analyses (e.g. Delta Passage Model, Interactive Object-Oriented Salmon Simulation, OBAN, Sac EFT, Screening Effectiveness Analysis, Fry-rearing benefits for Yolo Bypass, Habitat Suitability Indexes, Maunder-Deriso Delta Smelt Lifecycle Model, Kimmer X-2 Abundance Regression, Gilbert Food web Regression, etc.). Since the BDCP set the precedent to develop and calibrate these other models, why did the BDCP not also develop (or calibrate and existing model) a DO model to evaluate the impacts of DO on the Delta? As identified in the BDCP EIR/EIS, the project operations of the isolated or joint facility will significantly change water flow patterns and the rate of turnover of water (refreshment) in the Delta. "... operations will result in a reduction of the assimilative capacity in the Delta". Since rate of turnover and assimilative capacity are drivers of the magnitude, duration and frequency of DO events and suitable DO is an essential component of fisheries habitat quality and quantity, DO must be more thoroughly evaluated and the impacts of the project disclosed. By developing and calibrating these other models listed above, the BDCP set the precedent that the best available science includes development and calibration of models that were not currently available at the time of the analysis. Since DO is equally or more important to understand the impacts of the BDCP project, the same level of effort and best available science should be applied to DO as well.</p>	Please refer to response to Comment 1601-175.
1601	387	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>If the dissolved oxygen (DO) output of DSM2-QUAL was not considered adequate or appropriate for use in the environmental analysis, the BDCP could have easily developed a suitable DO model from DSM2-QUAL outputs.</p> <p>Comment:</p> <p>DO modeling components are very similar to these other models which use output from the DSM2-QUAL model. The Gilbert Food web regression estimates total chlorophyll in the water (algae) which is a component of a DO model. The ammonia model also provides a critical input for a DO model. Add water temperatures from the DSM2 model output to these other components and you have all the elements for a functional DO model. Even if</p>	Please refer to response to Comment 1601-175.

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		<p>this DO model could not be calibrated to an absolute scale, it would still be functional to evaluate the relative level of risk/impact in a comparative analysis (as most all of our other modeling tools are used).</p>	
1601	388	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP has said it has not done a Dissolved Oxygen (DO) quantitative analysis because there are no suitable models to use and therefore they conducted an inadequate qualitative and subjective discussion of DO impacts.</p> <p>Comment:</p> <p>First, there are many suitable DO models available, e.g. SWAT (Soil and Water Assessment Tool), SIMCAT, TOMCAT, QUAL2E, QUASAR, MIKE-11, CE-QUAL-ICM and ISIS. These models have been successfully utilized in large complex aquatic systems including, Chesapeake Bay, Florida Everglades, Puget Sound, Mississippi Delta and others around the world. Second, even in the absence of available models there are other analytical tools commonly utilized to assess dissolved oxygen. If a complete DO modeling tool could not legitimately be utilized for some reason, a proxy index for DO potential could easily be developed from existing model outputs. These readily available inputs for a DO potential index would include: water temperature, nutrient loading (Phosphorus), and algal model output that the BDCP is already utilizing. To complement the interpretation of model output related to DO, the spatial and temporal distribution of algal blooms can easily be mapped and correlated to on the ground conditions. Once an algal bloom has been completed, we know that DO values crash. The launch of NASA's EO-1 Hyperion sensor in November 2000 marked the establishment of VNIR/SWIR spaceborne imaging spectrometer mapping capabilities. Hyperion is a satellite sensor covering the 0.4 to 2.5 micrometer spectral range with 242 spectral bands at approximately 10nm spectral resolution and 30m spatial resolution from a 705km orbit (Pearlman et al., 2003). Hyperion is a pushbroom instrument, capturing 256 spectra each with 242 spectral bands over a 7.5km-wide swath perpendicular to the satellite motion along an up to 160km path length. The system has two grating spectrometers; one visible/near infrared (VNIR) spectrometer (approximately 0.4 - 1.0 micrometers) and one short-wave infrared (SWIR) spectrometer (approximately 0.9 - 2.5 micrometers). Hyperion data are available for purchase from the U. S. Geological Survey (USGS EO-1 Website: <a href="http://eo1.usgs.gov/">http://eo1.usgs.gov/</a>) and dozens of images of the Delta over the years have been acquired and are available. Thousands of Hyperion scenes have been acquired for a variety of disciplines and the use of these data sets for evaluation of algal blooms is well established and accepted. The EO-1 Science Validation Team has evaluated and validated the instrument. Selected results have been published in various venues (Asner and Green, 2001; Hubbard and Crowley, 2001; Kruse et al., 2003). Also see Ungar (2003) for a summary along with associated papers.</p> <p><a href="http://www.tandfonline.com/doi/abs/10.1080/01431160500419311#.UmPlgVBwp8F">http://www.tandfonline.com/doi/abs/10.1080/01431160500419311#.UmPlgVBwp8F</a> -- paper on correlation of TM image algorithm to r2 = 0.95) between the ground-based measurements of Chl a, and yield considerable detail of lake phytoplankton distributions.</p> <p><a href="http://earthexplorer.usgs.gov/">http://earthexplorer.usgs.gov/</a> The BDCP should at least attempt a qualitative (non-subjective) assessment of DO and algal bloom impact analyses and utilize this readily available best available science.</p>	<p>Please refer to response to Comment 1601-175. Please see Master Response 30 regarding the modeling approach taken. More information on modeling can also be found in Appendix 5A of the Final EIR/EIS.</p>

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1601	389	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Dissolved Oxygen (DO) is another water quality impairment which the document did not adequately address.</p> <p>Comment:</p> <p>The DO impairment in the Delta has gotten worse over the last few years and it is predictable that the proposed replumbing of the Delta will make the DO problem even worse yet the environmental analysis does not even address the current DO nor effects of the proposed project on it. Further impairment of the DO conditions in the Delta would adversely modify critical habitat for listed species (e.g. steelhead, Chinook and delta smelt) and is therefore illegal. The BDCP's generalized qualitative treatment of such an important habitat suitability factor is a level of effort that falls far below what is required and to meet the test of best available science.</p>	<p>The water quality assessment fully addressed impacts to DO throughout the Delta. See Master Response 30 regarding modeling approach. Since preparation of the Draft EIR/EIS, text has been added to the DO assessment to further address the potential for shifting of the minimum point of DO in the Deep Water Ship Channel to further downstream than currently occurs. Please see Impacts WQ-9 and WQ-10 in Chapter 8, Water Quality, in the Final EIR/EIS.</p>
1601	390	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>There is a Dissolved Oxygen (DO) model of the Stockton Deep Water Ship Channel.</p> <p>Comment:</p> <p>DO models that are applicable to the entire Delta do exist; they just have not been calibrated. Therefore, use of DO models for the entire Delta arguably does meet the test of best available science. The project will substantially change flow patterns, water turnover, nutrient loading and water temperatures in large parts of the Delta. The dead end sloughs off of Potato Slough should be particularly affected. This is in close proximity to the new Stockton water supply intake. DO is a critical habitat suitability factor and algal blooms can be a human health issue for contact recreation and water supply. DO will be one of the biggest impacts the project will have on the interior Delta. DSM2 model particle tracking that the project is using can be used to prove the point that the project will dramatically alter the residence time of water in some parts of the Delta and that this is not an issue they can sidestep just because the available DO models aren't ready-to-use. The DO model for the Stockton Deep Water Ship Channel has been utilized in other environmental assessments, but the BDCP did not even bother to use it.</p>	<p>The variables that affect dissolved oxygen concentrations are numerous and include atmospheric reaeration rates, sediment oxygen demand rates, and biochemical oxygen demands of constituents in the water column. Further, dissolved oxygen rates vary daily in response to photosynthesis and respiration of algae and plants, and temperature also affects the saturation level. The fact that there are numerous variables contributes to the difficulty in applying a numerical dissolved oxygen model in this assessment. Each of these variables would have to be known, some of which are also assessed qualitatively (e.g., nutrient-related parameters, oxygen demand). While there has been work to calibrate DSM2-QUAL for dissolved oxygen modeling, work remains to allow for its use. Because the factors that affect dissolved oxygen are known, the assessment of the alternatives focused on considering how the alternatives would affect these factors in a qualitative manner and identified whether changes to these factors would contribute to a lowering of dissolved oxygen concentrations. Please also refer to Master Response 14, Water Quality.</p> <p>Also see Master Response 3 on modeling.</p>
1601	391	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>The BDCP EIR/EIS analysis of changes in the frequency, magnitude and duration of algal blooms was inadequate. This topic was only qualitatively discussed (incompletely and incorrectly) when the BDCP could have applied the best available science to evaluate the changes in algal conditions in the Delta.</p> <p>Comment:</p> <p>DSM2-QUAL output was used as the input for several other models, including: Gilbert Food</p>	<p>The ammonia assessment was qualitative and thus did not rely on DSM2-QUAL output, as indicated in the comment. Given that the projected increases in ammonia, nitrate, and phosphorus due to the project alternatives would not be substantial, development of a model would not have provided additional useful information to the nutrients-related assessments (see Master Response 30 on modeling). Note that a new Impact WQ-32 has been added to the EIR/EIS to address the potential for increased Microcystis bloom formation (see Chapter 8 of the Final EIR/EIS). Please refer to Master Response 14.</p>

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		<p>web Regression and ammonia loading. The BDCP could have easily developed a suitable algal bloom model from DSM2-QUAL outputs. Algal bloom modeling components are very similar to these other models which use output from the DSM2-QUAL model. The Gilbert Food web regression estimates total chlorophyll in the water (algae) which is a component of a model. The ammonia model also provides a critical input for an algal model. Add water temperatures from the DSM2 model output to these other components and you have all the elements for a functional algal bloom model. Even if this algal bloom model could not be calibrated to an absolute scale, it would still be functional to evaluate the level of risk/impact in a comparative analysis (as most all of our other modeling tools are used).</p>	
1601	392	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-1: Effects on ammonia concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The impact call of "Less-Than-Significant" is incorrect. The No Action and BDCP Proposed Project south Delta operations continue to draw higher than background levels of ammonia concentrations from the Sacramento Regional Waste Water Treatment Plant discharges across the Delta, exposing a larger area of the Delta to elevated ammonia concentrations than would occur without the project. The disruption to the food chain in the Delta and its effects on listed fish species from elevated ammonia concentrations is a significant impact. The Proposed Project tunnels will outgas ammonia which is a greenhouse gas emission.</p>	<p>The impact call for ammonia of less than significant is relative to Existing Conditions. As described in Impact WQ-1, the SRWTP discharge will have lower concentrations of ammonia than current levels, due to improvements being constructed at the facility. Thus, there will be lower concentrations of ammonia in the Sacramento River than occur under Existing Conditions, and thus lower levels in the Delta. Please see Chapter 8, water Quality, of the Final EIR/EIS.</p>
1601	393	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-2: Effects on ammonia concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls.</p>	<p>As described in Impact WQ-2 for both the No Action and project alternatives, effect on ammonia would be less than significant. Please see Chapter 8, Water Quality.</p>
1601	394	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-3: Effects on boron concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action are incorrect. CM1 does not exist in the No Action; therefore there would be No Impact/No Effect. Any increase in boron concentration</p>	<p>Please see response to Comment 1601-242.</p>

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		is significant to the suitability of water supply for agricultural irrigation beneficial uses. This impact should be changed to significant.	
1601	395	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-4: Effects on boron concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. Any increase in Boron concentration is significant to the suitability of water supply for agricultural irrigation beneficial uses. This impact should be changed to significant.</p>	See Response to Comment 1601-243.
1601	396	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-5: Effects on bromide concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The "Significant Unavoidable" and "Adverse" increase in bromide after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Bromide is an important water quality constituent for drinking water and represents a well-documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	See response to Comment 1601-244.
1601	397	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-6: Effects on bromide concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. Evaporation from the aquatic habitat restorations will result in a concentration of the bromide levels, so this should be a significant impact. Any increase in bromide concentrations is an unacceptable degradation of the beneficial uses of water in the Delta. Bromide is an important water quality constituent for drinking water and represents a well-documented and severe health risk to humans and animals. A project that has this kind</p>	<p>Habitat restoration would be greatly reduced under the new preferred alternative, 4A, and several conservation measures would no longer apply. Please see the Alternative 4A description in Chapter Description of Alternatives.</p> <p>The effect of CM2-CM21 on bromide concentrations was evaluated for each BDCP alternative in the Final EIR/EIS Chapter 8, Water Quality, under Impact WQ-6: Effects on Bromide Concentrations Resulting from Implementation of CM2–CM21. Any increase in bromide does not necessarily translate to an adverse effect on beneficial uses; consideration of the concentration relative to applicable criteria as well as the other significance criteria must be made.</p> <p>For more information on water quality, please see Master Response 14.</p>

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		of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.	
1601	398	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The "Significant Unavoidable" and "Adverse" increase in chloride after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Chloride is an important water quality constituent for drinking water and represents a well-documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	Please see response to comment 1601-245.
1601	399	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-8: Effects on chloride concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. Evaporation from the aquatic habitat restorations will result in a concentration of the chloride levels, so this should be a significant impact. Any increase in chloride concentrations is an unacceptable degradation of the beneficial uses of water in the Delta. Chloride is an important water quality constituent for drinking irrigation water and represents a well-documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	<p>As described in Section 3.5, of Chapter 3 of the Final EIR/EIS, the 2008 USFWS Action RPA Component 4 related to the restoration of 8,000 acres of tidal habitat was not include in the baseline modeling assumptions for the BDCP HCP alternatives because this restoration is assumed to occur as part of Conservation Measure 4, which is analyzed at a program level. However, for the non-HCP alternative (4A, 5A, and 2D) analyses, which do not include large-scale tidal habitat restoration (i.e. Conservation Measure 4), the 8,000 acres are included in the No Action Alternative (NAA) (ELT) assumptions. Nevertheless, the Chapter 8 (Water Quality) NAA (ELT) vs. Existing Conditions evaluation only discusses impacts due to water conveyance facility operations and maintenance. Please see Section 8.3.4.1 of the Final EIR/EIS for more information.</p> <p>Under the new preferred alternative, 4A, implementation of restoration- related environmental commitments would present no new direct sources of chloride to the affected environment. Consequently, implementation of these environmental commitments would not be expected to adversely affect any of the beneficial uses of the affected environment. In addition, the potential reduction in irrigated lands (with habitat restoration) within the Delta may result in reduced discharges of agricultural field drainage with elevated chloride concentrations, which would be considered an improvement relative to the No Action Alternative. As it relates to evaporation, tidal restoration sites are expected to be designed to maximize tidal exchange and hydraulic connectivity to the surrounding area, while limiting long residence times. Thus, changes in chloride concentrations due to evaporation are not expected because tidal restoration sites would frequently experience various levels of flushing due to tidal influences. Furthermore, in consideration of design specifications to maximize hydraulic connectivity, the volume of water at a particular site would not be expected to be reduced relative to initial volumes due to evaporative processes. Following this logic, no new direct sources of chloride from restoration activities, along with relatively static volumes of water (after accounting for tidal cycles) at restoration sites, would not be expected to result in higher chloride concentrations.</p>
1601	400	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-9: Effects on dissolved oxygen (DO) resulting from facilities operations and</p>	<p>The dissolved oxygen assessment of the effects of CM1 is complete. The ammonia, nitrate, and phosphorus assessments concluded that there would be little to no effect on concentrations due to CM1. Therefore, the increased loads noted in the comment are not expected to occur due to the alternatives. The increased water temperatures that are projected to occur are expected to reduce DO saturation by &lt; 0.5 mg/L (see Impact WQ-9 of Chapter 8 of the Final EIR/EIS) and, thus, not have a substantial direct adverse</p>

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		<p>maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. When algal blooms die off, they cause DO crashes. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact DO.</p>	<p>effect on dissolved oxygen concentrations.</p> <p>The potential for increased harmful Microcystis blooms with CM1, plus the hydrodynamic effects of CM2 and CM4 (habitat restoration), has been added to the EIR/EIS as Impact WQ-32 (see Chapter 8). For those alternatives that will result in a significant/adverse increase in Microcystis blooms, mitigation has been included to address tidal flushing and residence time to reduce the potential for increased algal bloom formation. Please refer to Master Response 14.</p>
1601	401	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-10: Effects on dissolved oxygen (DO) resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity. Increased nutrient loads and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. When algal blooms die off, they cause DO crashes. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also adversely impact DO. The BDCP analysis incorrectly considers these separate impacts when they are interactive and multiplicative in their effects. The increased DO problem from CM makes the impact from CM2-22 much worse.</p>	<p>The assessment of the project alternatives in Chapter 8, Water Quality, shows that the preferred alternative 4A would have substantially less effect on Delta water quality such that significant impacts were identified for electrical conductivity (EC) at Emmaton and Prisoners Point and are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based. Mercury associated with the limited tidal habitat restoration that would be implemented Results in less than significant with the proposed project.</p> <p>For more information on the analysis of DO impacts due to all Alternatives, please refer to Impacts WQ-9 and WQ-10 in Chapter 8, Water Quality, in the Final EIR/EIS.</p> <p>Also see response to comment 1601-400.</p>
1601	402	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-11: Effects on electrical conductivity concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The No Action operations are required to comply with Delta water quality standards that protect water quality and beneficial uses. These water quality standards include limits on electrical conductivity (EC) that are designed to protect sensitive resources from EC impacts. The No Action significant impact determination is correct as the current CVP/SWP operations routinely exceed these standards, see Affect Environment. The No Action would continue to violate these water quality protections and therefore the significant impact call by the BDCP EIR/EIS is warranted. The Proposed Project impacts are even worse than the No</p>	<p>Please see response to comment 1601-246.</p>

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		<p>Action. Since the current and No Action CVP/SWP operations are in violation of water quality requirements and the Proposed Project results in a degradation of that condition, the project should not be awarded any permits as the project is in violation of the law. Any increase in EC concentration from the Proposed Project is significant to the suitability of water supply for agricultural irrigation beneficial uses.</p>	
1601	403	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-12: Effects on electrical conductivity (EC) concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. Evaporation from the aquatic habitat restorations will result in a concentration of the EC levels, so this should be a significant impact. Any increase in EC concentrations is an unacceptable degradation of the beneficial uses of water in the Delta. EC is an important water quality constituent for irrigation water and results in reduced yields, increase accumulation of salts in the soil, increased water use (for leaching irrigation component), soils that are unsuitable for production of salt sensitive crops and ultimately with continued accumulation of salts a soil that is unsuitable for any kind of agricultural production. Any increase in EC concentration from the Proposed Project is significant to the suitability of water supply for agricultural irrigation beneficial uses.</p>	See Response to Comment 1601-247.
1601	404	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-13: Effects on mercury concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP proposed operations have been determined by the BDCP impact analysis to result in a reduction in the rate of water turnover in the central and south Delta. The BDCP EIR/EIS has failed to adequately analyze the impact of this reduction in the rate of water turnover in combination with the water in their proposed aquatic habitat restorations, nor has the EIR/EIS evaluated the combination of these effects on the rate of methylization of mercury. The BDCP must provide a complete project description of the aquatic habitat restorations so this important and consequential impact analysis can be completed utilizing the best available science. With the BDCP's current level of aquatic habitat restoration project description, this important impact is evaluated in the EIR/EIS with a bunch of unsupported, incomplete conjecture and biased so called professional opinion. What the BDCP has done on this topic is the scientific equivalent to waving your hands in the air.</p>	<p>The analysis for CMs 2-21 was completed at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis. Also, the RDEIR/SDEIS, released in 2015, introduced a new preferred alternative, 4A, which does not include a HCP or conservation measures. The alternative implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project.</p> <p>For CM1, the mercury analysis is included in Chapter 8, Water Quality, under Impact WQ-13: Effects on Mercury Concentrations Resulting from Facilities Operations and Maintenance (CM1), and discussed in detail in Appendix 8I, Mercury. There is high scientific uncertainty on this topic The analysis synthesizes a suite of complex mercury-related information based on the best available science and the lead agencies believe the analysis is sufficient for NEPA and CEQA purposes.</p>
1601	405	Document Section: Chapter 8 - Water Quality	Please see response to comment 1601-248.

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		<p>Issue:</p> <p>WQ-14: Effects on mercury concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. A Proposed Project that has this severity of an impact on water quality, especially compared to the No Impact/No Effect of the No Action, should not be implemented.</p>	
1601	406	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-15: Effects on nitrate concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The No Action impact call is incorrect. There is no change in the No Action for operations that affect nitrate concentrations, so the correct impact call would be "No Impact" and "No Effect". The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. Since nitrate concentrations in drinking water supply pose significant human health issues, any degradation of nitrate water quality should be considered significant and significant impacts must be mitigated.</p>	Please see response to Comment 1601-249.
1601	407	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-16: Effects on nitrate concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project) The EIR/EIS does not describe the differences in magnitude in their significance calls. The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it</p>	Please see response to Comment 1601-250.

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		must be Adverse. Since nitrate concentrations in drinking water supply pose significant human health risks, any degradation of nitrate water quality should be considered significant and significant impacts must be mitigated.	
1601	408	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-17: Effects on organic carbon concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action OCAP BO mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than- Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. Since dissolved organic carbon concentrations is an important parameter to drinking water supply suitability, any degradation of organic carbon water quality should be considered significant and significant impacts must be mitigated.</p>	Please see response to comment 1601-251.
1601	409	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-18: Effects on organic carbon concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project) The EIR/EIS does not describe the differences in magnitude in their significance calls. A Proposed Project that has this severity of an impact on water quality, especially compared to the No Impact/No Effect of the No Action, should not be implemented.</p>	Please see response to comment 1601-252.
1601	410	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-19: Effects on pathogens resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project</p>	The potential for harmful algal blooms is addressed in Chapter 8, Water Quality, via assessment of Microcystis within Impacts WQ-32 and WQ-33. For BDCP alternatives, the impact to Microcystis and microcystin bloom formation was determined to be adverse and significant with mitigation measures provided. For the preferred Alternative 4A, and Alternatives 2D and 5A, impacts would be less than significant, with additional discussion about Alternative 4A provided in the Biological Assessment submitted in August 2016 regarding the potential for increases in Microcystis in some parts of the Delta. Additional south Delta export pumping in preference to north Delta pumping would be considered if necessary in order to limit this potential. Please refer to Master Response 14.

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		<p>operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DOO. The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	
1601	411	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-20: Effects on pathogens resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the</p>	<p>While the "issue" portion of this comment is regarding pathogens, the content of the comment is regarding algal blooms, which is addressed in Response to Comment 1601-410.</p>

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		document and therefore the draft document should be recirculated.	
1601	412	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-21: Effects on pesticide concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) exceedances. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations; it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated.</p>	The comment is contrary to the conclusions of the pesticide assessment (Impact WQ-21). Not all pesticides actively used, as a class of constituents, exceed water quality standards in the Delta. Thus, it cannot be concluded that changes in assimilative capacity will lead to significant impacts, for the reasons described in Impact WQ-21. Please see Chapter 8 of the Final EIR/EIS
1601	413	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-22: Effects on pesticide concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) exceedances. The aquatic habitat restorations create additional area and opportunity for pesticide spray drift to get into the water. The evaporation from the aquatic habitat restorations will further increase the pesticide concentrations. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations; it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see Chapter 8, Water Quality, of the Final EIR/EIS which discusses Mitigation Measure WQ-22 which would be available to reduce this adverse effect.
1601	414	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-23: Effects on phosphorus concentrations resulting from facilities operations and maintenance (CM1)</p>	Phosphorus is not specifically identified on the state's Clean Water Act section 303(d) list of impairments for the Delta. Also, per the phosphorus impact discussion (Impact WQ-23), there are no applicable criteria for phosphorus and loading rates to the Delta are not anticipated to change appreciably, therefore, there is no projection the assimilative capacity will be reduced. Please see Chapter 8, Water Quality.

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		<p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) phosphorus exceedances. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations; it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	
1601	415	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-24: Effects on phosphorus concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) phosphorus exceedances. The evaporation from the aquatic habitat restorations will further increase the phosphorus concentrations. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations; it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	<p>No changes in assimilative capacity have been identified as a result of the conservation measures. Please see Chapter 8, Water Quality. Also, see Responses to Comment 1601-414.</p> <p>Evaporation in new tidal habitat areas, relative to that occurring in the existing water surface area of the Delta, is not expected to have a measurable effect on water quality relative to the effect that Delta inflows and outflows would have.</p>
1601	416	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-25: Effects on selenium concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) exceedances for selenium. Since these water quality parameters are already frequently in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations; it will be the upstream farmers that</p>	<p>Please see the response to Comment 1601-1 regarding the change in preferred alternative to Alternative 4A. The analysis of selenium effects due to CM1 (Impact WQ-25: Effects on selenium concentrations resulting from facilities operations and maintenance [CM1]) determined that Alternative 4A would result in negligible changes in selenium relative to Existing Conditions and the No Action Alternative. Thus, the impact would be not adverse/less than significant.</p> <p>As described in Section 8.4 of Chapter 8, Water Quality, changes in facility operations and maintenance in the Delta under the remaining alternatives would result in a range of changes in selenium concentrations throughout the Delta.</p> <p>For more information on water quality, please see Master Response 14.</p>

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		discharge selenium in their ag drain water. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated.	
1601	417	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-26: Effects on selenium concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) selenium exceedances. The evaporation from the aquatic habitat restorations will further increase the selenium concentrations. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations; it will be the upstream farmers that discharge selenium in their ag drain water. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	<p>Please see the response to Comment 1601-1 regarding the change in preferred alternative to Alternative 4A. The analysis of selenium effects of Environmental Commitments 3, 4, 6–12, 15, and 16 in Impact WQ26- Effects on selenium concentrations resulting from implementation of Environmental Commitments 3, 4, 6–12, 15, and 16, determined that Alternative 4A would not increase selenium loading, and the amount of restoration that would occur would be minimal relative to the area of the Delta and implemented such that any localized changes in residence time are unlikely to measurably change selenium concentrations in water or biota relative to the No Action Alternative. Thus, the impact would be not adverse/less than significant. The CALSIM II and DSM2 models did not include changes in evaporation in the Delta related to the tidal wetland restoration.</p> <p>As described in Section 8.4 of Chapter 8, Water Quality, effects to selenium concentrations from CM2-CM22 or Environmental Commitments 3, 4, 6–12, 15, and 16 (Alternative 2D and 5A only) under the remaining alternatives would all result in not adverse/less than significant determinations.</p> <p>For more information on water quality, please see Master Response 14.</p>
1601	418	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-27: Effects on trace metal concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) exceedances for trace metals. Since these water quality parameters are already frequently in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations; it will be the upstream farmers and municipal and industrial (M&amp;I) dischargers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated.</p>	<p>Please see the response to Comment 1601-1 regarding the change in preferred alternative to Alternative 4A. The analysis of trace metal effects due to CM1 (Impact WQ-27: Effects on trace metal concentrations resulting from facilities operations and maintenance [CM1]) determined that Alternative 4A would not cause substantial changes in trace metals relative to Existing Conditions and the No Action Alternative. Thus, the impact would be not adverse/less than significant.</p> <p>As described in Section 8.4 of Chapter 8, Water Quality, effects to trace metals from facility operations and maintenance in the Delta under the remaining alternatives would all result in not adverse/less than significant determinations.</p> <p>For more information on water quality, please see Master Response 14.</p>
1601	419	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-28: Effects on trace metal concentrations resulting from implementation of CM2-CM22</p>	<p>Please see the response to Comment 1601-1 regarding the change in preferred alternative to Alternative 4A. The analysis of trace metal effects in Impact WQ-28, Effects on Trace Metal Concentrations Resulting from Implementation of Environmental Commitments 3, 4, 6–12, 15, and 16, determined that Alternative 4A would not cause substantial changes in trace metals relative to Existing Conditions and the No Action Alternative. Thus, the impact would be not adverse/less than significant.</p>

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		<p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse.</p>	<p>As described in Section 8.4 of Chapter 8, Water Quality, effects to trace metals from CM2-CM22 or Environmental Commitments 3, 4, 6-12, 15, and 16 (Alternative 2D and 5A only) under the remaining alternatives would all result in not adverse/less than significant determinations.</p> <p>For more information on water quality, please see Master Response 14.</p>
1601	420	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-29: Effects on Total Suspended Solids (TSS) and turbidity resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>Climate change and sea level rise should have no effect on TSS concentrations as related to CVP/SWP operations, so the impact call should be No Impact/No Effect. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse.</p>	<p>Please see the response for trace metals in response to comment 1601-418. The same response applies to this comment regarding total suspended solids.</p>
1601	421	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>WQ-30: Effects on Total Suspended Solids (TSS) and turbidity resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. Since the NEPA impact call is in comparison to the No Action, any impact of the Proposed Project is in addition to those impacts identified in the No Action (they are not equivalent impacts). The impact call is incorrect as the increase in turbidity from the aquatic restoration actions is significant (65,000 acres of intertidal and subtidal habitat that mostly are sediment generators, not sediment sinks). This significant impact needs to have avoidance, minimization and mitigation measures developed. These measures could include habitat restoration design elements to make them sediment mobilization and capture neutral. These elements could include the size and location of levee breaches and water depth to which habitat was inundated.</p>	<p>Please see the response for trace metals in response to comment 1601-419. The same response applies to this comment regarding total suspended solids and turbidity.</p>
1601	422	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p>	<p>The discussion of construction impacts for the No Action Alternative (see Chapter 8, Section 8.3.1.1, No Action Alternative under Impact WQ-31, Water quality impacts resulting from construction-related activities (CM1-CM22) describes how certain actions proposed for the project alternatives would not occur, but that other construction actions would occur. Because the assessment is qualitative, a specific magnitude of</p>

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		<p>WQ-31: Water quality impacts resulting from construction-related activities (CM1-CM22)</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. Dewatering of ditches and groundwater around construction sites will require discharge of that water. The water quality of that discharge water will require treatment to meet waste water discharge water quality standards and therefore this is a significant and adverse impact from the Proposed Project.</p>	<p>impacts cannot be provided. For the reasons described in Impact WQ-31 (e.g., environmental commitments, BMPs), impacts from construction for all alternatives were determined to be less than significant.</p> <p>For more information on water quality, please see Master Response 14.</p>
1601	423	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta and use of groundwater as a substitute water supply during periods of BDCP degraded surface water quality will poison the soils and crops.</p> <p>Comment:</p> <p>The BDCP EIR/EIS has identified a significant and unavoidable degradation of water quality in the Delta from increased saltwater (electrical conductivity (EC)) intrusion from BDCP proposed operations. The BDCP EIR/EIS has failed to adequately evaluate how these significant surface water quality impacts effect groundwater quality. When surface water quality is reduced in the Delta due to BDCP operations, growers will utilize groundwater as a substitution for their BDCP compromised senior surface water rights and diversions. This increased reliance upon groundwater as a substitution water supply during periods of BDCP degraded surface water quality will result in increased groundwater withdrawals and increased hydraulic gradient from the tributary to the groundwater basin. The BDCP caused increase in hydraulic gradient from the tributary to the groundwater will pull water from the BDCP degraded water quality in the tributary into the adjacent groundwater profile. The lower quality (higher EC and boron) water from the tributary will flow in on top of the deeper groundwater with little to no mixing with better quality deeper groundwater. The deeper groundwater quality may not be significantly affected for some time as it approaches the wellhead groundwater cone depression, but it will be degraded over time. The more immediate effect of the higher EC and boron layer degraded water quality of near surface groundwater will occur nearly immediately. Groundwater tables are near the soil surface and in the crop root zone in most of the Delta in portions if not the entire year. Salts wick up through the soil from shallow groundwater by capillary action with soil particle interstitial spaces. Even though the salts from the tributaries may not reach the wellheads for several years, the near surface migration of salts from the tributary recharge of the BDCP depressed groundwater cone will start affecting the salinity of the root zones of the crops near the edges of the islands in the first season or two.</p>	<p>Please refer to Response to Comment 1601-1 regarding the change in preferred alternative from Alternative 4 to alternative 4A. The originally proposed habitat restoration measures would not be included as part of Alternative 4A, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). Instead the implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from Alternative 4A. Please refer to Chapter 3, Alternatives, for additional detail about the habitat restoration proposed under Alternative 4A.</p> <p>Without implementation of large-scale habitat restoration, the effects on salinity under the action alternatives as compared to the No Action Alternative would be less than with large-scale restoration. For example under Alternative 4A, salinity generally would be similar or less than under No Action Alternative in the central Delta (e.g., near Jersey Point, Rock Slough, and along Sacramento River downstream of Steamboat Slough). However, salinity would increase under Alternative 4A as compared to the No Action Alternative in July through September along the Sacramento River near Collinsville and Emmaton; and generally decrease or be similar in remaining months, as presented in Appendix 5A, Section C, of the Final EIR/EIS. Please see Chapter 8 and associated appendices in the EIR/EIS and Master Response 14. Therefore, it is not anticipated that groundwater quality would substantially change due to operations of the conveyance facilities.</p> <p>As described in Final EIR/EIS Chapter 7, Groundwater, groundwater quality is anticipated to be lower under action alternatives with large-scale habitat restoration as compared to the No Action Alternative.</p>
1601	424	Document Section: Chapter 8 - Water Quality	Please see response to comment 1601-423.

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		<p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta and use of groundwater as a substitute water supply during periods of BDCP degraded surface water quality will poison the soils and crops.</p> <p>Comment:</p> <p>Once salts have been pulled into the shallow groundwater, it will be nearly impossible for the grower to manage the salts. In areas of deeper groundwater (e.g. Southern Central Valley), a grower can flush salts down and out of the root zone. In the Delta, because of the shallow groundwater table, irrigations to flush salts out of the root zone will only raise the water table and cause the salts to wick higher into the root zone. The leaching irrigation has nowhere to go so it will only slightly dilute the salts, but again the salts will wick up through the soil. Even a thin layer of degraded groundwater quality that occurs in or near the root zone could make large portions of the Delta unfarmable in a matter of just a few years. This BDCP impact converts the farmland to a different land use (non-farming) which by CEQA significance criteria is a significant impact. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of reduced shallow groundwater quality in the Delta that would be caused by the BDCP proposed operations and their degradation of surface water quality. The BDCP can minimize this significant impact by actually complying with the current water quality requirements instead of frequently violating them as the current CVP/SWP operations do. The BDCP can mitigate this impact by providing alternative water supplies to areas of degraded surface water supplies so that the growers do not have to rely upon groundwater as an alternative supply.</p>	
1601	425	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from Reclamation District operations to draining the islands.</p> <p>Comment:</p> <p>Many islands in the Delta have land elevations that are at, near or below the water levels of their surrounding tributaries. The only way the islands are maintained from becoming flooded by seepage from the tributaries is to nearly continuously pump water out from the drainage ditches in the Reclamation District back into the tributary. By the Reclamation District pumping the water off of the island or tract, the groundwater levels are maintained to levels that are farmable (3 to 8 foot minimum depending on crop type and season). The amount of shallow groundwater pumping and rate of turnover of shallow groundwater recharge from the tributary is dependent upon several factors. The more porous the levees and soils and the higher the hydraulic gradient from the tributary to the groundwater, the faster the movement of tributary water into the shallow groundwater. The larger the difference between the tributary water elevation and the groundwater height (hydraulic gradient), the faster the movement of tributary water into the shallow groundwater. Even a thin layer of degraded groundwater quality that occurs in or near the root zone could make large portions of the Delta unfarmable in a matter of just a few years. This BDCP impact of</p>	Please see response to comment 1601-423.

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		<p>surface water quality degradation that causes shallow groundwater quality degradation will result in a conversion of farmland to a different land use (non-farming) which according to CEQA guidance significance criteria is a significant impact. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. This minimization measure would need to be complemented by the BDCP also providing an alternative surface water supply of non-degraded quality for the farmers to use as an alternate water supply. These suggested avoidance and minimization measures are practical, feasible, well tested and accepted and are small in scale in comparison to the scope and cost of the overall BDCP proposal.</p>	
1601	426	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p> <p>Due to the shallow groundwater tables in the Delta, many open ground fields and most permanent crop plantings utilize drain tile to maintain groundwater levels and keep groundwater moving to protect their crops and the productivity of the soils. Most permanent crop plantings are adjacent to the levees due to their higher elevation, better drainage and better soils. This means that the drain tiles that are under most of permanent crops planted in the Delta are right next to the tributaries. Drain tiles are typically installed at 5 to 10 feet deep, depending on soil type, crop type, groundwater table elevations and topography (drainage). The drain tile function is to reduce the groundwater table elevations, creating a localized groundwater table depression to protect the soil and crops from groundwater elevations that are too shallow. The groundwater collected from the drain tile is transported via drainage pipes to the lower elevation drainage ditches that are located near the center of the islands and tracts. This necessary drain tile function creates the same increased hydraulic gradient from the island groundwater table from the surrounding tributaries. The impacts from the degraded groundwater quality from the BDCP operations will occur even more quickly with drain tile operation interactions than the impacts to shallow groundwater quality. Degraded surface water quality from the BDCP operations will be pulled into the shallow groundwater table where the drain tiles are functioning in the same manner as described in the previous two comments. The drain tiles will collect this degraded quality groundwater and drain the water to the main drainage ditches. These drainage ditches are also water supply ditches that are pumped out of to irrigate other fields. These central drains/water supply ditches is how water supply is delivered to most fields that are in the interior of the islands and tracts. Through the function of the drain tile and drainage of those systems into the water supply ditches in the middle of the islands and tracts, the degraded shallow groundwater from BDCP operations have now been translated back into additional impacts to water quality of surface water supplies for the interior fields. Because of the proximity of the drain tiles to the tributaries and the function of the drain tile</p>	Please see response to comment 1601-336 and response to comment 1601-337 regarding salinity.

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		to translocate the drainage water to the main ditches, this mode of impact could occur very quickly, e.g. the first year of degraded surface water quality from the BDCP operations. The geographic scope and magnitude of this impact is not small either.	
1601	427	<p>Document Section: Chapter 8 - Water Quality</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p> <p>Most of the islands and tracts, with the exception of some of the most interior Delta and lowest elevation islands, are ringed by permanent crop plantings at their outside edges. Cumulatively, these represent several hundred miles of tributary length that have drain tiles installed adjacent to them. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta and the translation of that shallow groundwater quality degradation into a subsequent degradation of additional surface water supply water quality that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. The BDCP can further minimize this significant impact by providing for and maintaining sump pumps for the tail water coming out of the drain tile systems. The sump pump would discharge the drain tile water back into the tributary rather than letting the degraded shallow groundwater contaminate the surface water supplies at the main drain/water supply ditches. The use of sump pumps on drain tile systems is a common practice in the southern central valley as the topographic gradients are not sufficient to allow drain tile function without the sump pumps. Because the use of sump pumps on drain tile systems is common practice in the CVP/SWP service areas, the BDCP cannot claim that there are no feasible, practicable measures to avoid, minimize or mitigate this significant impact of the BDCP proposed operations.</p>	Please see response to comment 1601-336 and response to comment 1601-337 regarding salinity.
1601	428	<p>Document Section: Chapter 8 - Water Quality, Reusable Tunnel Material Testing Report - Section 2.3.1</p> <p>Issue:</p> <p>Environmental testing did not include all of the relevant compounds that should have been tested for.</p> <p>Comment:</p> <p>As an example, the tests had a category for "soluble metals". This is such a broad category as to be useless in a meaningful environmental analysis. The samples should have been tested for a broad panel that encompassed all of the drinking water quality standards so that the impacts of tunnel muck disposal that resulted in water or wind erosion deposition in water could be evaluated. Testing panels should have also included compounds which can</p>	<p>The analyses in the EIR/EIS assume that reusable tunnel material (RTM) would result in a permanent effect at the locations identified for RTM disposal because the amount and timing of reuse is currently unknown. The RTM testing Report was developed to give an initial indication of the potential chemical characteristics of treated RTM. Appendix 3B, Section 3B.2.18 describes how RTM would be stored, tested and treated and disposed of, if necessary, as an environmental commitment for the proposed project. The measures in this environmental commitment combined with the SWPPP and erosion and sediment plan would reduce the effects RTM on adjacent soil, agriculture, habitat, groundwater, erosion and drainage.</p> <p>For more information on Reusable Tunnel Material, please see Master Response 12.</p>

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		<p>be bioaccumulated in fish and other species so those impacts could have been evaluated and disclosed. The testing of the samples should be redone to include these other important constituents and the EIR/EIS revised to evaluate, quantify, disclose and mitigate for the impacts associated with the chemical constituent impacts of the tunnel muck materials proposed by the BDCP.</p>	
1601	429	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>The 75940 Federal Register / Vol. 78, No. 240 / Friday, December 13, 2013 states that, "The Plan also intends to ... reducing future risks to the Delta from earthquakes, levee failure and climate change."</p> <p>Comment:</p> <p>Where in the proposed project does the BDCP reduce "future risks to the Delta from earthquakes, levee failure, and climate change"? The project proposes to address those issues for the CVP/SWP conveyance, but it does nothing for the Delta on those issues. The project does raise the risk of levee failure to the Delta by structurally altering existing levees and adding new ones. The project also increases risks to the Delta from future climate change as the aquatic habitat restorations increase the volume of intertidal exchange. Increases in the volume of intertidal exchange will degrade water quality, increase the velocities of tidal surges and increase the magnitude of tidal surge stage elevations. So is the BDCP proposing to reduce earthquake, levee failure and climate change risk in the Delta or is the Federal Register notice incorrect such that it needs to be revised and reissued?</p>	Please see response to Comment 1601-157.
1601	430	[ATT 2: Image of the SWP aqueduct in the hills south of Tracy.]	Please see response to comment 1601-431 regarding the comment related to this image.
1601	431	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>The purpose and need identifies an objective to make the CVP/SWP water system more reliable from earthquakes.</p> <p>Comment:</p> <p>The BDCP does not address existing CVP/SWP canals and reservoirs outside of the Delta as also being vulnerable to earthquakes. Instead it only focuses on system reliability in the Delta which is only a small part of the overall CVP/SWP water supply and water delivery system. In order to achieve the BDCP stated objective to increase CVP/SWP reliability from earthquakes, it needs to focus its efforts and proposals to address where the greatest earthquake risks are that threaten the system. As an example, the fault at San Luis Reservoir is 5 times more active than the faults in the western-most part of the Delta that the BDCP identifies as making the CVP/SWP water system vulnerable to earthquakes (<a href="http://www.restoretheDelta.org/keep-your-eye-on-the-ball-2/">http://www.restoretheDelta.org/keep-your-eye-on-the-ball-2/</a>). A new/additional "San Luis II" reservoir built to withstand the potential magnitude earthquake from the fault that is under the current San Luis reservoir (which is not built to that standard) would be a more important focus than the Delta in terms of system reliability from earthquakes. The SWP California Aqueduct is built on a series of fills across drainages in the hills south and west of</p>	Please see response to Comment 1601-134.

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		<p>Tracy. These "fill" sections have cracked linings and leak from settling of the fill materials. The image on the left [ATT 2] is of the SWP aqueduct in the hills south of Tracy. The blue is the water in the canal and the yellow areas are leaks from the canal from cracking in the lining of the aqueduct from settling of the fill sections and from earthquake damage. Water logging of the fill materials from the aqueduct leaks makes these segments of the canal extremely vulnerable to liquefaction and additional settling from an earthquake. Loss of San Luis Reservoir and/or several sections of the California Aqueduct would be as devastating or more to CVP/SWP reliability than any hypothetical (and less likely to occur) scenario the BDCP has presented for earthquake-caused system reliability in the Delta. Strengthening the Delta to be resilient from an earthquake does not accomplish the BDCP objective if the south of Delta delivery canals and reservoirs are compromised in an earthquake. In addition to improving the south of Delta system reliability from earthquakes, a greater reliance on local water supplies in the service areas also improves water delivery reliability in the event of an earthquake. The BDCP has failed to encompass a full scope of alternatives which would address the BDCP stated objective to increase system reliability from earthquakes.</p>	
1601	432	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>The BDCP purpose and need identifies a need to increase the reliability of current conveyance.</p> <p>Comment:</p> <p>The upstream tributary and Delta levees are part of the current conveyance system, so levee improvements should be within the scope of potential project actions.</p>	Please refer to response to comment 1601-142.
1601	433	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>Substantial removal, filling, grading, or disturbance of soils. (California Bay-Delta Authority (CALFED) EIS/R significance criteria)</p> <p>Comment:</p> <p>The BDCP proposed project tunnel will result in a very large amount of removal, filling, grading and disturbance of soils. Removal will be from excavation of soils which are not geotechnical suitable to build on and for tunnel muck. This amounts to tens of thousands of cubic yards of material. BDCP grading will be for building, staging, habitat restoration and other actions and amounts to over a thousand acres of grading. Disturbance of soils will result from grading and tunnel muck disposal will result in thousands of acres of disturbance. These significant impacts can be avoided by reducing the size of the facilities, locating facilities only where soils are geotechnical suitable to build on, by building at grade rather than on raised platforms, by minimizing land sculpting in habitat restorations, and sale of tunnel muck as top soil for landscaping.</p>	<p>This comment is an opinion about the scope, location and methods for construction of project facilities. The Alternative 4a conveyance facilities have been sited, in part, to reduce effects on private property owners and environmental effects in the Delta. The reusable tunnel material storage is a necessary component of the preferred alternative which proposes to substantially reduce footprint effects compared to canal alternatives by tunneling under much of the Delta. This approach does create RTM, which could potentially be reused for beneficial purposes. Please refer to Master Response 12 Reusable Tunnel Material for more information on how the RTM will be used. Also see Appendix 3B (Environmental Commitments, AMMs, and CMs) of the Final EIR/EIS.</p>
1601	434	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p>	<p>The environmental commitment (also Avoidance and Minimization Measure 6), "Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material", includes measures for handling, storing, beneficial reuse, and disposing of excavation or dredge spoils and RTM, including procedures for the</p>

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		<p>Releases of toxic materials from soils or sediments (California Bay-Delta Authority (CALFED) EIS/R significance criteria)</p> <p>Comment:</p> <p>Tunnel muck disposed may contain contaminants which are endemic in the Delta (e.g. Hg, Pb, Se, As). Sediment captured and disposed of from the intakes will contain contaminants that adhere to sediment particles (e.g. pyrethroids, DDT and DDT derivative breakdown products). Both of these sources of contaminants from BDCP disposals can release these otherwise biologically sequester [sic] materials and mobilize them through surface water and wind erosions and percolation into groundwater through drainage. Once the BDCP releases and mobilizes these contaminants then other sensitive receptors are vulnerable to exposure - endangered species, local residents and workers, downwind communities and schools, bioaccumulation in the food web, etc.</p>	<p>chemical characterization of this material or the decant water to comply with permit requirements. Please see Master Response 12 regarding reuse of RTM, and Appendix 3B regarding the disposal and reuse of spoils, RTM and dredged material.</p>
1601	435	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>The CVP and SWP management of flows downstream of their respective reservoirs contributes to erosion from operations flows.</p> <p>Comment:</p> <p>The Emerald Ranch on the lower Feather River successfully sued DWR for erosion of their property from Oroville facility operations. During the Oroville Relicensing project, DWR settled the suit by compensating the owner for the loss of land and by paying for levee protection at the erosion site. BDCP has failed to identify, characterize, quantify or disclose the on-going impact on erosion of the operations of the CVP and SWP. Changes in operations and continuation of operations from the BDCP will continue to alter erosion and geomorphic processes that must be avoided, minimized and mitigated by the BDCP.</p>	<p>Due to climate change, it is anticipated that flows will increase during wetter years in the Sacramento, Feather, and American rivers downstream of the SWP and CVP reservoirs, as shown in Tables C-15-1, C-17-1, and C-19-1 in Appendix 5A, Section C, Modeling Results, of the Draft EIR/EIS. In the Sacramento and American rivers downstream of the CVP reservoirs, peak monthly flows under Alternatives 1 through 9 do not substantially exceed flows under the No Action Alternative. Therefore, the potential for erosion along the river banks would be similar as under the No Action Alternative. Flows in the Feather River downstream of the SWP Thermalito Complex would exceed the No Action Alternative monthly flows in wetter years but would be within the normal range of operations for the reservoir. Potential effects on bank erosion, though possible, are expected to be similar to No Action conditions.</p>
1601	436	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>CVP/SWP reservoirs are sediment traps that starve the tributaries downstream of these facilities from their natural upstream sediment contributions and the BDCP intake sediment removal exacerbates this condition.</p> <p>Comment:</p> <p>The BDCP changes the rate of siltation, deposition, and erosion that will modify channel morphology. The upstream reservoirs have an on-going impact on downstream sediment load. The intakes remove sediment load from the river. The amount and texture of suspended sediment load is an important component in channel morphology. With a reduced sediment load from the project, scour holes can form in the channel where they otherwise would not have formed. These scour holes can compromise the toe of the levee, reduce the structural integrity of the levee, increase the risk of levee failure and cause levee failures in locations where they would not have occurred without the project removal of sediment from the river. The Twitchell Island setback levee project was in response to the erosion of the toe of a levee and levee instability caused by a scour hole caused by</p>	<p>The amount of sediment that could potentially be collected at north Delta intake sites is described in Chapter 3, Description of alternatives, of the Final EIR/EIS. The potential effect of sediment reduction in the Sacramento River from implementation of Alternative 4 and 4A is addressed related to reduced turbidity effects on Delta smelt in Chapter 11, Fish and Aquatic Resources. While no formal proposal for reuse of this material or replacement of this material into the system is proposed as part of the preferred alternative, the potential reuse in tidal wetland restoration will be explored. The potential for the effects identified in this comment to occur under the preferred alternative is expected to be low because of the relatively minor effect the project would have on Delta hydrodynamics. Please refer to Chapter 6, Surface Water for description of changes in flow at various locations upstream of and in the Delta.</p>

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		upstream sediment starvation. The project can easily reduce this on-going CVP/SWP and new BDCP impacts by putting the sediment that it separates out from the diverted water back into the river as well as increasing levee maintenance in areas where scour holes occur. DWR and Reclamation could also replace the sediment intercepted in the tributaries upstream of their facilities by doing sediment augmentation downstream of their facilities. This avoidance and minimization action has the added benefit of avoiding the impacts from land disposal of the sediments from the intakes.	
1601	437	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>BDCP construction-related traffic will significantly increase heavy truck traffic and construction staff commuter traffic on Delta levee roads.</p> <p>Comment:</p> <p>Heavy truck traffic can cause vibrations that increase the risk of levee liquefaction or slumping during high tributary flow periods when the levee soils are saturated. This impact can be minimized by not running trucks during high tributary flow periods.</p>	Please refer to Impact GEO-5 for a discussion of the potential impacts of and measures to be implemented regarding construction-related vibrations (see Chapter 9 of the Final EIR/EIS).
1601	438	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-1: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking of water conveyance features during construction</p> <p>Comment:</p> <p>The NEPA call on the No Action is incorrect, it should be "No Effect" seeing as the No Action does not include construction of conveyance features. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 3]. The risks of levee failure (a water conveyance) from BDCP Proposed Project tunnel boring machine vibration is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be a less than significant and adverse impact.</p>	<p>The No Action Alternative GEO-1 conclusions in the DEIR/S were No Impact for CEQA and Not Adverse for NEPA. The FEIR/S has updated the NEPA conclusion; to No Effect, recognizing that under the No Action Alternative, work would be undertaken while conforming to applicable codes and standards related to geology/seismicity. Under the alternatives, including the preferred alternative (Alternative 4A, California WaterFix), the tunnel boring design would account for the potential for land subsidence, and incorporate a number of environmental commitments to reduce risks from seismic effects (see discussion in Impact GEO-1 in Chapter 9 of the Final EIR/EIS). Please also refer to the Modified Pipeline/Tunnel Conceptual Engineering Report for additional information. Discussion in Impact GEO-4 related to potential effects from slope failure during construction highlights the measures that would be undertaken in order to address the levee failure that the commenter mentions.</p> <p>Please see Chapter 9 regarding determination of effects.</p> <p>More information can be found in Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	439	[ATT 3: Photo of partial levee failure as tunnel boring machine passed underneath.]	Please see response to comment 1601-438 regarding comment related to this photo.
1601	440	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-2: Loss of property, personal injury, or death from settlement or collapse caused by dewatering during construction of water conveyance features</p> <p>Comment:</p> <p>The NEPA call on the No Action is incorrect, it should be "No Effect" seeing as the No Action</p>	<p>Please see Table ES-8 of the Executive Summary in the Final EIR/EIS regarding impact conclusions for GEO-2. Please also see Chapter 9 regarding determination of effects. Impact GEO-2 indicates that conformance with these health and safety requirements and the application of accepted, proven construction engineering practices would reduce any potential risk such that construction of the action alternatives would not create an increased likelihood of loss of property, personal injury or death of individuals from settlement or collapse caused by dewatering. Therefore, there would be no adverse effect.</p> <p>More information can be found in Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be</p>

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		does not include dewatering during construction of conveyance features. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of collapse from dewatering during conveyance construction is real. The risks of settlement or collapse caused by BDCP Proposed Project construction site dewatering is significant and only with mitigation (safety precautions, surface elevation monitoring, dewatering impoundments, etc.) would they be less than significant and adverse.	found in Master Response 1.
1601	441	Document Section: Chapter 9 - Geology and Seismicity  Issue:  GEO-3: Loss of property, personal injury, or death from ground settlement during construction of water conveyance features  Comment:  Finally, here is an example of an impact call that is made correctly relative to the No Action. The correct answer is that since the No Action does not include construction of conveyance features there is "No Effect". The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 4]. The risks of levee failure (a water conveyance) from BDCP Proposed Project tunnel boring machines is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be less than significant and adverse.	Please see Table ES-8 of the Executive Summary in the Final EIR/EIS regarding impact conclusions. Please see Chapter 9 regarding determination of effects.  More information can be found in Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.
1601	442	[ATT 4: Photo of partial levee failure as tunnel boring machine passed underneath.]	Please see response to comment 1601-441 regarding the comment related to this photo.
1601	443	Document Section: Chapter 9 - Geology and Seismicity  Issue:  GEO-4: Loss of property, personal injury, or death from slope failure during construction of water conveyance features  Comment:  The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 5]. The risks of slope failure of a levee (a water conveyance) from BDCP Proposed Project tunnel boring machines is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be less than significant and adverse.	Please see Table ES-8 of the Executive Summary in the Final EIR/EIS regarding impact conclusions for GEO-4. Please also see Chapter 9 regarding determination of effects.  More information can be found in Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.
1601	444	[ATT 5: Photo of partial levee failure as tunnel boring machine passed underneath.]	Please see response to comment 1601-443 regarding comment related to this photo.
1601	445	Document Section: Chapter 9 - Geology and Seismicity  Issue:	Please see Table ES-8 of the Executive Summary in the Final EIR/EIS regarding impact conclusions for GEO-5. Please also see Chapter 9 regarding determination of effects.  More information can be found in Appendix 3D, Defining Existing Conditions, No Action Alternative, No

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		<p>GEO-5: Loss of property, personal injury, or death from structural failure resulting from construction-related ground motions during construction of water conveyance features</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 6]. The risks of slope failure of a levee (a water conveyance) from BDCP Proposed Project tunnel boring machines is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be less than significant and adverse.</p>	<p>Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	446	<p>[ATT 6: Photo of partial levee failure as tunnel boring machine passed underneath.]</p>	<p>Please see response to comment 1601-445 regarding comment related to this photo.</p>
1601	447	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-6: Loss of property, personal injury, or death from structural failure resulting from rupture of a known earthquake fault during operation of water conveyance features.</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	<p>Please see response to comment 1601-441.</p>
1601	448	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-7: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking during operation of water conveyance features.</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	<p>Please see response to comment 1601-441.</p>
1601	449	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-8: Loss of property, personal injury, or death from structural failure resulting from seismic-related ground failure (including liquefaction) during operation of water conveyance features.</p> <p>Comment:</p>	<p>Please see response to comment 1601-441.</p>

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		The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.	
1601	450	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-9: Loss of property, personal injury, or death from landslides and other slope instability during operation of water conveyance features.</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to an Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	The conclusions for the No Action Alternative in the FEIR/S are No Impact and No Effect. Not adverse/less than significant impacts are identified for Impact GEO-9 for the alternatives compared to the No Action Alternative and existing conditions; as described in Impact GEO-9, through the final design process, measures to address this hazard would be required to conform to applicable design codes, guidelines, and standards, resulting in not adverse or a less than significant impact. Please also see Chapter 9 regarding determination of effects.
1601	451	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-10: Loss of property, personal injury, or death from seiche or tsunami during operation of water conveyance features.</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to a Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	Please see response to comment 1601-441.
1601	452	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-11: Ground failure caused by increased groundwater surface elevations from unlined canal seepage as a result of operating the water conveyance facilities.</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see response to comment 1601-441.
1601	453	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-12: Loss of property, personal injury, or death resulting from structural failure caused</p>	Please see response to comment 1601-441.

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		<p>by rupture of a known earthquake fault at Restoration Opportunity Areas.</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	
1601	454	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-13: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking at Restoration Opportunity Areas.</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see response to comment 1601-441.
1601	455	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-14: Loss of property, personal injury, or death from structural failure resulting from seismic-related ground failure (including liquefaction) beneath Restoration Opportunity Areas.</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see response to comment 1601-441.
1601	456	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-15: Loss of property, personal injury, or death from landslides and other slope instability at Restoration Opportunity Areas.</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to a Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	Please see response to comment 1601-441.

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1601	457	<p>Document Section: Chapter 9 - Geology and Seismicity</p> <p>Issue:</p> <p>GEO-16: Loss of property, personal injury, or death from seiche or tsunami at Restoration Opportunity Areas as a result of implementing the conservation actions.</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to a Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	<p>Please see response to comment 1601-441.</p>
1601	458	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>Increased potential for soil erosion by wind, waves, or currents. (California Bay-Delta Authority (CALFED) significance criteria)</p> <p>Comment:</p> <p>Tunnel muck disposal sites will be subject to significant wind and water erosion as plants will be slow to successfully colonize the radically altered soil texture that results from the tunneling soil conditioner. The Delta areas proposed by the BDCP for tunnel muck disposal are windy. As an example, one of the biggest wind farms in California is in the Montezuma Hills by Rio Vista which is immediately upwind of the majority of the BDCP proposed tunnel muck disposal sites. BDCP intertidal and subtidal habitat restorations and riparian habitat restorations and their impoundment levees will create significant amounts of wave and current erosion than the existing and no action/no project condition. Changes in upstream tributary flows from the BDCP will alter erosion patterns. As an example, the DWR Oroville Facility FERC Relicensing ended up having to mitigate erosion that occurred at Emerald Farms on the Feather River due to project operations flow-related impacts. The BDCP failed to identify, evaluate or disclose flow- and wind-related impacts on erosion of soil-related resources.</p>	<p>Regarding the part of the comment pertaining to wind erosion effects, Chapter 10 of the EIR/EIS acknowledges the high wind erodibility of the organic soils in Section 10.1.1.2, on Figure 10-6, and in Impact Soils-1.</p> <p>Surface Water Impact SW-8 in Chapter 6, Surface Water, of the Draft EIR/EIS indicates that potential for increased wind fetch in the Delta would occur due to wetlands restoration as compared to the Existing Conditions and the No Action Alternative. However, implementation of Mitigation Measure SW-8 to prevent an increase in potential damage from wind-driven waves across expanded open water areas at habitat restoration locations would reduce the impacts to be less than significant and not adverse.</p> <p>Due to climate change, it is anticipated that flows will increase during wetter years in the Sacramento, Feather, and American rivers downstream of the SWP and CVP reservoirs, as shown in Tables C-15-1, C-17-1, and C-19-1 in Appendix 5A, Section C, Modeling Results, of the Draft EIR/EIS. In the Sacramento and American rivers downstream of the CVP reservoirs, peak monthly flows under Alternatives 1 through 9 do not substantially exceed flows under the No Action Alternative. Therefore, the potential for erosion along the river banks would be similar as under the No Action Alternative due to implementation of the BDCP alternatives. However, flows in the Feather River downstream of the SWP Thermalito Complex would exceed the No Action Alternative monthly flows in wetter years but based on the increases identified additional erosion effects were not identified.</p>
1601	459	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>Disruption of natural or favorable soil profiles and horizons. (California Bay-Delta Authority (CALFED) significance criteria)</p> <p>Comment:</p> <p>The BDCP tunnel muck disposal will bury native soils and alter the natural soil profiles and horizons. Tunnel spoils will change soil type, drainage, range of usage and productivity of the soil. This impact is avoidable by burying the muck under the natural surface soils by excavating 10-15 feet of the top soil, placing a 3-4 deep layer of tunnel muck and then replacing the original top soil. The productivity of the soil would be preserved and the</p>	<p>Mitigation Measure SOILS-2a: Minimize Extent of Excavation and Soil Disturbance and Mitigation Measure SOILS-2b: Salvage, Stockpile, and Replace Topsoil and Prepare a Topsoil Storage and Handling Plan describe measures that would be implemented minimize loss of topsoil and degradation of soil productivity. In particular, Mitigation Measure SOILS-2b specifies up to 3 feet of the topsoil will be salvaged from construction work areas, stockpiled, and then applied over the surface of spoil and RTM storage sites areas and borrowed areas to the maximum extent practicable. (Please see Chapter 10, Soils, of the Final EIR/EIS for more information).</p> <p>Additionally, please refer to Master Response 12 Reusable Tunnel Material. Also see Appendix 3B regarding Disposal and Reuse of Spoils, RTM and Dredge Material.</p>

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		elevations of some of the subsided islands in the Delta could be raised.	
1601	460	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>Result in substantial soil erosion or the loss of topsoil. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>BDCP disposal of tunnel muck and sediment from sediment traps and settling ponds at the intakes will bury the topsoil such that it is equivalent to loss. In aquatic habitat restorations that are either eroded by current or wave action or have sediment deposition due to inundation and accumulation, the soil top soil will either be directly lost or buried such that it is effectively lost. The BDCP failed to identify, evaluate or disclose flow-related impacts on erosion of soil-related resources.</p>	<p>Please see response to comment 1601-459.</p> <p>Impact SOILS-1: Accelerated Erosion Caused by Vegetation Removal and Other Soil Disturbances as a Result of Constructing the Proposed Water Conveyance Facilities describes the measures that would be implemented to control erosion and sedimentation to comply with the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities.</p>
1601	461	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>Compaction on BDCP construction staging areas would permanently impair soil structure.</p> <p>Comment:</p> <p>Compaction and deflocculating of soil structure will permanently impair the productivity and drainage of areas utilized for construction staging for the BDCP. Permanent impairment of soil resources at the construction staging sites was not identified, evaluated or disclosed in the BDCP EIR/EIS document.</p>	<p>The EIR/EIS has been revised to include a statement in Impact SOILS-2 that soil quality could be degraded at sites in which the topsoil would not be excavated, overcovered, or inundated, such as at construction staging and laydown areas where the soil could be compacted or otherwise affected. Please see Chapter 10 of the Final EIR/EIS.</p> <p>Mitigation Measure SOILS-2b has been revised to include a requirement that for staging and similar areas in which topsoil would not be excavated or overcovered, the topsoil stockpiling and handling plans will describe how the soil will be decompact or otherwise remediated after demobilization, such as the depth and spacing of ripper shanks and number of passes made by the equipment. The intent of this provision is to ensure that the soil will be returned to a similar bulk density and productivity as it was before the site was used as a staging area as much as practicable.</p>
1601	462	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>During construction BDCP will dewater groundwater around intake, tunnel headworks and tunnel access construction sites (dewater to 100') which will collapse water bearing strata in the soil.</p> <p>Comment:</p> <p>Once clay soil water bearing strata are collapsed, they do not recover their structure, water holding capacity or their previous soil volume. This collapse results in a permanent subsidence of the ground surface, which can damage structures and levees, alter drainage patterns and groundwater depth. Inadequate drainage from subsidence and elevated water tables alter the suitability of soil for agriculture and its productivity. This alteration of drainage and productivity will cause a reclassification of a prime productivity soil to a lower rating which is a significant impact of the project. Changes of soil ratings at the construction dewatering sites was not identified, evaluated or disclosed in the BDCP EIR/EIS document.</p>	<p>Please refer to response to comment 1601-295.</p>
1601	463	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p>	<p>The introduction paragraph in Impact SOILS-1 describes the accelerated erosion that could occur as a result of all project components, including but not limited to reusable tunnel material storage areas and laydown</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>SOILS-1: Accelerated erosion caused by vegetation removal and other soil disturbances as a result of constructing the proposed water conveyance facilities.</p> <p>Comment:</p> <p>The No Action does not include construction of conveyance facilities; therefore, there would be No Impact/No Effect. The Proposed Project tunnel construction would result in hundreds of acres being used as disposal sites for tunnel muck. The tunnel muck buries the vegetation and ground cover at those sites and leaves exposed bare soils so this would result in a significant source of erosion. Construction sites and staging areas are also areas of significant potential contribution to erosion, but these could be mitigated to less than significant. The BDCP did not propose any mitigation for this impact so these sources would also remain significant and adverse.</p>	<p>areas.</p> <p>Contained within the Impact SOILS-1 discussion are the measures, which are required by regulations, which would be implemented to control accelerated erosion.</p> <p>Regarding impact conclusions, Please see Table ES-8 of the Executive Summary in the Final EIR/EIS. Please also see Chapter 10 of the Final EIR/EIS regarding determination of effects. Please also see Appendix 3D, Defining Existing Conditions, no Action Alternative, no Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	464	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-2: Loss of topsoil from excavation, over covering, and inundation as a result of constructing the proposed water conveyance facilities.</p> <p>Comment:</p> <p>The No Action does not include construction of conveyance facilities; therefore, there would be No Impact/No Effect. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	<p>Not adverse/less than significant impacts are identified for Impact SOILS-2 compared to the No Action Alternative and existing conditions to indicate that the identified conclusion thresholds would not be exceeded.</p> <p>See Table ES-8 of the Executive Summary in the Final EIR/EIS for more information on impact conclusions. Information on determination of effects can be found in Chapter 10 of the Final EIR/EIS.</p> <p>Please also see Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	465	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-3: Property loss, personal injury, or death from instability, failure, and damage from construction on or in soils subject to subsidence as a result of constructing the proposed water conveyance facilities.</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to an Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action? The Not Adverse and Less-Than-Significant impact calls on the Proposed Project are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A project that precipitates such a significant adverse impact when the No Action has beneficial impact is a project that should not be implemented.</p>	<p>Not adverse/less than significant impacts are identified for Impact SOILS-3 compared to the No Action Alternative and existing conditions to indicate that the identified conclusion thresholds would not be exceeded.</p> <p>See Table ES-8 of the Executive Summary in the Final EIR/EIS for more information on impact conclusions. Information on determination of effects can be found in Chapter 10 of the Final EIR/EIS.</p> <p>Please also see Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	466	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-4: Risk to life and property as a result of constructing the proposed water conveyance facilities in areas of expansive, corrosive, and compressible soils.</p>	<p>Not adverse/less than significant impacts are identified for Impact SOILS-4 compared to the No Action Alternative and existing conditions to indicate that the identified conclusion thresholds would not be exceeded.</p> <p>See Table ES-8 of the Executive Summary in the Final EIR/EIS for more information on impact conclusions. Information on determination of effects can be found in Chapter 10 of the Final EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment:</p> <p>The No Action does not include construction of conveyance facilities; therefore, there would be No Impact/No Effect. The Not Adverse and Less-Than-Significant impact calls on the Proposed Project are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The Proposed Project impact calls are also incorrect. Some of the construction and staging areas selected in the Proposed Project conveyance footprint are on montmorillonite clay soils which shrink and expand with moisture. Some of the tunnel access ports in the mid- and south-Delta are on peat soils which are compressible. These are significant impacts that can be mitigated with specific geotechnical design and construction work. The BDCP did not propose any mitigation for these impacts so these impacts would be significant and adverse. A project that precipitates such a significant adverse impact when the No Action has beneficial impact is a project that should not be implemented.</p>	<p>Please also see Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	467	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-5: Accelerated bank erosion from increased channel flow rates as a result of operations.</p> <p>Comment:</p> <p>Climate change and sea level rise should have no discernible effect on channel flows as related to CVP/SWP operations, so the impact call should be No Impact/No Effect. The BDCP Proposed Project increases release flows from the Oroville Facilities during the spring when bank soils are saturated and are more prone to erosion from tributary flows. DWR has already acknowledged that their operations impact erosion on the Feather River with their settlement for damages with the Jewel Ranch. The BDCP Proposed Project emphasis on spring Oroville facility releases will exacerbate this existing impact. This is a significant impact, not only for farmland subject to erosion but also to the bank swallow nesting habitat that has also suffered from accelerated erosion from Oroville operations. The impacts to the swallows from the Oroville operations are documented in the Oroville Facility Relicensing Study reports on terrestrial species (Dave Boegner DWR April 2004, SP-T1: Effects of Project Operations and Features on Wildlife and Wildlife Habitat). This is a significant impact that can be mitigated with specific geotechnical design and construction work. The BDCP did not propose any mitigation for this impact so these sources would also remain significant and adverse. A project that precipitates such a significant adverse impact when the No Action has no impact/no effect is a project that should not be implemented.</p>	<p>Due to climate change, it is anticipated that flows will increase during wetter years in the Sacramento, Feather, and American rivers downstream of the SWP and CVP reservoirs, as shown in Tables C-15-1, C-17-1, and C-19-1 in Appendix 5A, Section C, Modeling Results, of the Draft EIR/EIS. In the Sacramento and American rivers downstream of the CVP reservoirs, peak monthly flows under Alternatives 1 through 9 do not substantially exceed flows under the No Action Alternative. Therefore, the potential for erosion along the river banks would be similar as under the No Action Alternative due to implementation of the BDCP alternatives</p> <p>For more information on climate change please see Master Response 19.</p> <p>See Table ES-8 of the Executive Summary in the Final EIR/EIS for more information on impact conclusions. Information on determination of effects can be found in Chapter 10 of the Final EIR/EIS.</p> <p>Please also see Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	468	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-6: Accelerated erosion caused by clearing, grubbing, grading, and other disturbances associated with implementation of proposed conservation measures CM2-CM11, CM18 and CM19.</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria</p>	<p>The analyses in Impact SOILS-6 are for the action alternatives which are compared against existing conditions/No Action Alternative to determine whether the impacts are significant or adverse based on the impact thresholds described in this chapter. Comparison to the OCAP BIOP acreages is included in the action alternative/No Action Alternative comparison This impact was considered not adverse/less than significant because a SWPPP and erosion and sediment control plan would be implemented for all work sites. Please refer to Appendix 3B for discussion of these environmental commitments.</p> <p>See Table ES-8 of the Executive Summary in the Final EIR/EIS for more information on impact conclusions. Information on determination of effects can be found in Chapter 10 of the Final EIR/EIS.</p>

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		and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls. The impacts of clearing vegetation from 65,000 acres of land for aquatic habitat inundation is a significant impact. This impact can be mitigated, but since the BDCP did not propose any mitigations, the impact after mitigation remains significant and adverse.	Please also see Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.
1601	469	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-7: Loss of topsoil from excavation, over covering, and inundation associated with restoration activities as a result of implementing the proposed conservation measures CM2-CM11.</p> <p>Comment:</p> <p>The magnitude of impacts from the implementation of the No Action Operations Criteria and Plan (OCAP) Biological Opinion (BO) mandated habitat restorations are vastly smaller than those of the proposed project (i.e. 8,000-acre No Action vs. 165,000-acre Proposed Project). The EIR/EIS does not describe the differences in magnitude in their significance calls.</p>	<p>The analyses in Impact SOILS-6 are for the action alternatives which are compared against existing conditions/No Action Alternative to determine whether the impacts are significant or adverse based on the impact thresholds described in this chapter.</p> <p>See Table ES-8 of the Executive Summary in the Final EIR/EIS for more information on impact conclusions. Information on determination of effects can be found in Chapter 10 of the Final EIR/EIS.</p> <p>Please also see Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	470	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-8: Property loss, personal injury, or death from instability, failure, and damage from construction on soils subject to subsidence as a result of implementing the proposed conservation measures CM2-CM11.</p> <p>Comment:</p> <p>Peat soils are subject to subsidence. A large portion of the Proposed Project habitat restoration is proposed to occur on peat soils. The conversion of lands from current land uses to habitat is a property loss so the Proposed Project has a significant impact that is not mitigated. Intertidal and sub-tidal habitat restorations are Proposed in areas with peat soils. These habitat restorations require the construction of new levees to impound the water in the habitat restoration. These new levees would be built upon peat soils and so have a greater chance of failure resulting in loss of human life than construction of levees in other areas. Since the BDCP has not described the measures to avoid, minimize and mitigate the risks included in their habitat restoration levees, the impact call should be significant and adverse.</p>	<p>Regarding the part of the comment pertaining to subsidence, as described in Impact SOILS-8 (see Chapter 10 of the Final EIR/EIS), with the exception of the Suisun Marsh ROA, the soils in the ROAs do not have a high organic matter content nor are the soils otherwise highly subject to subsidence. Consequently, only the Suisun Marsh ROA contains soils subject to substantial subsidence. Based on its current elevation, the Suisun Marsh ROA has not experienced significant subsidence, despite the fact that the soils are organic and of considerable thickness.</p> <p>Further, as described in section 10.3.1, Methods for Analysis, and Appendix 3B, Environmental Commitments, geotechnical studies would be conducted at all the ROAs to identify the types of soil stabilization that should be implemented to ensure that levees, berms, and other features are constructed to withstand subsidence and settlement and to conform to applicable state and federal standards. Such standards include the USACE Design and Construction of Levee and DWR Interim Levee Design Criteria for Urban and Urbanizing Area State-Federal Project Levees.</p> <p>Regarding property loss, assuming that the commenter is referring to the loss of topsoil as a result of inundation, such an effect is described on Impact SOILS-7, with the impact determined to be significant and unavoidable. Assuming that the commenter is referring to the loss of farmland as a result of inundation, such an effect and mitigation measures are described Impact AG-3.</p> <p>For more information on significant and unavoidable impacts please see Master Response 10.</p>
1601	471	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>SOILS-9: Risk to life and property from construction in areas of expansive, corrosive, and compressible soils as a result of implementing the proposed conservation measures CM2-CM11.</p>	<p>The No Action Alternative is identified as having less than significant effects for Impact SOILS-9 because standard construction practices would reduce the potential effects from expansive, corrosive or compressible soils. Please refer to the list of projects that were considered in this analysis (See Chapter 10 of the Final EIR/EIS).</p> <p>See Table ES-8 of the Executive Summary in the Final EIR/EIS for more information on impact conclusions. Information on determination of effects can be found in Chapter 10 of the Final EIR/EIS.</p>

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		<p>Comment:</p> <p>The No Action impact call is incorrect. The implementation of the Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) that are (mistakenly) incorporated into the BDCP Conservation Measures 2-22 occur in the Yolo Bypass. Construction of the No Action OCAP BO RPAs would not risk lives as there are no residences in the Yolo Bypass flood plain and property would not be affected as properties in the bypass are already subject to flood easement agreements. Therefore, the No Action impact call should be No Impact and No Effect. The BDCP Proposed Project habitat restorations occur on a much larger scale and are spread over a large part of the Delta that includes not only compressible peat soils but also montmorillonite clay soils which are highly expandable when wetted and shrink when dried. The BDCP has thousands of acres of habitat restoration and miles of levees and other facilities proposed to be constructed on these unstable soils. The BDCP proposed activities on these soils is a significant impact and risk and one that they have not proposed any avoidance, minimization or mitigation measures for. Given these impacts, risks and lack of mitigation, the correct impact call for the Proposed Project for this impact is Significant and Adverse.</p>	<p>Please also see Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions. More information on environmental baselines can be found in Master Response 1.</p>
1601	472	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from Reclamation District operations to draining the islands.</p> <p>Comment:</p> <p>Many islands in the Delta have land elevations that are at, near or below the water levels of their surrounding tributaries. The only way the islands are maintained from becoming flooded by seepage from the tributaries is to nearly continuously pump water out from the drainage ditches in the Reclamation District back into the tributary. By the Reclamation District pumping the water off of the island or tract, the groundwater levels are maintained to levels that are farmable (3 to 8 foot minimum depending on crop type and season). The amount of shallow groundwater pumping and rate of turnover of shallow groundwater recharge from the tributary is dependent upon several factors. The more porous the levees and soils, the faster the movement of tributary water into the shallow groundwater. The larger the difference between the tributary water elevation and the groundwater height (hydraulic gradient), the faster the movement of tributary water into the shallow groundwater. Even a thin layer of degraded groundwater quality that occurs in or near the root zone could make larger portions of the Delta unfarmable in a matter of just a few years. This BDCP impact of surface water quality degradation that causes shallow groundwater quality degradation will result in a conversion of farmland to a different land use (non-farming) which according to CEQA guidance significance criteria is a significant impact. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into</p>	<p>Please see response to comment 1601-336 and response to comment 1601-337 regarding salinity.</p>

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		<p>the island's groundwater. This minimization measure would need to be complemented by the BDCP also providing an alternative surface water supply of non-degraded quality for the farmers to use as an alternate water supply. These suggested avoidance and minimization measures are practical, feasible, well tested and accepted and are small in scale in comparison to the scope and cost of the overall BDCP proposal.</p>	
1601	473	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p> <p>Due to the shallow groundwater tables in the Delta, many open ground fields and most permanent crop plantings utilize drain tile to maintain groundwater levels and keep groundwater moving to protect their crops and the productivity of the soils. Most permanent crop plantings are adjacent to the levees due to their higher elevation, better drainage and better soils. This means that the drain tiles that are under most of permanent crops planted in the Delta are right next to the tributaries. Drain tiles are typically installed at 6 to 10 feet deep, depending on soil type, crop type, groundwater table elevations and topography (drainage). The drain tile function is to reduce the groundwater table elevations, creating a localized groundwater table depression to protect the soil and crops from groundwater elevations that are too shallow. The groundwater collected from the drain tile is transported via drainage pipes to the lower elevation drainage ditches that are located near the center of the islands and tracts. This necessary drain tile function creates the same increased hydraulic gradient from the island groundwater table from the surrounding tributaries as described in the preceding two comments on use of groundwater substitution water supplies and the resulting groundwater cone of depression and the Reclamation District pumping of drainage ditches to maintain groundwater table elevations. The impacts from the degraded groundwater quality from the BDCP operations will occur even more quickly with drain tile operation interactions than the impacts to shallow groundwater quality. Degraded surface water quality from the BDCP operations will be pulled into the shallow groundwater table where the drain tiles are functioning in the same manner. The drain tiles will collect this degraded quality groundwater and drain the water to the main drainage ditches. These drainage ditches are also water supply ditches that are pumped out of to irrigate other fields. These central drains/water supply ditches is how water supply is delivered to most fields that are in the interior of the islands and tracts. Through the function of the drain tile and drainage of those systems into the water supply ditches in the middle of the islands and tracts, the degraded shallow groundwater from BDCP operations have now been translated back into additional impacts to water quality of surface water supplies for the interior fields. Because of the proximity of the drain tiles to the tributaries and the function of the drain tile to translocate the drainage water to the main ditches, this mode of impact could occur very quickly, e.g. the first year of degraded surface water quality from the BDCP operations. The scope of this impact is not small either.</p>	Please see response to comment 1601-336 and response to comment 1601-337 regarding salinity.
1601	474	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p>	Please see response to comment 1601-336 and response to comment 1601-337 regarding salinity. Please also refer to Impact AG-2, in Chapter 14, Agricultural Resources for analysis of the potential effects on agricultural infrastructure and operations. Mitigation Measure AG-2, Agricultural Land Stewardship Plan and

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		<p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p> <p>Most of the islands and tracts, with the exception of some of the most interior Delta and lowest elevation islands, are ringed by permanent crop plantings at their outside edges. Cumulatively, these represent several hundred miles of tributary length that have drain tiles installed adjacent to them. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta and the translation of that shallow groundwater quality degradation into a subsequent degradation of additional surface water supply water quality that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. The BDCP can further minimize this significant impact by providing for and maintaining sump pumps for the tail water coming out of the drain tile systems. The sump pump would discharge the drain tile water back into the tributary rather than letting the degraded shallow groundwater contaminating the surface water supplies at the main drain/water supply ditches. The use of sump pumps on drain tile systems is a common practice in the southern Central Valley as the topographic gradients are not sufficient to allow drain tile function without the sump pumps. Because the use of sump pumps on drain tile systems is common practice in the CVP/SWP service areas, the BDCP cannot claim that there are no feasible, practicable measures to avoid, minimize or mitigate this significant impact of the BDCP proposed operations.</p>	<p>other mitigation measures are provided to reduce effects on agricultural resources as much as possible.</p>
1601	475	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report</p> <p>Issue:</p> <p>This important (flawed attempt) at characterizing the tunnel muck was issued after the release of the BDCP EIR/EIS even though CM-1 was supposed to be analyzed at a project level of detail.</p> <p>Comment:</p> <p>This report and the data that supports it are seriously flawed. In order for the BDCP EIR/EIS to have met the criteria for a project level of analysis, information included in this report should have been included in the EIR/EIS. This report is incomplete, flawed and late. The BDCP EIR/EIS should be revised to include this report and information to correct the deficiencies in this report (see subsequent comments) and that information must be analyzed at a project-level of detail in order to meet the requirements of a project-level analysis for the proposed project conveyance. This report represents material new information so the 180-day comment period on the draft should be restarted as of the release of this report on March 20, 2014 if information from this report is to be relied upon in the EIR/EIS.</p>	<p>The analyses in the EIR/EIS assume that reusable tunnel material (RTM) would result in a permanent effect at the locations identified for RTM disposal because the amount and timing of reuse is currently unknown. The RTM testing Report was developed to give an initial indication of the potential chemical characteristics of treated RTM. Appendix 3B, Section 3B.2.18, of the RDEIR/SDEIS, describes how RTM would be stored, tested and treated and disposed of, if necessary, as an environmental commitment for the proposed project. The measures in this environmental commitment combined with the SWPPP and erosion and sediment plan would reduce the effects RTM on adjacent soil, agriculture, habitat, groundwater, erosion and drainage.</p> <p>For information on project level versus program level analysis please see Master Response 2. Please also see Master Response 12 for more information on Reusable Tunnel Material.</p>
1601	476	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Figure 1-1</p>	<p>As described in Section 2.0 of the RTM report, available soil data from project borings completed to date was statistically analyzed in order to generate uniform baseline soil samples representative of average</p>

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		<p>Issue:</p> <p>The number and distribution of samples of geotechnical cores along the proposed tunnel alignment are substantially deficient to reliably characterize the soil physical and chemical properties of the tunnel muck.</p> <p>Comment:</p> <p>Many of the samples taken are not on the actual proposed alignment. If this program were to meet a project-level analysis as the BDCP EIR/EIS states as its objective, the samples need to actually be on the alignment and the samples need to occur at a spatial frequency and distribution that represent the range of conditions that will be met in the actual construction process. this level of sampling is required to meet the definition of a project-level analysis that would warrant issuance of construction-related permits. The figure clearly shows that most of the samples are not actually on the proposed project tunnel alignment. The samples are also not evenly or representatively spatially distributed. There are large stretches of the proposed alignment that have no samples to characterize the conditions of the tunnel muck. The southern-most sample is approximately 7 miles north of Clifton Court Forebay and then there is no sample actually at Clifton Court. This leaves one sixth of the alignment with absolutely no characterization of conditions to evaluate what the quality of the tunnel muck will be in order to evaluate the suitability of the material for the BDCP EIR/EIS proposed disposition of those materials. The sample distribution along the alignment is grossly biased toward over water in tributary sample conditions. Of the samples that are actually on the proposed tunnel conveyance route, only 3 are over land. In no stretch of the imagination could this be considered a representative sampling, let alone a statistically defensible one. The geomorphic development of channels and soils in the Delta may result in the samples under the tributaries being very different in physical and chemical properties than samples which would be found in under the land. The BDCP needs to sample under the land portions of the conveyance alignment at an equal level of sample density as the tributary proportion of the conveyance alignment in order to avoid this bias in their sample base and interpolation of sample results. If you analyze the proportion of the conveyance alignment that occurs under tributaries vs. under land, you will find that 90+% of the conveyance is over land. The sample distribution is of the data presented in the report is 90% over tributaries. This under land vs. under tributary sample bias distorts the usability and representativeness of the samples. The samples are only 150 or so feet deep so under land or under tributary will likely be very different conditions.</p> <p>As the sampling is currently distributed, the BDCP data cannot prove that their under tributary samples are representative of the under land conditions and they cannot prove the conditions between the two are not substantively different in character such that they would substantially alter the suitability of the materials for the BDCP proposed uses of the tunnel muck. In order to meet a project-level analysis, the sample distribution needs to randomly distributed in a deep enough number of samples to achieve and statistically confident result. Variables that need to be included in the sample randomized stratification would include proportion of land vs. water, by soil type, by depth of construction, as well as other variables such as available geotechnical seismic logs, etc. The BDCP should utilize the best available science which is commonly accepted and utilized in similar environmental and project level impact analysis in which subsurface conditions need to be characterized to a defensible level of statistical confidence in order to meet a project level analysis. The BDCP subsurface soil condition survey and interpolation of those samples should adhere to the</p>	<p>tunnel zone material. It is acknowledged that the soils vary across the project alignment. However, uniform baseline soil samples were required in order to evaluate the resulting effects of adding different soil conditioner products.</p> <p>Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1). Please also see Master Response 12, Reusable Tunnel Material.</p>

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		<p>well-established and accepted protocols of the National Instrument (NI) 43-101 protocols for determining the distribution and statistical confidence of subsurface conditions. A project-level analysis would comply with these 43-101 standards when a sample density and consistency of results met their Proven and Probable level of statistical confidence. Mines are not permitted for construction until the project meet these standards and the BDCP EIR/EIS proposed project excavation and tunnel muck disposition and disposal should not be approved until the project meets the equivalent project-level standards.</p>	
1601	477	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Figure 1-2</p> <p>Issue:</p> <p>The decision tree in the figure demonstrates that the project does not know the characteristics of the disposal materials the project will deal with so the proposed project conveyance is not analyzed at a project-level of detail and does not warrant construction related permits.</p> <p>Comment:</p> <p>The decision tree asks, "Is the material hazardous?" In order to meet a project-level of analysis in the EIR/EIS, the answer to this question should already be known, characterized, evaluated, quantified, disclosed and mitigated. The decision tree then goes on to determine how the materials would be disposed if they are not chemically toxic and to "develop a material reuse plan". To develop a plan after the project is implemented is the definition of programmatic level of analysis. The current BDCP EIR/EIS does none of the project-level analysis required for tunnel muck disposal and even the programmatic level of detail included in this report is not included in the EIR/EIS. The EIR/EIS must be revised to include a complete project-level of analysis of tunnel muck disposal impacts and be recirculated for public comment once this material new information is made available for the public.</p>	<p>As described in Section 3.2 of the RTM report, there is no indication that RTM would require handling as hazardous waste material. However, additional testing and characterization of RTM will be performed as described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by the flowchart (Figure 3B-1) to confirm compliance with state and federal regulations.</p> <p>For information on the Decision Tree please see Master Response 44. More information on Reusable Tunnel Material can also be found in Master Response 12. A discussion of project level versus program level analysis can be found in Master Response 2.</p>
1601	478	<p>Document Section: Chapter 10 - Soils</p> <p>Issue:</p> <p>Data collected that was used in the Reusable Tunnel Material Testing Report was collected in 2009-2012.</p> <p>Comment:</p> <p>This important readily available information on characterizing the affected environment and existing conditions was not included in the BDCP EIR/EIS document. DWR collected this information themselves so they must have been aware of its availability and yet it still was not included in the document for analysis and disclosure. The BDCP EIR/EIS needs to be revised to include this information and recirculated for public comment once this new and material information is appropriately disclosed.</p>	<p>The soil samples used for the RTM study were collected from investigations performed in 2009-2012. The RTM study was initiated in 2013 and completed in 2014 and included as part of the technical studies supporting the draft EIR/EIS.</p> <p>Please see Master Response 12 for more information on RTM and Appendix 3B of the Final EIR/EIS (Environmental Commitments, AMMs, and CMs).</p>
1601	479	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - 1.3</p> <p>Issue:</p> <p>Gorman and Wells 2000 is inappropriately cited.</p>	<p>The Gorman and Wells 2000 citation refers to geologic mapping of the overall deltaic conditions, through which the proposed tunnel alignment is located, and therefore is applicable.</p>

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		<p>Comment:</p> <p>The reference is misused as the Gorman and Wells document did not know where the tunnel alignment would be in 2000.</p>	
1601	480	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>The table indicates that 56% of all cores tested had particle sizes of 200 mesh or smaller.</p> <p>Comment:</p> <p>A 200 mesh filter is 74 microns. More than half of the material cleared this screen size so more than half of the particles are smaller than 74 microns. The physical material testing did not screen the materials any finer to determine what proportion of the material was 10 microns or smaller. Seeing as more than half the material tested was smaller than 74 microns, it stands to reason that a significant percentage of the material could be and is likely, 10 microns or smaller. PM10 is an important air quality standard that regulates particle sizes of 10 microns and smaller as they pose a significant human health and ecosystem risk. The BDCP EIR/EIS did not analyze what proportion of tunnel muck disposal materials that the plan has proposed to dispose of on the surface in land fills, levee construction, habitat restoration, flood response, etc. would potentially affect PM10 air quality standards and human health. DWR obviously had the materials available to do the testing, but the EIR/EIS failed to utilize the best available science and quantify that impact. The materials should be tested for particle size distribution to 10 and 2.5 micron sizes so these risks and impacts can be appropriately analyzed and disclosed. Once the BDCP EIR/EIS document has been revised to address this serious deficiency, the document should be recirculated for public comment.</p>	<p>Appendix C of the RTM report presents the results of hydrometer testing which measured particle size distribution to below 2 microns. RTM will be completely saturated when it is extracted and therefore would not constitute a fugitive dust concern. Conveyors would be used to transport the RTM to storage piles, where they will dry naturally. Onsite equipment required to manage the pile and other borrow sites have been included in the emissions analysis. The piles will remain moist throughout tunnel construction due to the continual addition of RTM, reducing exposure to potential wind erosion. Once tunneling is complete, topsoil will either be placed or the material may be transported to final disposal sites.</p> <p>For more information on Reusable Tunnel Material please see Appendix 3B of the Final EIR/EIS and Master Response 12.</p>
1601	481	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>From the table we can calculate the Plastic Limit is 21%. (Liquid Limit - Plasticity Index)</p> <p>Comment:</p> <p>The Liquidity Limit is 44%, the moisture content is 33% and the Plastic Limit is 21%. These numbers are averages of all the cores and there is no standard deviation analysis done from the individual cores. The average moisture content is closer to the Liquidity Limit (11%) than the Plastic Limit (12%). This means the average soil is closer to liquefaction than it is a solid soil. It is likely, given variation in conditions and from sample to sample, that some of the tunnel alignment soil conditions are already in or very near a liquefaction condition. If the tunnel boring machine (TBM) construction disturbs the current subsurface conditions and equilibrium this data shows that there could be a soil liquefaction event. The TBMs are not set up to function in liquefied soils and a liquefaction of subsurface conditions could easily result in surface subsidence and loss of levee integrity. The BDCP EIR/EIS has not done any of the appropriate level of analysis of this risk even though it has some of the data available to conduct these important and prudent analyses. These analyses must be completed, with a much larger and more representative sample size, in order for the BDCP EIR/EIS to meet the test of best available science or conducting a project-level analysis that would warrant</p>	<p>Geotechnical studies will include a subsurface investigation program to identify the types of soil avoidance or soil stabilization measures that should be implemented to ensure that the water conveyance facilities are designed and constructed in accordance with applicable state and federal standards. The nature of the geotechnical studies is described in Appendix 3B, Environmental Commitments (Section 3B.2.1) of the RDEIR/SDEIS. For more information on RTM please see Master Response 12.</p>

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		<p>issuance of any construction-related permits. The EIR/EIS should be revised to include this information and analyses and should be recirculated for public comment once this material new information is included.</p>	
1601	482	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>The table relied upon averaged data. The mixing of the samples for analysis is a fundamental procedural error in the analysis.</p> <p>Comment:</p> <p>Section 2.1 - "Soil core samples were mixed together with the intention of generating uniform baseline soil samples representative of average tunnel zone material. Subsequent testing demonstrated that the baseline soil samples were uniform and classified as sandy lean clay." The mixing of the samples for analysis is a fundamental procedural error in the analysis. The document does not disclose how the samples were mixed, if there were equal volumes from each sample or how it was determined when complete mixing had occurred. Were repeated tests of the mixed materials done to evaluate if a consistent result was achieved that would indicate that a truly mixed condition was achieved? Since the document did not document the mixing process, DWR cannot defend that they correctly characterized even the average condition of the samples. Of course an average of the soil physical property conditions is not useful at all for any kind of analysis and represents the most sloppy and lazy methodology possible. These tests are for geotechnical suitability and we know that conditions and engineering solutions and the physical characteristic suitability of use of the tunnel muck materials will vary from location to location along the tunnel alignment. If the conditions were not variable, then why were multiple samples even needed? Each and every sample should be processed separately and then the conditions in each location can be evaluated for risks, engineering designed to address those risks and conditions as well as the tunnel muck suitability for reuse and disposal evaluated, disclosed and mitigated. As the EIR/EIS currently stands, it fails to utilize any of the available data and therefore is deficient and should be revised and recirculated.</p>	<p>The purpose of the RTM study was to evaluate the effects of adding different soil conditioners to representative tunnel zone materials. It is acknowledged that the soils within the proposed tunnel zone vary across the project alignment. Therefore it was necessary to generate uniform baseline soil samples in order to evaluate the resulting effects of adding different soil conditioner products. Appendix A of the RTM report describes the processes used for soil sampling, mixing, and splitting. The laboratory test results for physical and index properties presented in Table 3-1 of the RTM report demonstrate that the baseline soil samples were uniformly mixed.</p> <p>Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1). For more information on RTM please see Master Response 12.</p>
1601	483	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>The soil physical testing failed to identify what proportion of the soil volume was composed of organic matter.</p> <p>Comment:</p> <p>Deep soil conditions are anaerobic (without oxygen). Organic matter trapped deep in the soil is subject to rapid oxidation once exposed to surface aerobic conditions. This rapid oxidation of tunnel muck organic matter will generate potentially large CO2 discharges which is an air quality and greenhouse gas impact which the BDCP EIR/EIS has failed to identify, characterize, evaluate, disclose or mitigate. DWR collected the data, but failed to apply the best available science in evaluating that data. The samples should be processed to quantify the organic matter % of the tunnel muck material by location and by volume and fate of disposal or reuse. Only then could the level of analysis be considered to meet best</p>	<p>Testing conducted by Wallace Laboratories on soil samples collected from the proposed tunnel zone indicated low to very low (characterized as less than 3 percent by dry weight) organic matter. The test results are included in Appendix E of the RTM report. Geotechnical boring data along the proposed project alignment indicates that the majority of organic soils are limited to within 40 feet of the ground surface. The proposed tunnel excavation will be located at least 100 feet below the ground surface, and based on the subsurface information collected to date, is not anticipated to encounter significant amounts of organic material.</p> <p>For more information on RTM please see Appendix 3B of the Final EIR/EIS and Master Response 12.</p>

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		available science and a project-level analysis that would potentially warrant issuance of construction-related permits.	
1601	484	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Section 2.3.1</p> <p>Issue:</p> <p>The geotechnical testing is irrelevant when done on an "average" of all of the soils sampled.</p> <p>Comment:</p> <p>Testing of the average geotechnical characteristic is a meaningless exercise. If, on average, the soil will not liquefy under the TBM construction conditions do not result in soil liquefaction, it is not meaningful if there are locations on the alignment that would be prone to liquefaction. Here is an easy analogy, the current BDCP approach would have a house built on an unstable slope and as long as less than half the house slid down the hill, the BDCP analysis results would indicate everything would be OK. Obviously having any portion of the house slide down the hill would be a catastrophic failure, just as any length along the tunnel alignment suffering liquefaction would be a catastrophic failure. The BDCP analysis does not come even close to providing any reasonable measure of risk. The "average" (which is probably not the average condition) may not be representative of the conditions that will be met at any location along the conveyance route. First, the number and distribution of samples was inadequate to be representative of the range of conditions, sample locations were biased (mostly over water) and samples were mostly not even on the actual BDCP proposed alignment route. Second, the conditions that result from an average may not even exist in any of the locations to be encountered. Therefore, all of the analysis based on this flawed sampling and sample treatment is not reliable nor does not even come close to meeting the test of best available science. DWR could have easily processed each of the samples separately to at least have utilized what was available properly. The analysis should be redone to make the most of what is available, the limitations of that information disclosed and the results included in a revised and recirculated BDCP EIR/EIS.</p>	Please see response to comment 1601- 482, above.
1601	485	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Section 2.3.1</p> <p>Issue:</p> <p>Environmental testing was done only on soils mixed with polymers and was not handled appropriately for testing of compounds which volatilize.</p> <p>Comment:</p> <p>According to this report, samples were taken from 2009 through 2012. The report does not disclose how these samples were stored. The samples were all mixed together. Then they were wetted, mixed with polymers and then dried out and more time past. Then and only then was a sample sent to a single lab for testing. First, environmental testing should be done immediately after sampling with careful handling of the materials to preserve moisture content, prevent external contamination and manage off-gassing of volatile compounds. Sample handling, chain of custody, refrigeration of samples, storage container, processing time and other requirements need to be adhered to in any rigorous and</p>	The scope of the RTM study included mixing representative soil conditioner products with available soil samples from the proposed tunnel zone. Prior to development of the RTM study, previous test results on soil samples from within the proposed tunnel zone had not identified environmental concerns with regard to volatile organic compounds. Accordingly, after mixing with representative conditioner products, the laboratory soil samples were allowed to air dry to model anticipated field construction sequencing. RTM samples were tested for a variety of potential environmental constituents primarily to evaluate if the addition of soil conditioners would significantly alter the chemical composition of the RTM. Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1). Please also see Master Response 12, Reusable Tunnel Material.

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		<p>appropriate sampling and testing protocol. The document does not disclose any of these protocols and given the length of time from sampling to testing, there obviously were none. Each sample should have been processed separately so that the chemical conditions in the locations represented by each sample could be determined. Samples of each core should have been sent to more than one lab to confirm consistency of lab analysis and quality. Then and only then, would these results be useful and meet the test of best available science. As the BDCP work was done, we have a single, out of date, poorly stored, inappropriately mixed, rewetted, polymer contaminated, biodegraded, dried out, volatilized, oxidized sample that was only sent to one lab for one test. Unfortunately, even if all of the samples were now tested separately the samples are old and not representative of conditions. Most of the compounds tested are subject to change based on biodegradation, mineralization, oxidation, chemical breakdown, enzymatic breakdown, volatilization and chemical concentration gradient changes. These include: methyl mercury, butyltins, ammonia, nitrate/nitrite, soluble metals, mercury, soluble mercury, petroleum hydrocarbons, chlorinated pesticides, polychlorinated biphenyls, herbicides, semi-volatile organics, and organic carbon. The test results on these important chemical constituents from these BDCP tests cannot be relied upon and must be redone before the true tunnel muck contaminant risk can be determined, evaluated or disclosed. The BDCP has failed to properly evaluate these risks.</p>	
1601	486	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - Section 2.3.1</p> <p>Issue:</p> <p>Environmental testing did not include all of the relevant compounds that should have been tested for.</p> <p>Comment:</p> <p>As an example, the tests had a category for "soluble metals". This is such a broad category as to be useless in a meaningful environmental analysis. The samples should have been tested for a broad panel that encompassed all of the drinking water quality standards so that the impacts of tunnel muck disposal that resulted in water or wind erosion deposition in water could be evaluated. Testing panels should have also included compounds which can be bioaccumulated in fish and other species so those impacts could have been evaluated and disclosed. The testing of the samples should be redone to include these other important constituents and the EIR/EIS revised to evaluate, quantify, disclose and mitigate for the impacts associated with the chemical constituent impacts of the tunnel muck materials proposed by the BDCP.</p>	<p>Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1). For more information please see Master Response 12, Reusable Tunnel Material.</p>
1601	487	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - page 263</p> <p>Issue:</p> <p>Nitrate/Nitrite Sample Holding Time: "Samples were out of prescribed holding time upon resolution of discrepancies and were received without thermal preservation. The samples were analyzed upon client advice to proceed with the analysis."</p> <p>Comment:</p>	<p>Please see response to comment 1601-485.</p>

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		<p>The report admits the samples were mishandled and did not comply with proper procedures and that the samples were processed and results used anyway. It is nice they disclosed this profound defect in the report in an appendix on page 263. There was no mention of this severe limitation in the usefulness of the results in the data presentation and analysis in the main report. In short, none of the sample handling protocols were followed and none of these results should be relied upon for any purpose. This whole report falls woefully short of "best available", let alone "good" or even "proficient" science.</p>	
1601	488	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - page 252, 258, 268, and 274.</p> <p>Issue:</p> <p>Sample handling protocols were not followed and yet the testing was conducted anyway and results used without caveats.</p> <p>Comment:</p> <p>Same preceding comments, but for metals, mercury, ammonium, hexavalent chromium, and total organic carbon.</p>	Please see response to comment 1601-485.
1601	489	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - page 285.</p> <p>Issue:</p> <p>Cooler receipt is for 2013</p> <p>Comment:</p> <p>Refrigerating the samples as much as 3 years after they were taken did not protect the quality of the samples or contribute to usable lab results. DWR and the BDCP violated just about every generally accepted sample handling protocol in existence.</p>	Please see response to comment 1601-485, above.
1601	490	<p>Document Section: Chapter 10 - Soils, Reusable Tunnel Material Testing Report - page 318, 326, 334, 342, 350, 358, 366, 373, 399, 404, 408, 414, 436, 444, 452, 460, 468, 476, 484, 492, 499, 508, 512, 517, 522, 525, 533.</p> <p>Issue:</p> <p>The reports say that the sample was processed within the proscribed holding period, but the sample receipt dates are in 2013.</p> <p>Comment:</p> <p>The samples were one to four years old by 2013 so perhaps the samples were processed by the lab in a timely manner after their receipt, but the samples definitely were not processed in the proscribed time from the time the sample was taken. Therefore, the reports statements regarding the timely processing of the sample is grossly incorrect and purposely misleading. This comment applies to semi-volatile organics, polycyclic aromatic hydrocarbon (PAH), petroleum hydrocarbons, pesticides, polychlorinated biphenyls (PCBs), herbicides, metals/mercury, ammonia, nitrate/nitrite (this and others are in direct conflict with earlier report statements that the sample processing did not comply with protocols), hexavalent</p>	Please see response to comment 1601-485, above.

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		chromium, and total organic carbon (TOC). These sample results are corrupted by the delay in processing and the inappropriate storage and handling of the samples. These sample results should not be relied upon and should be redone correctly and included in the BDCP EIR/EIS Affected Environment/Existing Conditions and the impact analyses.	
1601	491	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) are co-Federal Lead Agencies on the BDCP EIR/EIS, they should issue a report on DWR and Reclamation's compliance and performance on the current Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs).</p> <p>Comment:</p> <p>If DWR and Reclamation are fully compliant with all of the requirements and deadlines in the current OCAP Bos then there can be some level of assurance that they will implement the BDCP in a timely manner that also meets the level of commitments and goals set. If DWR and/or Reclamation are even partially out of compliance with the OCAP BO requirements then that is a strong indication that DWR and Reclamation should not be relied upon to implement the BDCP actions and that there will be an inadequate level of certainty to issue permits based only on the plan. If DWR or Reclamation are not fully compliant with the current OCAP BO then there is only an adequate level of certainty to issue permits after the BDCP actions are fully implemented and are proven successful in meeting the BDCP conservation goals as described in the HCP/NCCP and BDCP EIR/EIS.</p>	For information on incidental take permits please see response to comment 1601-18.
1601	492	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>DWR and Reclamation compliance with the existing Operations Criteria and Plan (OCAP) Biological Opinions (BOs) from National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) are an important part of describing the Affected Environment as many deadlines for implementation of the BOs transpired before the date of the environmental baselines.</p> <p>Comment:</p> <p>Since these OCAP BO requirements are all also existing obligations of the project, any that have been completed or more fully developed in design or implementation since the date of the environmental baseline, should be described fully in the No Action and No Project descriptions. If there are no additional details to add to the No Action/No Project description then DWR and Reclamation have missed many deadlines as required in the OCAP BOs and are in violation of the BOs.</p>	For information on environmental baselines please see Master Response 1 and Appendix 3D of the Final EIR/EIS.
1601	493	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since fish passage at all the CVP/SWP dams are current obligations of the project as required in the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service</p>	Please refer to Master Response 1, regarding the adequacy of the baseline approach. Please also see Appendix 3D of the Final EIR/EIS. For information on incidental take permits please see response to comment 1601-18. For more information on the plan area please see response to comment 1601-8.

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		<p>(FWS) Biological Opinions, then the existing condition should assume anadromous fish presence above the dams into their upstream tributaries to the upstream extent of natural fish passage barriers.</p> <p>Comment:</p> <p>The upstream reservoirs and upstream tributaries to the upstream extent of potential anadromous fish distribution should be included in the definition of the "Plan Area". If it does not, then the incidental take permits (ITPs) should not cover the potential take of these species in these areas in project activities in the future as these affects were not evaluated in the EIR/EIS. The BDCP did not factor compliance with this mandatory fish passage in their characterization of the no action condition. Therefore, the analysis of the impacts of the alternatives as compared to these No Action is fundamentally flawed and does not accurately evaluate or disclose the impacts of the proposed project and alternatives. The BDCP EIR/EIS should revise the description of the No Action to include the mandated fish passage and include that condition in its comparisons to evaluate the proposed project and alternatives. Once the analysis has been revised, the EIR/EIS should be recirculated to the public.</p>	
1601	494	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>The National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) requires the Reclamation Tracy Fish Collection Facility to achieve "whole facility overall survival is 75%" for Chinook, steelhead and green sturgeon no later than 12/31/12.</p> <p>Comment:</p> <p>Given the date of this requirement vs. the project baseline update, this survival rate for these facilities is applicable to the Existing Condition/No Action/No Project as well as Reclamation's south Delta component of Joint operations in the alternatives. The BDCP did not factor compliance with this mandatory survival rate in their characterization of the existing condition and no action alternatives. Therefore, the analysis of the impacts of the alternatives as compared to these baselines is fundamentally flawed and does not accurately evaluate or disclose the impacts of the proposed project and alternatives.</p>	<p>The analyses presented in the EIR/S and associated documents focus on comparisons between scenarios rather than predictions of absolute levels of take (e.g., by entrainment), so that the achievement of this BO requirement would not differentiate the alternatives from the baseline (i.e., the whole-facility survival is assumed to be similar under alternatives and baseline). Please refer to Master Response 1, regarding the adequacy of the baseline approach. Please also see Appendix 3D of the Final EIR/EIS.</p>
1601	495	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Reclamation was required to send a letter to U.S. Army Corps of Engineers (USACE) in response to the 2009 National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) I.7 requesting modification of Fremont Weir and other facilities to accommodate fish passage, the BDCP should provide a copy of the letter and the USACE response in an appendix of the report.</p> <p>Comment:</p> <p>Confirmation of DWR/Reclamation compliance with the existing OCAP BO RPAs and confirmation of USACE's willingness to modify their Fremont Weir and other Yolo Bypass</p>	<p>Alternative 4A does not include modifications to Fremont Weir or additional flows into the Yolo Bypass. Information regarding how the Biological Opinions have been addressed in the EIR/EIS is provided in the Executive Summary, Chapter 31 and in resource chapters where the Biological Opinions apply to the Regulatory Setting such as Chapter 11.</p>

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		<p>facilities and operations according to the BDCP proposals is an important factor in determining the certainty that these BDCP proposals will be implemented and achieve the contribution to conservation as asserted in the plan. If there has been no letter from DWR and Reclamation to the USACE and/or the USACE has not confirmed their willingness to comply with the BDCP proposals for modification of their facilities and operations, then there is no adequate certainty that the Fremont Weir and Yolo Bypass proposals by the BDCP will achieve their contribution to conservation and no take permits permit should be issued based on these proposed BDCP project species benefits. Further, if DWR and Reclamation have not submitted the OCAP BO RPA required to the USACE, then DWR and Reclamation are in violation of the terms of the current OCAP BO. If DWR or Reclamation are found to be violating the current OCAP BO, then there is no reasonable certainty that they will conform to and successfully implement the BDCP over a 50-year project period.</p>	
1601	496	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Copies of reports documenting the improvements of fish salvage monitoring and release survival rates for the DWR and Reclamation south Delta pumps in response to 2009 National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) IV.4.3 that were required to be completed prior to the deadline of 10/1/09 and after should be included in an appendix of the BDCP EIR/EIS as part of the Affected Environment and the No Action/No Project description.</p> <p>Comment:</p> <p>These reports are important as they document the improvement in south Delta fish survival rates and the level of success in fish monitoring and in adaptive management. The BDCP relies heavily on adaptive management and these programs are a good opportunity for DWR and Reclamation that they can implement, monitor, evaluate and adapt fisheries conservation programs. If DWR and Reclamation have not completed these reports, then they are in violation of the OCAP BO RPAs and is evidence that DWR and Reclamation cannot and will not conform to or successfully implement the BDCP and therefore permits should not be issued based on promises made in the plan. Further, this failure would be indicative that any adaptively management program included in the BDCP should not be attributed credit towards species conservation until the monitoring results prove it to be so. DWR and Reclamation should only be issued permits after all the plan elements have been implemented and they have proven through monitoring and reporting that the BDCP has achieved the species conservation goals.</p>	<p>Please refer to Master Response 1, regarding the adequacy of the baseline approach. Please also see Appendix 3D of the Final EIR/EIS.</p> <p>For information on adaptive management, please see Master Response 33. For information on permitting please see Master Response 45.</p>
1601	497	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since the Reclamation plan/design in response to 2009 National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) IV.4.1 for the secondary channel to enhance the efficiency of screening, fish survival and reduction of predation that was due to NMFS no later than 3/31/11 should be included as a part of the description for the No Action/No Project.</p>	<p>Please refer to Master Response 1, regarding the adequacy of the baseline approach. Please also see Appendix 3D of the Final EIR/EIS.</p>

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		<p>Comment:</p> <p>If Reclamation has not completed this OCAP BO requirement, then it is in violation of the BO RPAs. If it is not in compliance than its reliability in successfully implementing the BDCP is uncertain and therefore permits should not be issued to Reclamation until all actions have been implemented and monitoring and reporting proves that the BDCP is achieving the species conservation goals.</p>	
1601	498	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since the BDCP is proposing fish predation reduction as one of their Other Stressors Conservation Actions, the BDCP should include a copy of predation reduction method report to NMFS in response to 2009 National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) IV.4.3 that was required to be submitted by 6/15/11 in the Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) and EIR/EIS.</p> <p>Comment:</p> <p>The BDCP EIR/EIS should include the proposed predation reduction plan and methods in the description of the No Action condition.</p>	<p>The California WaterFix acknowledges the uncertainty with predator reduction, and proposes to work with NMFS in developing pilot projects and other implementation steps. The applicable existing BiOp requirements are included in the No Action Alternative.</p> <p>Please refer to Master Response 1, regarding the adequacy of the baseline approach. Please also see Appendix 3D of the Final EIR/EIS.</p>
1601	499	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>A copy of Hatchery Genetics Management Plan (HGMP) in response to 2009 National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) II.6.1 that was due to NMFS by 6/11 should be included in the Affected Environment (for actions implemented prior to the environmental baseline date) and No Action/No Project description for all other HGMP actions to be implemented as these are all current obligations of the project.</p> <p>Comment:</p> <p>Hatchery genetics impacts to the salmonid populations are an important on-going impact of the CVP/SWP facility operations and existence as a barrier to upstream fish movement. The BDCP EIR/EIS should have evaluated the on-going effects of the CVP/SWP on salmonid genetics and characterized the compliance plan with the OCAP BO RPAs in the No Action condition. The lack of inclusion of the HGMP in the No Action has corrupted the representativeness of the future condition by the No Action and therefore all comparisons of the Proposed Project and alternatives to this baseline are flawed and should be revised and recirculated.</p>	<p>The applicable existing BiOp requirements are included in the No Action Alternative. Please refer to Master Response 1, regarding the adequacy of the baseline approach. Please also see Appendix 3D of the Final EIR/EIS.</p>
1601	500	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since the BDCP is proposing fish passage of Fremont Weir and Yolo Bypass as one of their Conservation Measures, the BDCP should include a copy of Reclamation and DWR plans</p>	<p>Please see Master Response 1, Environmental Baselines.</p> <p>Ecosystem restoration in the Yolo Bypass, such as the actions identified in this comment, were proposed as a part of Conservation Measure 2 (CM 2) for the BDCP. However, Alternative 4A, which the RDEIR/SDEIS identifies as the preferred project alternative, does not include habitat restoration measures and related Conservation Measures (such as CM 2), except to the extent required to mitigate significant environmental</p>

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		<p>submitted to National Marine Fisheries Service (NMFS) regarding 2009 NMFS Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) I.7 reduction of migratory delays and loss for salmon, steelhead and sturgeon.</p> <p>Comment:</p> <p>These were due to be submitted by 6/30/11, so the effect of these programs should be described in the No Action analysis.</p>	<p>effects under CEQA and to meet the regulatory standards of ESA Section 7 and CESA Section 2081(b).</p> <p>Even though Alternative 4A does not include CM2-21, the RDEIR/RDEIS accounts for ecosystem restoration measures that were identified as Reasonable and Prudent Alternative (RPA) Actions in the 2009 NMFS BiOps. As Attachment 3D-A of the RDEIR/SDEIS, Descriptions of Programs, Project, and Policies considered for Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Analysis, explains, partial implementation of the 2008 USFWS and 2009 NMFS BiOps, including RPA Actions, were included in both the Existing Conditions and No Action/No Project Alternative, and full implementation was included in the cumulative impacts analysis. Please refer to Attachment 3D-A for further information, as well as Appendix 3D of the Public Draft EIR/EIS and RDEIR/SDEIS, Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions, for an explanation of how the No Action Alternative was identified for this EIR/EIS.</p>
1601	501	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since the BDCP is proposing fish predation reduction as one of their Other Stressors Conservation Measures, the BDCP should include a copy of the results of fish predation studies conducted in response to 2009 National Marine Fisheries Service (NMFS).</p> <p>Comment:</p> <p>Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) IV.4.1 that was due to be implemented no later than 12/31/11, so the effect of these programs should be described in the No Action analysis.</p>	<p>Please see response to comment 1601-499.</p>
1601	502	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, the planning and implementation documents in response to the 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) NF 4.4 for Reclamation to provide downstream fish passage for project facilities and reservoirs should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p> <p>This RPA was due to be initiated by the beginning of 2012 (before 1/1/12), so the effect of these programs should be described in the No Action analysis.</p>	<p>Please see response to comment 1601-499.</p>
1601	503	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, the planning and implementation documents in response to the 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) NF 4.1 for Reclamation to design, construct, install and operate adult fish collection, handling and transport facilities to pass fish above project facilities and reservoirs should be</p>	<p>Please see response to comment 1601-499.</p>

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		<p>included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p> <p>This RPA was due to be completed by the beginning of 2012, so the effect of these programs should be described in the No Action analysis.</p>	
1601	504	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, any documentation on the Reclamation implementation in response to 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) IV.4.1 for the secondary channel to enhance the efficiency of screening, fish survival and reduction of predation should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p> <p>This RPA was to be implemented no later than 1/31/12, so the effect of these programs should be described in the No Action analysis.</p>	Please see response to comment 1601-499.
1601	505	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, a copy of planning and implementation documents in response to the 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) NF 4.2 and 4.3 for Reclamation to design, construct, install and operate adult fish release facilities upstream of their facilities and juvenile salmonid release facilities downstream of project facilities and reservoirs should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p> <p>This RPA was due to be completed by 3/12, so the effect of these programs should be described in the No Action analysis.</p>	As described in Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions, CVP and SWP operations under the No Action Alternative are consistent with the 2008 USFWS BO and 2009 NMFS BO. All of the operational criteria under the BOs except Component 3, Fall X2, under the 2008 USFWS BO are included in the Existing Conditions assumptions (because Fall X2 had not begun to be implemented in 2009 near the time of the Notice of Preparation or Notice of Intent publication). For more information on environmental baselines please see Master Response 1 and appendix 3D of the Final EIR/EIS.
1601	506	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, a copy of reports on the performance of fish passage operations as required in the 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) NF 4.2, 4.3, 4.4 and 4.5 should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p>	<p>Please see response to comment 1601-499.</p> <p>For information on upstream reservoir effects, please see Master Response 25. For information on the plan area please see response to comment 1601-8.</p>

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		<p>The upstream reservoirs and upstream tributaries to the upstream extent of potential anadromous fish distribution should be included in the definition of the "Plan Area". If it does not, then the incidental take permits (ITPs) should not cover the potential take of these species in these areas in project activities in the future as these affects were not evaluated in the EIR/EIS. The BDCP did not factor compliance with this mandatory fish passage in their characterization of the no action condition. Therefore, the analysis of the impacts of the alternatives as compared to these No Action is fundamentally flawed and does not accurately evaluate or disclose the impacts of the proposed project and alternatives. The BDCP EIR/EIS should revise the description of the No Action to include the mandated fish passage and include that condition in its comparisons to evaluate the proposed project and alternatives. Once the analysis has been revised, the EIR/EIS should be recirculated to the public.</p>	
1601	507	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, a copy of plans and documents in response to 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) IV.4.1 that Reclamation is to improve the whole facility fish survival efficiency at the Tracy Fish Collection Facility to 75% for Chinook, steelhead and green sturgeon should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p> <p>This RPA was due to be completed by 12/31/12, so the effect of these programs should be described in the No Action analysis.</p>	Please see response to comment 1601-499.
1601	508	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, a copy of monitoring reports documenting the achievement of 75% fish survival rates at the Reclamation Tracy Fish Collection Facility in response to 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) IV.4.1. should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses. These reports would also provide a description of fish survival monitoring program actions and their degree of accuracy.</p> <p>Comment:</p> <p>Since the BDCP proposed project includes many fisheries adaptive management measures, the BDCP should provide evidence that DWR and Reclamation are capable of measuring survival rates to this level of accuracy. If they cannot demonstrate that these monitoring studies have been successfully implemented previously then the monitoring and adaptive management measures in the BDCP proposed project have no credibility and should not be counted in contributing towards species conservation or recovery.</p>	Please see response to comment 1601-499. For information on adaptive management and monitoring please see Master Response 33.

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1601	509	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, a copy of reports of fish predation rates to less than 10% in the primary channel in response to 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) IV.4.1 should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p> <p>This report was due to be submitted no later than 12/31/12. These reports would also provide a description of fish survival monitoring program actions and their degree of accuracy. Since the BDCP proposed project includes many fisheries adaptive management measures, the BDCP should provide evidence that DWR and Reclamation are capable of measuring survival rates to this level of accuracy. If they cannot demonstrate that these monitoring studies have been successfully implemented previously then the monitoring and adaptive management measures in the BDCP proposed project have no credibility and should not be counted in contributing towards species conservation or recovery.</p>	Please see response to comment 1601-508.
1601	510	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are part of the environmental baseline, a copy of planning and implementation documents in response to the 2009 National Marine Fisheries Service (NMFS) OCAP BO Reasonable and Prudent Action (RPA) NF 4.5 for Reclamation to design, build and evaluate juvenile fish capture facilities upstream of their facilities should be included in the project description in the Affected Environment and No Action/No Project definitions and analyses.</p> <p>Comment:</p> <p>This report was required to be completed by 9/13.</p>	Please see response to comment 1601-499.
1601	511	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since many of the Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) planning and implementation deadlines have passed, we would like to see any correspondence from National Marine Fisheries Service (NMFS) or U.S. Fish and Wildlife Service (FWS) to Reclamation or DWR regarding OCAP BO confirming that DWR or Reclamation are in compliance with the current OCAP BO.</p> <p>Comment:</p> <p>If DWR and Reclamation are not compliant with the current then they have demonstrated that they do not reliably fulfill their project obligations and therefore the BDCP proposed project, which includes many vague and far off in the future obligations for action from DWR and Reclamation should not be counted as reasonably certain that they will be</p>	Please see response to comment 1601-499. For information on permitting please see Master Response 45. Information on incidental take permits can be found in response to comment 1601-18.

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		implemented as proposed and disclosed in the environmental document. DWR and Reclamation should not be issued any permits until they are fully compliant with the existing BO.	
1601	512	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>Since the BDCP proposed project includes conservation efforts to reduce fish predation, copies of reports on DWR's Skinner Fish Collection Facility reductions in fish predation rates in response to 2009 National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Action (RPA) IV.4.2. should be cited in the document and utilized as evidence that the project could meet its stated predation reduction goals as a contribution to species conservation.</p> <p>Comment:</p> <p>If these documents are not available, then DWR is in violation of the current OCAP BO. Without this supporting documentation of existing successful programs in the Delta to reduce predation and successfully monitor the program, then there is no certainty of the benefits from the predation reduction-related conservation actions and these actions should not be counted as reasonably certain to contribute to species conservation.</p>	Please see response to comment 1601-499. Please also see Master Response 23, Other Stressors.
1601	513	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>The BDCP EIR/EIS and Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) failed to cite the predation reports to comply with the Operations Criteria and Plan (OCAP) Biological Opinion (BO) that could have been presented as supporting evidence that a predation reduction program is capable of achieving the stated predation reduction goals included in the proposed project.</p> <p>Comment:</p> <p>The BDCP EIR/EIS and HCP/NCCP has also failed to cite any other publication which has documented success in reducing predation to a degree that it would meet the stated goals of this conservation action. Without supporting evidence that a predation reduction program can and has reliably met the conservation measure goals, then the predation reduction conservation measure should not be counted as contributing to conservation of the species.</p>	Please refer to response to comment 512.
1601	514	<p>Document Section: Chapter 11 - Fisheries - Existing Conditions</p> <p>Issue:</p> <p>The timing, sequence and combination of potential habitat restoration has been left too vague to be functional to determine impacts or benefits to specific species.</p> <p>Comment:</p> <p>As an example, if all of the intertidal habitat restoration were to occur in the Cache Slough</p>	The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.

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		<p>complex all at one time, it would have a very different impact on water quality and value to specific species than if the same amount of intertidal habitat was implemented in the eastern Delta. In order for an adequate evaluation of the impacts of the proposed project aquatic habitat restorations, to characterize the effects on and interactions with those restorations on CVP/SWP operations and determine the temporal distribution of contributions to conservation by species, the BDCP EIR/EIS document is deficient, should be revised to include and analyze this level of detail and should be recirculated after these material changes have been made.</p>	<p>For information on project level versus program level analysis, please see Master Response 2.</p>
1601	515	<p>Document Section: Chapter 11 - Fisheries - Conservation Measures</p> <p>Issue:</p> <p>The BDCP will not fulfill their commitment to "restore 19,150 acres of tidal natural communities by year 10 of the project" (CM4).</p> <p>Comment:</p> <p>The EIR/EIS says that habitat restorations that occur after the near-term will be analyzed at a programmatic level of detail and will be subject to more detailed analysis in subsequent environmental document(s). No specific timeframe for these subsequent environmental documents is provided in the EIR/EIS. CM4 lacks detailed designs (necessary for surface water flood channel capacity analysis and flood risk assessment, aesthetics); footprint of disturbance (necessary for terrestrial species, fish stranding and agricultural impacts); operational plans (necessary for operations modeling, water supply impacts, water quality impacts, agricultural impacts); Maintenance plans (dredging impacts on water quality and fisheries habitat); water rights (evaporation, transpiration and groundwater recharge consumption) have not been secured or the process to secure them defined and analyzed (necessary for water rights impacts); the change in beneficial uses of water of those water rights has not been identified or evaluated (necessary for water rights and water supply impacts); equipment used (e.g. earthmoving, dredging, etc.) and estimated hours of operations (necessary for air quality impacts); etc. With all of this necessary project level detail to satisfy the impact analyses missing from the public draft EIR/EIS, the detailed description of CM4 will either need to be revised after this draft to provide sufficient level of detail or these CMs will need to be addressed in a subsequent environmental document. If the level of detail in the CM4 descriptions is enhanced, then this will be a material change in the content of the document and impacts disclosed and therefore the document should be recirculated for public comment. If CM4 is not be addressed at a project level of detail until a subsequent environmental document, the BDCP should disclose the timeline for those documents. CM4 is committed to "restoring 19,150 acres within the first 10 years of implementation".</p> <p>Given the BDCP process to date (7+ years and the project just released the first public draft), it would be exceedingly unlikely that the BDCP could complete a subsequent document in less than 5 years after the BDCP project was approved. Then there would be another two years of detailed design, contracting, permitting, etc. Allow at least 2 years for construction as there are seasonal constraints to construction of these CMs (e.g. smelt, Chinook salmon, sturgeon avoidance and minimization measures only allow in water construction periods from about May through August and terrestrial Greater Sandhill crane presence prohibits work during other times of the year). This means the earliest construction could be completed on CM4 using a subsequent environmental document would be in year 10 after</p>	<p>This comment is on the feasibility of implementing CM4 on the implementation schedule identified in the Draft BDCP. Should BDCP be selected during the project decision-making process, the need for subsequent CEQA and NEPA analyses would be evaluated by the lead agencies. For more information please see response to comment 1601-514. Conservation measures are also discussed in Master Response 5.</p>

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		<p>BDCP approval. Note that the commitment of the BDCP is that the 19,150 acres would be "restored" by year 10 (the plan does not say "implemented by year 10"). Tidal natural communities, such as described in CM4, do not magically start to provide habitat values just because water was added to a parcel of land. Water quality needs time to come into equilibrium, plant communities need time to colonize, channel complexity needs time to develop, terrestrial and aquatic species need time to colonize, etc. DWR habitat restorations in the Suisun Marsh and on Decker Island show that habitat restorations such as CM4 can take over a decade to develop and reach any kind of functional equilibrium and habitat values. "Given the reliance on natural processes to restore marsh functions in San Pablo Bay, restoration is a process that occurs gradually, over a time frame of decades (Williams and Orr 2002)." (<a href="http://escholarship.org/uc/item/8hj3d20t#page-10">http://escholarship.org/uc/item/8hj3d20t#page-10</a>) Only once all of these processes that take time have been completed and develop, can a habitat be considered to be "restored". Given the described timeline for CM4 to reach a condition that could be considered "restored habitat", the BDCP will be at least 10 years late on fulfilling their commitments if this CM is implemented using a subsequent environmental document. The CM4 is core to compliance with the existing Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) and it constitutes a large component of contributions to conservation for the BDCP project. This alone should be implemented and most certainly before undertaking any major project with significant impacts to the Delta.</p>	
1601	516	<p>Document Section: Chapter 11 - Fisheries - Conservation Measures</p> <p>Issue:</p> <p>Incidental take permits (ITPs) should be issued with specific expectations about the timing, magnitude, location and characteristics of habitat restorations.</p> <p>Comment:</p> <p>If the implementation of the project does not conform to the scenario of habitat restoration that was analyzed and the impacts disclosed for, then the agencies would not be justified in the issuance of take permits.</p>	Please see response to comment 1601-18 regarding incidental take permits.
1601	517	<p>Document Section: Chapter 11 - Fisheries - Conservation Measures</p> <p>Issue:</p> <p>The incidental take permits (ITPs) should not be effective until a targeted amount of species conservation and recovery have been implemented and the function and contribution to recovery verified through monitoring and evaluation of the project.</p> <p>Comment:</p> <p>A commitment by the BDCP does nothing to actually benefit the species until the related actions are implemented and verified as successful in contributing at their planned level of contribution to conservation of the proposed covered species. The Operations Criteria and Plan (OCAP) Biological Opinion (BO) Reasonable and Prudent Actions (RPAs) for the CVP/SWP (not yet implemented by DWR and Reclamation) are designed to avoid jeopardy for the current CVP/SWP project and operations. Until the BDCP delivers the actual planned conservation benefits to the proposed covered species, there is no justification for the</p>	Please see response to comment 1601-18.

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		agencies issuing ITPs.	
1601	518	<p>Document Section: Chapter 11 - Fisheries - Adaptive Management</p> <p>Issue:</p> <p>The Biological Goals and Objectives are not specific enough to support the use of adaptive management and there are no specific quantitative threshold condition triggers for adaptive management changes.</p> <p>Comment:</p> <p>The BDCP proposes goals for various conservation measures and monitoring programs, but there are no meaningful or functional triggers for adaptive management either to end a program, modify a program or escalate a program. The goals the BDCP proposes, such as juvenile salmonid escapement improvements or improvements in reduction of predation related to the south Delta operations are levels of improvement and survival that are not practical to monitor at a level of accuracy that is scientifically defensible. There is not a single study that has ever been published on juvenile escapement survival that is statistically defensible to a population or survival rate within a margin of error of plus or minus 10% or less. Yet BDCP goals and adaptive management program criteria are proposed for levels of improvement that are less than this. These BDCP adaptive management proposals are unimplementable at the level of detail, resolution and statistical defensibility. The BDCP should revise their conservation measure goals and adaptive management triggers such that they are practicably monitorable in a statistically defensible and accurate manner so that there is some level of certainty in the success of the conservation measures and in the function of adaptive management. Without these, the level of success of the conservation measures is unknown, uncertain and adaptive management remains nebulous, unfunctional and unreliable in its ability to provide any certainty of contribution to conservation.</p>	<p>The biological goals and objectives were developed over several years of input with resource agencies. The biological goals and objectives are not included under Alternative 4A, but are still relevant for Alternative 4 (BDCP), which remains a viable alternative and is the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, containing biological goals and objectives.</p> <p>For more information on the biological goals and objectives for the BDCP, please see Master Response 5.</p> <p>For information on adaptive management and monitoring please see Master Response 33.</p>
1601	519	<p>Document Section: Chapter 11 - Fisheries - Adaptive Management</p> <p>Issue:</p> <p>Methods proposed to measure habitat and species population conditions are not accurate enough to measure the improvements that are set in the biological goals and objectives.</p> <p>Comment:</p> <p>As an example, it is infeasible to measure with a statistically defensible reliability, a 75% fish survival from salvage operations or a 2% increase in juvenile salmonid escapement.</p>	<p>Please see the response to comment 1601-11 and response to comment 1601-12.</p>
1601	520	<p>Document Section: Chapter 11 - Fisheries - Adaptive Management</p> <p>Issue:</p> <p>The project is implementing a number of conservation measures simultaneously that are intended to benefit the same species that the project proposes to adaptively manage.</p> <p>Comment:</p> <p>Even if the project could measure the biological performance of these conservation</p>	<p>Please see response to comment 1601-13 and response to comment 1601-18.</p>

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		measures, how does it propose to determine which concurrently implemented conservation measures are working and which ones have failed and are not contributing to conservation and recovery? Unless this question can be answered, the BDCP cannot successfully adaptively manage the proposed project actions and therefore the credit attributed to the adaptive management of these actions for contribution to conservation should be discounted and not contribute to the justification for the issuance of incidental take permits (ITPs).	
1601	521	<p>Document Section: Chapter 11 - Fisheries - Adaptive Management</p> <p>Issue:</p> <p>Adaptive management of conservation actions has been repeatedly identified by the BDCP as a (false) assurance of any conservations measures contribution to conservation.</p> <p>Comment:</p> <p>The potential adaptive management changes to the conservation measures were not sufficiently defined as allow analysis of those contingencies nor did the BDCP EIR/EIS include an analysis of the impacts of those adaptive management programs. Near-term habitat restoration conservation measures are proposed by the BDCP and they seek construction level permits to implement them, but they do not analyze the potential adaptive management impacts of those actions. This means these near-term actions have not been fully analyzed and do not warrant issuance of construction level permits. Since the adaptive management measures are core to the BDCP assurances of achieving contribution to conservation, the adaptive management measures should not be subject to analysis in a subsequent environmental document unless the permits related to implementing the conservation measure are also dependent upon that subsequent environmental document. In order to remedy this deficiency of the current document, the BDCP should provide adequate level of detail of adaptive management measures for these near and mid-term habitat restoration conservation measures and fully analyze, characterize, quantify and disclose the impacts associated with them.</p>	Please see response to comment 1601-14 regarding habitat restoration. Regarding adaptive management, please see response to comment 1601-11 and 1601-13. For information on permitting please see Master Response 45.
1601	522	<p>Document Section: Chapter 11 - Fisheries - Adaptive Management</p> <p>Issue:</p> <p>The BDCP proposed project is unclear on if a conservation measure fails to meet objective if the program is terminated or not.</p> <p>Comment:</p> <p>There are environmental impacts from continuing programs and there are losses of benefits from discontinuing programs even if they are only partially successful. The BDCP has not defined how, when, why or any other details regarding the cessation of conservation measures that are purportedly adaptively management. If you cannot even define how, why or when a program would or would not be terminated, how can you claim you are adaptively managing it?</p>	Please see response to comment 1601-13.
1601	523	Document Section: Chapter 11 - Fisheries - Adaptive Management	Please see response to comment 1601-33.

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		<p>Issue:</p> <p>The level of detail (and lack thereof) describing potential adaptive management actions and specific triggers (and lack thereof) for adaptive management implementation do not provide a sufficient level of certainty sufficient to support permitting.</p> <p>Comment:</p> <p>The BDCP proposed project does make it possible for them to cancel many of the proposed conservation measures even though they failed to provide clear triggers for this. With the possible cancelation of so many of the proposed conservation measures the agencies must evaluate how much contribution to recovery would remain for each proposed covered species if the BDCP were to terminating all of the conservation measures that the plan would allow them to do. If they were to cancel all of the conservation measures the BDCP proposed project allows them to there would be little remaining to contribute to species conservation and no justification for the agencies to issue incidental take permits (ITPs). Since this is a possible or even likely outcome given the uncertainties of the performance of the proposed conservation measures and the limitations to the accuracies of the proposed performance monitoring methods, the agencies cannot be justified in issuing the ITPs.</p>	
1601	524	<p>Document Section: Chapter 11 - Fisheries - Adaptive Management</p> <p>Issue:</p> <p>The BDCP EIR/EIS states, "This covered activity would also include improvements and routine maintenance of the Fremont Weir and Yolo Bypass..."</p> <p>Comment:</p> <p>The BDCP description of covered activities of these facilities is incomplete, misleading and is inadequate in level of detail to merit issuance of coverage under permits. As an example, the BDCP document does not identify, characterize, quantify or disclose the amount, timing, type, frequency and locations of dredging to maintain the channel approach to the fish ladders from the river and for the channels leading from the bypass to the fish ladders. High flows can regularly erase these channels that are required for fish passage to be functional and dredging could be required on an annual or even more frequent basis. Dredging is a high impact activity and the BDCP provides no detailed description of these activities sufficient to allow any meaningful analysis or disclosure. Further, the BDCP provides no measures to avoid, minimize, or mitigate the significant impacts that always occur with dredging of any level of scope. The BDCP EIR/EIS is incomplete in its analysis and disclosure, is deficient and requires this additional analysis, should be recirculated after this analysis is completed and should not be provided with coverage of these activities without the additional level of detail and disclosure.</p>	Please see response to comment 1601-345.
1601	525	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>All of the BDCP proposed near-term habitat restoration conservation measure actions are actually existing CVP/SWP obligations from the current National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) Operations Criteria and Plan (OCAP)</p>	Please see response to comment 1601-36. For information on permitting please see Master Response 45. Also see response to comment 1601-18 regarding incidental take permits.

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		<p>Biological Opinion (BO) Reasonable and Prudent Actions (RPAs).</p> <p>Comment:</p> <p>The OCAP BO RPAs for 8,000 acres of intertidal and 17,000 acres of flood plain should not be identified as contributory to species conservation as they are part of the baseline. Since all of the BDCP near-term conservation measures are fulfillment of existing obligations of the CVP/SWP, these actions cannot be considered to contribute to species conservation as compared to the No Action condition. Once the environmental analysis separates the fulfillment of existing obligations from new actions that actually have the potential to contribute to species conservation it becomes clear that the BDCP project does not actually start contributing to species conservation for a number of years. I would be more specific in my comment, but the BDCP has not even committed to a detailed timeline of when the next increments of habitat restoration after the near-term would occur in which these first actions contributing towards conservation would occur nor the type, quantity, location or even target species that are supposed to benefit from these undefined actions. It is clear that the BDCP intends that these restoration actions that would be the first real contributions to conservation of species would not be implemented prior to the completion of the conveyance. How long is it before the first project element that is identified as contributory to conservation is completed and functional? First, real net positive contributions to conservation (above the existing obligations) should be realized by the BDCP before any incidental take permits (ITPs) are effective. Conveyance construction should not be considered until a magnitude of contribution to recovery has been achieved that is at least sufficient to offset the impacts of the construction of the conveyance are completed. Otherwise, the BDCP would result in a net negative amount and quality of habitat and species condition than under the No Action condition and that would certainly not warrant issuance of ITPs or construction-related permits.</p>	
1601	526	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>High water turbidity is well documented and accepted as an important predator protection for smelt.</p> <p>Comment:</p> <p>There have been experiments with flows to see how they protect smelt, but no experiments with increased turbidity. Increased turbidity does not cost water supply. It also might allow us to finally dredge some parts of the Delta that are in critical need of it to restore flow capacity for flood protection. A component for adaptively managing turbidity and monitoring fish survival should be included in the alternative evaluated.</p>	<p>The California WaterFix (Alternative 4A) does not currently consider this action because of the more limited tidal restoration proposed under this alternative. For information on adaptive management and monitoring please see Master Response 33.</p>
1601	527	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>Habitat restoration actions that are part of the No Action condition are included as Conservation Actions in the BDCP proposed project.</p> <p>Comment:</p>	<p>Please see response to comment 1601-4 regarding habitat restoration. For information on environmental baselines please see Master Response 1 and Appendix 3D of the Final EIR/EIS. Environmental Commitments, AMMs, and CMs are discussed in Appendix 3B of the Final EIR/EIS.</p>

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		<p>Habitat restoration actions that are required from the 2009 Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are included in the description and scope of the Proposed Project Conservation Measures. Almost 5 years after the Reasonable and Prudent Actions (RPAs) of the OCAP BOs became the law, DWR and Reclamation have made no tangible progress at all in implementing these measures. The BDCP has correctly included some of the RPAs into their No Action definition, but left other RPAs out, e.g. reoperate Shasta flood reserve and fish passage at all dams. The BDCP definition of their conservation measures includes the scope of some of the RPA, e.g. CM2 and CM5. The scopes of these conservation measures are inclusive of the requirements of the RPAs, but are not the same as the RPAs. The BDCP has muddied the comparison of the Proposed Project to the No Action by incorporating No Action restorations into the Proposed Project. To make a clean and appropriate comparison, the BDCP should have excluded the RPAs from their Proposed Project. The BDCP should have made a category of "Current Project Obligations Not Yet Implemented". This way the No Action impacts could be clearly separated from the Proposed Project Impacts. The way the BDCP has done their comparison, the impacts from the No Action RPAs are included in both the No Action and the Proposed Project. The impacts from the No Action RPAs cancel out, but their inclusion makes the identification of the magnitude of the Proposed Project less clear and not correctly isolated for comparison and analysis. The current inclusion of the No Action RPAs in the Proposed Project makes it difficult to determine the magnitude of benefits to the species that are attributable to the Proposed Project as opposed to those that occur with the No Action. Since the No Action are existing obligations for the CVP/SWP operations, the cost to implement those actions should not be borne by the taxpayer as is proposed by the BDCP. The BDCP should redo the project analysis with the No Action RPAs separate from the Proposed Project so the impacts from the project are correctly identified, characterized, quantified and disclosed. As an example, shallow water rearing habitat for juvenile salmonids will benefit the salmonids, but also increase the population of predator species that eat delta smelt. The smelt will not benefit from the shallow water rearing habitat because it is too shallow to be suitable for smelt habitat and does not generate food base for them.</p> <p>The smelt would incur a net negative impact from this example habitat restoration from the increased predator pressure. This example is a very real risk associated with the Yolo Bypass and Cache Slough restoration actions proposed by the BDCP as some of the highest populations of smelt have been observed in this geographic area under the current (un-BDCP restored) conditions. When aquatic habitat is first inundated, as in when a aquatic habitat restoration is first implemented, there is a net negative on fisheries conditions. This phenomenon is well documented with levee breaks and flooding of islands. The amount of potential habitat is increased with the initial inundation, but the habitat functioning has not occurred (no local food base generation, broken food chains) and water quality conditions are very poor (high turbidity, dissolved oxygen sags or crashes, mobilized contaminants, etc.). Fish that are sucked into the new inundated area are subjected to reduced quality of habitat and reduced food base. Once the newly inundated area comes to an equilibrium, after weeks, months or even years; the habitat can become functional and potentially a positive impact on some (not all) species. The BDCP has proposed many small areas for potential aquatic habitat restoration, but also some large contiguous areas (Cache Slough complex and east and south Delta) of aquatic habitat restoration. Each of these areas contains BDCP proposals for thousands or even tens of thousands of acres of aquatic habitat restoration. Implementation of these could be temporarily disastrous for some fish species. In order to capture these impacts from the project, the BDCP analytical periods (No Action periods) should include just prior to, during (maximum anticipated negative impact) and</p>	

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		after full functioning of these major aquatic habitat implementation events.	
1601	528	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>Average water column velocities can be calculated based on tributary flows and channel cross sections. The north Delta diversion intake screens are "on bank" type, which will be well out of the thalweg (higher velocity flows) of the river. The location of the intakes on the bank will mean the velocity of water passing the screens will be well below the average velocity of the water in the river.</p> <p>Comment:</p> <p>Average water velocities estimated from an estimated average tributary flow is not adequate to evaluate flow velocities at the face of the intake screen to ensure compliance with screen sweeping velocity operating criteria. BDCP has not conducted 2D or 3D modeling of water velocities at the locations of the proposed intakes for all operational conditions (flow ranges, tidal conditions, wind, barometric pressures and intake operational configuration (i.e. some pumps on and others off and various permutations of those pump operations options)). Without the appropriate 2D and/or 3D modeling of water velocities at the intake screen face under these ranges of conditions and the integration of those model results as constraints (under various conditions) for the intake operations, then the impacts to water supply, downstream resources and compliance with screen operations criteria (salmonid and smelt) cannot be determined and the environmental analysis and disclosure is incomplete and invalid. The fisheries agencies do not have sufficient evidence of protection of fish unless these types of analyses are conducted and therefore should not issue the BDCP project any incidental take permits on the basis of this EIR/EIS document.</p>	<p>A number of studies are proposed to aid in the refinement of the fish screen design, and design refinements will continue to be subject to extensive collaborative discussions with the fish agencies. Alternative 4A includes performance of all of the preconstruction studies recommended by the Fish Facilities Technical Team (2011) and compliance with NMFS' fish passage criteria; compliance with these standards provides confidence that predation risks are minimized. Fish Facility Technical Team post-construction studies that assess predation are also included in Alternative 4A and will be subject to adaptive management review.</p> <p>The Lead Agencies will make the final decisions regarding the selection of an alternative (and therefore, an operational scenario) for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see Section 4.1.2, Description of Alternative 4A, RDEIR/SDEIS for additional information on Proposed Project operations. For more information on permitting please see Master Response 45.</p> <p>Please see Master Response 28 and 29 for more information regarding operational scenarios and compliance with ESA respectively. Information on adaptive management and monitoring can be found in Master Response 33.</p> <p>For information on intake location analysis please see Appendix 3F of the Final EIR/EIS.</p>
1601	529	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The entire BDCP premise of the cause for fish population declines and the actions needed to address those declines is fundamentally flawed and should be redirected at the actual causes of the fish population declines.</p> <p>Comment:</p> <p>The BDCP documents go into great detail describing how altered the Delta ecosystem is with channelized tributaries and levee armoring. This is very true, but what BDCP fails to do is evaluate the timing of the habitat alteration and other actions vs. the timing of the fish population declines. As the BDCP correctly identifies, the Delta tributaries and levees were mostly constructed from the 1850s to 1870s. Fish populations were large and the ecosystem strong and dynamic for over 100 years after the tributary channelization and levee construction. Fish populations began to seriously decline in only the last couple of decades. The large-scale habitat restoration proposed by the BDCP to "fix" the Delta is like feeding vitamins to a patient that is dying of cancer. The vitamins are beneficial to the fish in this analogy, but by failing to address the core problem, the patient (the fish) will die. The real problems that must be addressed to restore the fish species are obviously things that have changed in the last couple of decades. These include: the quantity and quality of waste</p>	<p>The amount of water DWR can pump from the new north Delta facilities is set by Federal regulating agencies, ESA compliance and project design, and not by the water contractors. Operations for the proposed project would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 BiOps (RDEIR/SDEIS Executive Summary ES.2.2). In addition to permitting constraints on daily operations of the SWP and CVP, DWR must maintain proper performance and bypass flows across fish screens when endangered and threatened fish species are present within the north Delta facilities area. The intake fish screens drive the overall size of the intake structure on the riverbank, and have been numbered and sized to permit water to flow through the screens within a predetermined flow regime set by California Department of Fish and Wildlife and NMFS fish screen criteria (BDCP Appendix 5B Section 3.B.3.3). Real-time operations and the Collaborative Science and Adaptive Management Program will guide operation of the new water conveyance facilities. Information on operational criteria and adaptive management can be found in Master Response 28 and Master Response 33, respectively.</p> <p>As already noted, the Lead Agencies will make the final decisions regarding the selection of an alternative for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see Chapter 3 of the FIR/EIS for additional information on Proposed Project operations.</p>

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		<p>discharge into the Delta (sewage treatment plant effluent, human hormones, municipal run-off, chlorpyrifos, etc.), and increasingly aggressive CVP/SWP water operations. The BDCP should have conducted a simple regression to correlate water export quantity of the CVP/SWP and the fish populations. This analysis will show that quantity of water exports is strongly inversely correlated to fish populations (increased exports = less fish, lower exports = more fish). The SWRCB is already working on revised discharge and water quality requirements for the waste discharge into the Delta with programs for municipal runoff, chlorpyrifos, minimum flows, Total Maximum Daily Loads (TMDLs), etc. so this aspect of protection is already being addressed by other programs that will be implemented prior to the BDCP. The BDCP proposes to create a huge amount of habitat, which is no doubt somewhat beneficial to the fish species, but as identified earlier in this comment, the lack of this habitat (which disappeared a hundred years before the fish population decline) is not the source of the fish population decline. What the BDCP does not do is address the impacts of CVP/SWP operations to the declining fish populations. The EIR/EIS analysis determined that CM1, the conveyance, does not result in a reduction of fish take. Therefore, we can conclude that the amount of damage from the CVP/SWP operations to the fish populations will continue under the implementation of the BDCP. The real impacts to fish populations (other than CVP/SWP operations) are already being addressed by other programs. The BDCP is implementing restoration actions to address problems that are not the cause of the fish population decline and the conveyance will not reduce the contribution of the operations to the fish population decline. As stated at the beginning of this comment, the BDCP premise for the project is fundamentally flawed and does not address the real problems creating the fish decline, therefore, the BDCP should not be issued take permits on the fish species because it fails to demonstrate that the project will result in the protection and restoration of the fish species populations.</p>	<p>For more information regarding impacts to aquatic resources and its mitigation measures please see Chapter 11 of the FEIR/EIS.</p> <p>Information on water quality can be found in Chapter 8 of the Final EIR/EIS and Master Response 14.</p>
1601	530	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>Harm to, harassment of, or destruction of individuals of any fish or aquatic species listed as endangered, threatened, or rare under federal or California law. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Section 9 of the Endangered Species Act (ESA) prohibits the “take” of individuals of an endangered species and, by regulation, a threatened species, 16 U.S.C. 1538(a) (endangered species); 1533(d) (threatened species). The ESA defines the term “take” as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect listed species, or attempt to engage in such conduct. “Harm” includes significant habitat modification or degradation that actually kills or injures listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, and sheltering (50 CFR 17.3(c)). The construction of the intakes requires in-water work that will involve pile driving and impoundments that could trap endangered species fish. The BDCP has not proposed a project level plan to avoid, minimize and mitigate these forms of take. The in-water impoundment requires a detailed fish rescue plan.</p>	<p>Take authorization is based on the ESA consultation and CESA ITP. Please see Master Response 29 regarding ESA. Please also see response to comment 1601-18.</p> <p>For more information regarding project versus program level planning please see Master Response 2.</p> <p>For more information regarding impacts to aquatic resources, including pile driving and fish rescue procedures, and its associated mitigation measures please see Chapter 11 of the FEIR/EIS. Information on biological resources can also be found in Master Response 17.</p> <p>For more information regarding Environmental Commitments please see Appendix 3B of the FEIR/EIS.</p>
1601	531	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p>	<p>A qualitative analysis of dissolved oxygen effects of the alternatives is included in Impact WQ-10 analysis and, for the preferred alternative, Alternative 4A, were found to be not adverse and less than significant. Please see Chapter 8 of the Final EIR/EIS. More information on water quality can also be found in Master</p>

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		<p>Have substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered, rare, or threatened; or identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>National Marine Fisheries Service (NMFS) defines “harm” to include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). Water quality impacts from the proposed project, specifically, Dissolved Oxygen suitability for fish habitat, is a significant and large-scale impact of the BDCP. The BDCP did not directly address this impact criteria and did not quantify or characterize the number of critical habitat acres that were adversely modified as a result of the No Action and Proposed Project and alternatives.</p>	<p>Response 14.</p> <p>Please see response to comment 1601-4 regarding habitat restoration.</p>
1601	532	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>Reduce the area of habitat value or critical habitat areas designated under Federal Endangered Species Act (FESA). (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>Although take of listed plant species is not prohibited under the ESA, and therefore authorization under an incidental take permit (ITP) is not necessary, plant species may be included on a permit in recognition of the conservation benefits provided to them under a habitat conservation plan. These species are required to be analyzed for the Natural Community Conservation Plan (NCCP).</p>	<p>Please see response to comment 1601-4 regarding habitat restoration. Please see response to comment 1601-18 regarding incidental take permits.</p> <p>EIR/EIS Chapter 12 Terrestrial Biological Resources discloses impacts on listed plant species. The covered and non-covered special status plant species addressed in the EIR/EIS are shown in Tables 12-2 and 12-3.</p>
1601	533	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>Interfere substantially with the movement of native resident or migratory fish (intakes, bubble curtains, operable barriers) (Oroville Federal Energy Regulatory Commission (FERC) Sig Criteria)</p> <p>Comment:</p> <p>The increased rate of reservoir drawdown from the change in Oroville facility operations and increased spring releases will affect reservoir coldwater fish from foraging and spawning in the tributaries upstream of the reservoir pool. This exact impact was evaluated in the Oroville Facilities FERC Relicensing and the operations were not even changing. The BDCP is changing the operations and did not do the analysis or disclose these impacts. This omission of impacts must be rectified.</p>	<p>Alternative 4A does not change operational criteria in any upstream reservoir and therefore would have no effects on coldwater reservoir fish. Please see the analysis of coldwater reservoir fish for Alternative 4A in Impact AQUA-217 in Section 11.3.5.2, Impacts of Alternative 4A—Dual Conveyance with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H3+) for a full description in the Final EIR/EIS.</p> <p>For information on upstream reservoir effects please see Master Response 25.</p>
1601	534	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p>	<p>Analysis of dissolved oxygen was undertaken in Chapter 8 of the EIR/S (see Impacts WQ-9 and WQ-10).</p> <p>For more information on water quality please see Master Response 14. Regarding compliance with the ESA</p>

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		<p>Actions are significant impacts if they substantially reduce the area of habitat value or critical habitat areas designated under Federal Endangered Species Act (FESA). (California Bay-Delta Authority (CALFED), South Delta Improvements Program (SDIP), Oroville, Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>The BDCP proposed project reduces the rate of water turnover and assimilative capacity of water in the central and south Delta. This reduced turnover and increase concentration of nutrients, e.g. phosphorus, will increase algal blooms and cause subsequent dissolved oxygen crashes. The dissolved oxygen crashes in the central and south Delta resulting from the proposed project operations will alter what was suitable critical habitat under the no action condition into unsuitable critical designated endangered species habitat under the proposed project operational conditions. This adverse modification of critical habitat is an unacceptable significant impact of the BDCP project. The BDCP failed to identify, characterize, evaluate, quantify, or disclose this adverse modification of critical habitat for endangered species. The BDCP must rectify this deficiency and address this topic.</p>	<p>please see Master Response 29.</p>
1601	535	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>Actions are significant impacts if they conflict with any local policies or ordinances protection biological resources. (California Bay-Delta Authority (CALFED), Oroville, Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>The BDCP did not use this commonly applied significance criteria. This significance criteria must be added to the EIR/EIS analysis in order for the document to conform with previous agency policies and procedures for evaluating the environmental impacts of these similar and precedent setting projects.</p>	<p>Significance criteria developed for the Chapter 11, Fish and Aquatic Resources establish a threshold for judging whether significant environmental effects would result. Please see Chapter 11, section 11.3.3, of the Final EIR/EIS for more information.</p>
1601	536	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The Aquatic Resources (Fisheries) section uses a different significance criteria for the No Action Alternative than it does for the impact assessment for the project alternatives. - See impact summary table in executive summary.</p> <p>Comment:</p> <p>It is unfathomable why the BDCP decided to be inconsistent with the significance criteria used to evaluate the No Action Alternative as compared to the significance criteria utilized to evaluate the project alternatives for an environmental process that relies upon comparison of the alternatives to the No Action/No Project. The use of different criteria renders the entire environmental analysis meaningless and useless. None of the other 25-odd resource categories dealt with the significance criteria for the No Action differently than the alternatives, so why did the BDCP believe it was OK for the fisheries section to do it this way? The BDCP EIR/EIS needs to be revised to analyze the No Action with the same significance criteria as the alternatives so that they are comparable. If there is an activity</p>	<p>The same criteria are applied for all alternatives addressed in EIR/EIS</p> <p>Chapter 11 Fish and Aquatic Resources, including the No Action Alternative. However, the No Action Alternative is compared to existing conditions, whereas the action alternatives, including the new preferred alternative (Alternative 4A), are compared to both existing conditions and the NEPA No Action. Please see Chapter 11 of the Final EIR/EIS for more information on determination of effects.</p>

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		related to a significance criteria that does not occur under the No Action, e.g. conveyance construction impacts, then there is No Impact/No Effect. Other sections dealt with this concept successfully. The lack of consistency between sections shows a lack of management and quality control over the document. The lead agencies obviously have not read this or, if they have, they should be embarrassed to have released such a poorly constructed and logically inconsistent document.	
1601	537	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The impact calls between NEPA and CEQA were inconsistent.</p> <p>Comment:</p> <p>There are so many conflicts between the impact calls of NEPA and CEQA in the document I cannot even reference them all individually. I will give some examples and then you can see how many times the section has made these mistakes. AQUA-NAA1-3, 6, 7, and 9-15 CEQA says "Less Than Significant" and NEPA says "Not Adverse". Both of these impact calls cannot be correct, as they are mutually exclusive (see other comments for additional detail on the incompatibility of certain impact calls). AQUA-NAA4 - CEQA says "Significant Unavoidable" and NEPA says "Not Adverse". Both of these impact calls cannot be correct, as they are mutually exclusive. Similarly, AQUA-NAA5 -- CEQA says "Significant" and NEPA says "Not Adverse". Both of these impact calls cannot be correct, as they are mutually exclusive. AQUA-NAA8 and 16 CEQA says "Less Than Significant" and NEPA says "Beneficial". Both of these impact calls cannot be correct, as they are mutually exclusive. Out of the first 16 fisheries impact calls, every single one of the impact calls were in direct conflict between the NEPA and CEQA impact calls. There are 217 additional impact calls in the fisheries section and they all look to be equally inconsistent and in conflict between NEPA and CEQA impact calls as the first 16 detailed above. The BDCP EIR/EIS fisheries impact analyses needs to be redone so that there are no outright conflicts between NEPA and [CEQA.]</p>	NEPA and CEQA have different analytical requirements and terminology, including using a different baseline for the point of comparison. Master Response 1 provides an overview of environmental baselines applied to the NEPA and CEQA analysis conducted for the proposed project. Please also see Appendix 3D, Defining Existing Conditions. No Action Alternative, no project Alternative, and Cumulative Impact Conditions.
1601	538	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The NEPA No Action/CEQA No Project is the basis for comparison of the alternatives.</p> <p>Comment:</p> <p>The impacts of the Proposed Project Alternative 4 are in addition to those which occur in the No Action Alternative, not instead of as the documents presentation format would lead the reader to believe. The water resources and fisheries models all used to analyze the impacts of alternatives by first subtracting the No Action and/or No Project results from the results of each of the alternatives. By subtracting out the No Action/Project baseline, most biases of the models can be nullified and the differences between the baseline and the alternative isolated. This approach means that the Alternative impacts are in addition to those which would have occurred under the No Action/Project. The BDCP should revise the EIR/EIS so that this distinction is clear.</p>	CEQA and NEPA analyses are conducted by comparing action alternatives to the appropriate baseline (existing conditions or No Action). The cumulative effects analysis takes into account all of the past, present and reasonably foreseeable projects. Master Response 1 provides an overview of environmental baselines applied to the NEPA and CEQA analysis conducted for the proposed project. More information can also be found in Appendix 3D.
1601	539	Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule	The alternatives included in the Draft EIR/EIS and Final EIR/EIS represent a legally adequate reasonable

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		<p>Issue:</p> <p>There are 201 more impact calls on the Proposed Project Alternative 4 than there are for the No Action Alternative.</p> <p>Comment:</p> <p>CEQA requires an equal level of detail in the analysis of all of the alternatives. Obviously, with 16 significance criteria and impact calls on the No Action Alternative and 217 on the Alternative 4 Proposed Project, the analysis is not at an equal level of detail and is in violation of CEQA requirements. The BDCP EIR/EIS should be revised to include all of the same significance criteria and impact calls as all the other alternatives and the document then recirculated for public comment on this material change in content.</p>	<p>range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The Lead Agencies carefully considered all potential alternatives that were proposed during the scoping process and during time of preparation of the EIR/EIS. In fact, as a direct result of the extensive public comments and agency input, the water facility and conveyance options proposed as part of the project changed significantly during the planning process in ways that reduce impacts in the Delta communities. Additional unique Alternatives that were proposed during review of Administrative Drafts of the BDCP and EIR/S were also considered and described, See Appendix 3A of the EIR/EIS and Master Response 4 (Alternatives).</p> <p>As explained in Chapter 1, Introduction, of the Final EIR/EIS as well as previous drafts, the Lead Agencies elected to prepare a joint EIR/EIS in order to simultaneously fulfil the requirements of both CEQA and NEPA. Although the analyses prepared under CEQA and NEPA often overlap, each statute has separate and distinct requirements that sometimes mandate different approaches or compel different results. Therefore, within the resource chapters, each impact discussion begins with a general explanation and assessment of potential effects relating to implementation of the alternative at issue. Within these discussions for most impacts, a “NEPA Effects” header identifies the portion of the analysis that contains a general conclusion specific to NEPA (i.e., whether the impact is “adverse” or “not adverse”). This discussion is followed by a “CEQA Conclusion” section that generally reflects the preceding analysis but then draws a conclusion specific to CEQA. The NEPA and CEQA conclusions are not always the same for each impact due to the different requirements of each statute. Moreover, as permitted under NEPA, the discussion under “NEPA Effects” sometimes does not state any conclusion regarding the severity of the impact.</p>
1601	540	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The No Action CEQA Significant and Significant Unavoidable calls on AQUA NAA4 and AQUA NAA3 respectively are in error.</p> <p>Comment:</p> <p>The CEQA impact calls before mitigation they were Less Than Significant for both AQUA NAA4 and AQUA NAA3. The BDCP did not propose any mitigation measures for the No Action Alternative. How can the CEQA impact call of Less than Significant before mitigation become Significant or Significant Unavoidable after mitigation that BDCP did not even propose?</p>	<p>The Existing Conditions and No Action Alternative scenarios include the RPAs; therefore, there would be no significant impacts under existing conditions. However, when climate change is added to existing conditions (the NAA_ELT scenario), climate change would cause effects (see the No Action Alternative analysis in Chapter 11, Fish and Aquatic Species). This section describes that the existing conditions scenario does not include climate change, whereas Alternative 4A scenario does include climate change. In order to make an apples-to-apples comparison of a scenario with and without the alternative, climate change must be removed.</p> <p>The level of analysis is sufficient to provide an appropriate comparison between the action alternative and the NAA. Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects.</p> <p>For more information on significant and unavoidable impacts please see Master Response 10.</p>
1601	541	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The BDCP has proposed no mitigation measures for the impacts of the No Action.</p> <p>Comment:</p> <p>The No Action condition does not have operating or incidental take permits and the BDCP seeks to have these permits granted to cover the No Action conditions under this EIR/EIS, so the BDCP must propose mitigation measures for the No Action Alternative impacts. If mitigations for the No Action Alternative had been included, the impacts of the No Action Alternative would have been significantly reduced and the impacts of the Proposed Project Alternative 4 would have been greater in comparison to the No Action. Without mitigations for the No Action Alternative impacts, the BDCP should not be granted incidental take or</p>	<p>The level of analysis is sufficient to provide an appropriate comparison between the action alternative and the NAA. Also, there is no action being undertaken by the project proponents in the NAA. Therefore, there is no requirement to mitigate for any effects.</p> <p>Master Response 45 provides an overview of the permitting process for the project. For information on incidental take permits please see response to comment 1601-18.</p>

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		other permits which address impacts of the No Action conditions.	
1601	542	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>There are 14 times more No Determination calls after mitigation than before mitigation.</p> <p>Comment:</p> <p>The increase in "No Determination" impact calls is clearly an indication that there is great scientific uncertainty as to the benefits of the mitigations proposed. Given the uncertainty of the benefits of these mitigations, the most conservative and appropriately protective interpretation at this point would be to assume that the related mitigations will not be effective. Unless there is a reasonable certainty, the agencies must take the conservative interpretation to protecting the species so any impact call that is "no determination" should be changed to Adverse or Significant. No incidental take permits or other permits should be issued based on any impact calls that include "no determination".</p>	Please see section 11.3.3, Determination of Effects, in Chapter 11 of the Final EIR/EIS for and Table ES-8 in the Executive Summary regarding impact conclusions. For information on incidental take permits please see response to comment 1601-18.
1601	543	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>There was not one single "adverse" call in NEPA in any of the 233 impact calls on the No Action or Alternative 4.</p> <p>Comment:</p> <p>CEQA had 62% of its Proposed Project Alternative 4 impact calls result in a Less-Than-Significant impact after mitigation. The dictionary defines "adverse" as "unfavorable or antagonistic in purpose or effect". "Less-Than-Significant" means there is an impact, but it does not rise in magnitude to be considered significant. The Alternative 4 NEPA impact calls were "Not Adverse" 57.1% of the time. Using the previous dictionary definition of "adverse" above, "Not Adverse" would mean "favorable in purpose or effect". The NEPA and CEQA impact calls are clearly inconsistent and are in conflict in their conclusions. These impact calls must be revised to resolve their inherent contradiction and inconsistency. If the CEQA impact call is correct then all of the corresponding impact NEPA calls will need to be revised to Adverse.</p>	<p>See response to comment 1601-539.</p> <p>Please also see section 11.3.3, Determination of Effects, in Chapter 11 of the Final EIR/EIS for and Table ES-8 in the Executive Summary regarding impact conclusions.</p>
1601	544	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>BDCP EIR/EIS forgot AQUA 92 in the impacts summary.</p> <p>Comment:</p> <p>The Executive Summary is the most read part of the document. The number of errors in it are alarming and in some cases the errors seem purposely misleading.</p>	<p>The lead agencies acknowledge that the Executive Summary is an important component of the EIR/EIS. The lead agencies are committed to accuracy and transparency. Any errors that are found will be corrected in the recirculated and/or final documents. The potential impact AQUA-92 is found in the Public Draft EIR/EIS Executive Summary Impact Table on page ES-78. More information about impact AQUA-92 is provided in the Public Draft EIR/EIS in Chapter 11, Fish and Aquatic Resources beginning on page 11-434.</p> <p>Please note that the Executive Summary has been updated.</p>
1601	545	Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule	The analysis for CMs 2-21 was completed at a programmatic level, as described in Section Chapter 4, Approach to the Environmental Analysis, of the Final EIR/EIS. Also see Master Response 2. Additionally, the

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		<p>Issue:</p> <p>At no time should the project be allowed to degrade or reduce the amount or quality of habitat or reduce species populations in the course of the implementation of the project.</p> <p>Comment:</p> <p>The pace of the amount of habitat lost to conveyance construction occurs at a much faster pace than the restoration and functional development of habitat restoration Conservation Measures. The level of detail provided in the EIR/EIS does not even allow a detailed accounting of habitat loss by type (species) by year or an accounting of the type and quantity by year of fully functioning habitat restoration or mitigation, so a detailed analysis to quantify this shortfall is not even currently possible. Degradation of habitat conditions has led to the listing of the species that the BDCP proposes to cover. Since the purpose of the Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) is to conserve and protect the covered species, the project should not be allowed to result in a net negative quantity and quality of habitat for the listed/covered species at any point in time during the BDCP project.</p>	<p>Recirculated Draft EIR/Supplemental Draft EIS released in 2015 introduced a new preferred alternative, 4A, which does not include a HCP or conservation measures. The alternative implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Please refer to Chapter 3, Description of Alternatives, for additional detail about the habitat restoration proposed under Alternative 4A. Additionally, refer to Alternative 4A in Chapter 12, Terrestrial Biological Resources, which has no significant and unavoidable impacts.</p> <p>Master Response 5 provides a discussion of the conservation strategy described in Chapter 3 of the BDCP. The section includes information on the global biological goals and objectives which were established by the USFWS, NMFS, and CDFW which helped formulate the steps the HCP would take to meet those goals.</p> <p>For more information on habitat restoration please see response to comment 1601-4.</p>
1601	546	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The schedule and pace of early project implementation of habitat restoration is not adequate in magnitude to mitigate for the land disturbance from the initiation of the construction of the project (let alone contribute to conservation).</p> <p>Comment:</p> <p>Mitigation must be completed prior to land disturbance in order for the endangered species conditions not to additionally degrade before they are theoretically improved by the project. Endangered species that according to the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are on the verge of jeopardy must not be exposed by the project to further habitat degradation prior to habitat improvements. NMFS and FWS are not justified in issuing incidental take permits (ITPs) until such time in the implementation of the project that the BDCP has at least achieved a positive net effect on endangered species habitat and that at no time during the implementation of the project are endangered species habitat conditions and populations allowed to be reduced by the project.</p>	<p>Please see response to comment 1601-545.</p> <p>Regarding incidental take permits please see response to comment 1601-18. Compliance with the ESA is discussed in Master Response 29. For information on Environmental Commitments, AMMs, and CMS, please see Appendix 3B of the Final EIR/EIS. Mitigation is also discussed in Master Response 22.</p>
1601	547	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The current CVP/SWP operations ordered by Judge Wanger for limited reverse flows on Old and Middle Rivers resulted in less fish salvage at the CVP/SWP south Delta pumps in 2012.</p> <p>Comment:</p> <p>Since a simple reoperation to reduce reverse flows from CVP/SWP operations resulted in significantly reduced fish salvage which reduces the impact of the project and therefore reduces the need and justification for the BDCP project, reduced reverse flows with other</p>	<p>The existing operation of the SWP and CVP pumps in the south Delta can cause reversals in river flows, potentially altering salmon migratory patterns and contributing to the decline of sensitive fish species such as delta smelt. The new system would reduce the ongoing physical impacts associated with sole reliance on the southern diversion facilities and allow for greater operational flexibility to better protect fish. Minimizing south Delta pumping would provide more natural east–west flow patterns (RDEIR/SDEIS Section 4.1). Overall reductions in OMR reverse flows under all flow scenarios for the proposed project would be beneficial with corresponding increase in net positive downstream flows, during the migration period of Chinook salmon through the interior Delta channels (Appendix B, Supplemental Modeling for Alternative 4A, Section B.7 (RDEIR/SDEIS Section 4.3.7). Operations would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009</p>

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		<p>complimentary modifications to the south Delta facilities and operations should be an alternative included for evaluation in the EIR/EIS. This alternative should include reverse flow restricted operations with other physical modifications to the existing CVP/SWP south Delta facilities such as, but not necessarily limited to: criteria fish screens; a controlled and reduced fish path through Clifton Court Forebay (to reduce duration of exposure of fish to predators in the forebay); fish behavioral modification devices to manage fish distribution away from the intakes (bubble curtains, acoustic and light deterrents); improved fish salvage capture, storage and release facilities and operations. This alternative could also be as a first phase of other alternatives so that there is some tangible improvement in fisheries conditions while other longer lead time alternative components are implemented. If monitoring during the near term identified that the conservation measures were adequate to protect and restore the species then the other project components would not need to be implemented.</p>	<p>BiOps (RDEIR/SDEIS Executive Summary ES.2.2).</p> <p>Master Response 4 provides an overview of the alternatives development process. For information on the project's purpose and need, please see Master Response 3.</p>
1601	548	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>CVP/SWP reservoirs are sediment traps that starve the tributaries downstream of these facilities from their natural upstream sediment contributions and the BDCP intake sediment removal exacerbates this condition.</p> <p>Comment:</p> <p>The BDCP changes the rate of siltation, deposition, and erosion that will modify channel morphology. The upstream reservoirs have an on-going impact on downstream sediment load by acting as large sediment traps. DWR's Oroville Facility Federal Energy Regulatory Commission (FERC) Relicensing studies documented that 90+% of the upstream sediment contribution is captured and sequestered by the reservoir. Other terminal dams in the CVP/SWP would have similar sediment capture rates and resulting downstream tributary starvation of sediment. These are on-going impacts of the CVP/SWP that will continue to be precipitated by the project in the No Action condition and should be mitigated. The BDCP proposed intakes also remove sediment load from the river. The amount and texture of suspended sediment load is an important component in the development and maintenance of channel morphology. Sediment is important to be captured behind large woody debris with slowed water velocities and reverse flows. Sediment deposits form in these locations that encourage new plant growth which provides important cover, refuge from predators and food forage for juvenile salmonids. With the reduced sediment load from the BDCP project, fisheries habitat quality and quantity is degraded from the reduced riparian vegetation recruitment. The BDCP project can easily minimize this on-going CVP/SWP and new BDCP impact by putting the sediment that it separates out from the diverted water back into the river and supplementing upstream sediment loads. DWR and Reclamation could also replace the sediment intercepted in the tributaries upstream of their facilities by doing sediment augmentation downstream of their facilities. This avoidance and minimization action has the added benefit of avoiding the impacts from land disposal of the sediments from the intakes.</p>	<p>Both the public draft BDCP and the RDEIR/SDEIS included analysis of effects of less sediment. With respect to sediment capture by reservoirs, this is a feature of baseline conditions and is not a result of the alternatives.. Under Alternative 4A, to the maximum extent practicable, the first and preferred disposition of the sediment removed by the North Delta Diversion will be to reintroduce it to the water column in order to maintain Delta water quality (specifically, turbidity, as a component of Delta Smelt critical habitat). DWR will collaborate with USFWS and CDFW to develop and implement a sediment reintroduction plan that provides the desired beneficial habitat effects of maintained turbidity while addressing related permitting concerns (the proposed sediment reintroduction is expected to require permits from the Central Valley Regional Water Quality Control Board and USACE). USFWS and NMFS will have approval authority for this plan and for monitoring measures, to be specified in the plan, to assess its effectiveness.</p> <p>For information on Environmental Commitments, AMMs, and CMs, please see Appendix 3B of the Final EIR/EIS.</p>
1601	549	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p>	<p>Please see response to comment 1601-548.</p>

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		<p>CVP/SWP reservoirs are gravel traps that starve the tributaries downstream of these facilities from their natural upstream gravel recruitment contributions.</p> <p>Comment:</p> <p>The upstream reservoirs have an on-going impact on downstream gravel recruitment load by acting as large gravel traps. DWR's Oroville Facility Federal Energy Regulatory Commission (FERC) Relicensing studies documented that 90+% of the upstream sediment contribution is captured and sequestered by the reservoir. Other terminal dams in the CVP/SWP would have similar sediment capture rates and resulting downstream tributary starvation of sediment. These are on-going impacts of the CVP/SWP that will continue to be precipitated by the project in the No Action condition and should be mitigated. The BDCP proposed intakes also remove sediment load from the river. The amount and texture of suspended sediment load is an important component in the development and maintenance of channel morphology. Sediment is important to be captured behind large woody debris with slowed water velocities and reverse flows. Sediment deposits form in these locations that encourage new plant growth which provides important cover, refuge from predators and food forage for juvenile salmonids. With the reduced sediment load from the BDCP project, fisheries habitat quality and quantity is degraded from the reduced riparian vegetation recruitment. The BDCP project can easily minimize this on-going CVP/SWP and new BDCP impact by putting the sediment that it separates out from the diverted water back into the river and supplementing upstream sediment loads. DWR and Reclamation could also replace the sediment intercepted in the tributaries upstream of their facilities by doing sediment augmentation downstream of their facilities. This avoidance and minimization action has the added benefit of avoiding the impacts from land disposal of the sediments from the intakes.</p>	
1601	550	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The BDCP proposed project dredging activities result in listed species disturbance, loss of critical habitat and take.</p> <p>Comment:</p> <p>Some of the BDCP proposed project habitat restorations and facilities will require dredging and the BDCP has not adequately identified, evaluated, quantified or disclosed the water quality impacts from this activity. As an example, the channel approach from the Sacramento River to the BDCP Proposed Project fishway modifications at Fremont Weir will require periodic dredging to maintain connectivity and fish access. The BDCP has not developed dredging plans for the location, method, frequency, extent of disturbance, or seasonal timing of operations. The BDCP has not developed any avoidance, minimization or mitigation measures for the significant fisheries habitat and species impacts from dredging activity. Dredging may also be required to develop and maintain some of the aquatic habitat restorations, but the BDCP has not disclosed those significant aquatic resource impacts either.</p>	<p>Please see response to comment 1601-18 regarding incidental take permits. Compliance with the ESA is discussed in Master Response 29.</p> <p>For more information regarding Environmental Commitments, including disposal and reuse of spoils, reusable tunnel material, and dredged material please see Appendix 3B Environmental Commitments of the FEIR/EIS. A discussion of mitigation measures can also be found in Master Response 22.</p>
1601	551	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule, Reusable Tunnel Material Testing Report - Section 2.3.1</p>	<p>Please see response to comment 1601-428.</p>

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		<p>Issue:</p> <p>Environmental testing did not include all of the relevant compounds that should have been tested for.</p> <p>Comment:</p> <p>As an example, the tests had a category for "soluble metals". This is such a broad category as to be useless in a meaningful environmental analysis. The samples should have been tested for a broad panel that encompassed all of the drinking water quality standards so that the impacts of tunnel muck disposal that resulted in water or wind erosion deposition in water could be evaluated. Testing panels should have also included compounds which can be bio-accumulated in fish and other species so those impacts could have been evaluated and disclosed. The testing of the samples should be redone to include these other important constituents and the EIR/EIS revised to evaluate, quantify, disclose and mitigate for the impacts associated with the chemical constituent impacts of the tunnel muck materials proposed by the BDCP.</p>	
1601	552	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>High water turbidity is well accepted as an important predator protection for smelt.</p> <p>Comment:</p> <p>There have been experiments with flows to see how they protect smelt, but no experiments with increased turbidity. Increased turbidity does not cost water supply. It also might allow us to finally dredge some parts of the Delta that are in critical need of it to restore flow capacity for flood protection. A component for adaptively managing turbidity and monitoring fish survival should be included in the alternative evaluated.</p>	Please see response to comment 1601-526.
1601	553	<p>Document Section: Chapter 11 - Fisheries - Conservation Measure Implementation Schedule</p> <p>Issue:</p> <p>The BDCP EIR/EIS described the Barker Slough intake screens as "salmon criteria" screens.</p> <p>Comment:</p> <p>The Barker Slough intake screens do not meet "salmon criteria" as there is no sweeping velocity in the dead end slough.</p>	It is unclear which particular portion of Chapter 11 the commenter is referring to; Chapter 11 does refer to the screens of the North Bay Aqueduct's proposed intake on the Sacramento River being expected to be 100% screened for salmon, based on a 1.75-mm screen opening. The BDCP (or a BDCP alternative) would cover operation, but not construction, of the North Bay Aqueduct Alternate Intake Project. The operation of the North Bay Aqueduct proposed intake was including as part of the modelling effort reported in the RDEIR/EIS and FEIR/EIS. For intake location analysis please see Appendix 3F of the Final EIR/EIS. For more information on intake design please see response to comment 1601-178.
1601	554	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...Chapter 5: Effects Analysis inadequately conveys the fully integrated assessment that is needed to draw conclusions about the Plan, in part because of incomplete information on factors affecting the covered species."</p> <p>Comment:</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR strived to use the best available science throughout the effects analysis, consistent with the requirements of the ESA. Additionally, the official public review process for the proposed project provides an opportunity for formal public comment on the proposed project and project alternatives. Public and agency comments on the public draft have led to further refinement of the proposed</p>

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		<p>As a result, the impact assessment is incomplete.</p> <p>Quote:</p> <p>"...whether and how any critical life stages or attributes are being adversely affected by the BDCP is generally unclear."</p> <p>Comment:</p> <p>This is because information was missing and was poorly presented.</p> <p>Quote:</p> <p>"The approach to net effect conclusions needs to be reconsidered and revamped."</p> <p>Comment:</p> <p>If the net effects are flawed as the ISRP indicates then so are the impact calls. The flawed impact calls render the EIR/EIS useless and inappropriate as a decision support document for the agencies and no permits should be issued on this flawed and incomplete document.</p> <p>Quote:</p> <p>"...it does not adequately defend conclusions regarding the net effects of habitat restoration."</p> <p>Comment:</p> <p>Conclusions are unsupported and therefore should not be relied upon.</p>	<p>project, as evidenced in the RDEIR/SDEIS.</p> <p>The use of specific scientific data and findings was often vetted with fisheries managers to ensure it was the best available. A variety of data were obtained for the proposed project process: quantitative data from peer-reviewed published literature on topics specific to the Plan Area; peer-reviewed published literature outside the Plan Area but on topics relevant to the proposed project; unpublished quantitative data from within the Plan Area and from outside of the Plan Area; qualitative data or personal communication with topical experts; and expert opinion if no other sources were available.</p> <p>A full description of the methodology of the Net Effects analysis, including justification for the qualitative approach, can be found in Chapter 5, Section 5.2.7.10, Approach for Determining Net Effects on Covered Fish Species, and Section 5.5, Effects on Covered Fish. As indicated in Section 5.2.7.10 of the BDCP, "The [BDCP net effects] conclusions represent qualitative judgments of the effects of the BDCP that are grounded in the detailed quantitative and qualitative analyses in the appendices... BDCP net effects conclusions are necessarily qualitative and synthesize results from the more detailed (and often quantitative) analyses found in the appendices to this chapter. While qualitative, the net effects conclusions are derived from a transparent and structured approach. This approach is based on conceptual models that describe the logic and assumptions embedded within the effects analysis.</p> <p>Please note that the 2014 ISRP review was of the 2013 public draft BDCP, i.e., Alternative 4. Alternative 4 remains a viable alternative; however, a modified proposed project (Alternative 4A/California WaterFix, which is the preferred alternative) is being considered. Master Response 5 describes issues related to the BDCP and provides reference to a document giving responses to the recommendations of the ISRP regarding the BDCP, which is included as Appendix 11F in the Final EIR/S. The response document to the ISRP report represented the thinking at the time of its preparation (September 2014), before the above-noted change in approach. A number of the issues raised by the ISRP remain relevant to the preferred alternative (Alternative 4A); subsequent review of this alternative has been undertaken during the May 2016 California WaterFix Aquatic Science Peer Review. This 2016 review noted incorporation of some recommendations from the 2014 ISRP report, as well as noting that some recommendations had not been incorporated. The 2016 review report provided a number of recommendations that were implemented in the Biological Assessment submitted for ESA Section 7 consultation in August 2016, in addition to a number of recommendations for implementation in the NMFS/USFWS Biological Opinion for California WaterFix. The draft Biological Opinion will undergo additional peer review, as will the 2081(b) application under CESA, thereby providing important feedback and recommendations to ensure that the best available science is used in permitting the California WaterFix.</p>
1601	555	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Most biological objectives for covered fishes were not fully evaluated in Chapter 5 because information was deemed to be insufficient"</p> <p>Comment:</p> <p>The ISRP says the evaluation is insufficient which is another way of saying the analysis is deficient and should be redone.</p> <p>Quote:</p> <p>"...while the Effects Analysis recognizes that suspended sediment has been declining in the</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Regarding evaluation being insufficient, the ISRP in fact was noting that the information was deemed to be insufficient, rather than the evaluation being insufficient; the inference regarding analysis deficiency is the commenter's alone. Regarding sediment effects on downstream areas, it is incorrect that the BDCP analyses did not consider downstream effects; these were discussed in relation to effects on delta smelt habitat in Chapter 5 of the public draft BDCP. Effects of potential changes in sediment loading to San Francisco Bay are described in Impacts AQUA-218 and AQUA-220 in the EIR/S.</p>

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		<p>Sacramento River and that the new diversions would remove an additional 8-9%, all analyses used a high and constant amount with no mention of downstream sediment effects on either Suisun or San Francisco Bay."</p> <p>Comment:</p> <p>The ISRP is saying the sediment analysis has a flawed assumption regarding the sediment load and that the analysis completely ignores the downstream effects of sediment load on Suisun Bay and Marsh as well as the San Francisco Bay. The analysis of sediment is not only incomplete in its geographic scope, but is also wrong in the analysis and conclusions in the areas that the analysis was conducted.</p>	
1601	556	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Similarly, the uncertainty about being able to remove Egeria or other invasive species is not directly addressed in Chapter 5. Egeria is certainly poorly considered in the context of the aquatic food webs. Bivalves are not incorporated into aquatic food web analyses, although they are mentioned as 'uncertainties'."</p> <p>Comment:</p> <p>This is a major omission in the document. The BDCP has claimed species benefits from the removal of Egeria, but did not disclose or evaluate the risks and uncertainties of the success of the program. Therefore the benefits of this conservation measure have been overstated and should not be relied upon to contribute to species conservation.</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). As the ISRP noted elsewhere, there was discussion of the uncertainties in Appendix 5.F of the public draft BDCP.</p>
1601	557	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"No additional detail has been provided for the Restoration Opportunity Areas (ROAs), other than their general locations. There is very little mention of how they will be connected, interact or be sequenced."</p> <p>Comment:</p> <p>This is a huge omission as many comments both by the ISRP and this commenter are based around the need for critical information that was not provided by the BDCP that results in many important impact analyses being compromised in their completeness and integrity or cannot be realistically conducted at all. This important omission in the project description of the BDCP needs to be rectified and the missing analyses conducted before the EIR/EIS can be considered complete.</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). See also Master Response 2 regarding the programmatic approach used for habitat protection and restoration in the BDCP conservation strategy, and Master Response 5 regarding issues related to the public draft BDCP.</p>
1601	558	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The current Effects Analysis does not consider the influence of shifting timing of withdrawals on San Francisco Bay circulation patterns and ecology. This is a significant</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Downstream effects of operations on San Francisco Bay are discussed in the EIR/S, Impact AQUA-218. Salmonid species utilization of habitat in the Delta is discussed in BDCP Chapter 5, which includes discussion</p>

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		<p>omission with ecologically important implications."</p> <p>Comment:</p> <p>Another "significant omission" which must be rectified before the document could not be considered deficient. " "Forager" versus "migrant" life histories were compared and evaluated, but proportions of each life history type did not seem to be considered in the analysis of net effects. Furthermore, the relative proportion of wild versus hatchery fish contributing to each life history type was not considered." Without consideration of what proportions of the population exhibit forager vs. migrant behavior, the benefits to the species from the habitat restorations cannot be done. If most of the fish exhibit a migrant life history behavior then they will have very little if any benefit from the habitat restorations and therefore the weighting of the contribution to conservation from these habitat restorations should be heavily discounted. Not considering the difference and importance of wild vs. hatchery fish is also a critical omission in the analysis in the EIR/EIS. Wild fish should be what the plan is striving to conserve as we can make as many hatchery fish as we choose to. Without distinguishing between these two populations, the fisheries agencies cannot determine if the BDCP plan is conserving wild fish or perhaps might even favor hatchery fish to the detriment of the wild fish. No take permits should be issued based on this document until the hatchery vs. wild impacts to fisheries are thoroughly addressed.</p> <p>Quote:</p> <p>"While sensitivity analyses would have informed the Effects Analysis in the case of some of the biological models, this recommendation was generally not followed."</p> <p>Comment:</p> <p>With so much uncertainty in biological response to changed conditions, sensitivity analyses are critical to test the influence of assumptions utilized in the analysis to ensure that the conclusions are appropriate and reliable.</p>	<p>of the relationship between life history and habitat utilization; for instance, the highly transitional use by steelhead is noted. Both wild and hatchery origin fish are addressed because both are included within the listed species.</p>
1601	559	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Recommendation 16: Provide more detail about the specific approaches that will be used when implementing adaptive management"</p> <p>Comment:</p> <p>The BDCP relies very heavily on adaptive management as justification of the assumption of benefits to species in the face of so much uncertainty of the conservation measures effectiveness and yet provides little substance to evaluate in terms of exactly how adaptive management would be implemented, what tools and techniques would be used, how successes would be defined, what periods of time monitoring would occur prior to management decisions being made, what alternative management decisions could be and pretty much all important and relevant information required in order to define what Adaptive Management is and will be. Until the BDCP thoroughly defines this important part of their proposed plan, the EIR/EIS will remain incomplete and deficient.</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). See also Master Response 5 for an elaborated discussion of the use of adaptive management and monitoring metrics in BDCP.</p>

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		<p>Quote:</p> <p>"...metrics or success criteria have yet to be identified..."</p> <p>Comment:</p> <p>Without metrics or success criteria, the effectiveness of the conservation measures cannot be determined. The document will continue to be deficient until it provides adequate and complete information on how success will be measured and what specific goals define success.</p>	
1601	560	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...critical monitoring that would be required for effective decision making and adjustments are often relegated to research actions rather than mandated effectiveness monitoring, which presents potential lack of commitment or delay in timely resolution of critical uncertainties."</p> <p>Comment:</p> <p>Research is not adaptive management. Research may be required in order to develop and implement an adaptive management plan. Until the document can clearly distinguish between these two different elements, the adaptive management plans will continue to be incomplete and deficient.</p> <p>Quote:</p> <p>"Given the critical importance of monitoring and adaptive management to BDCP success, it would be worthwhile to have an explicit section within Chapter 5 that specifies how monitoring and adaptive management has been designed and implemented to address specific uncertainties, test critical assumptions and predictions and sequenced to improve the chance of success."</p> <p>Comment:</p> <p>Yes, the EIR/EIS really needs this in order to have any credibility of the contribution of the adaptive management plan in providing any improvement in the level of certainty of benefits of the proposed plan and conservation measures. If you look at the plan there is very little certainty of benefit to the species of any of the conservation measures. The BDCP has placed more importance on adaptive management than any other project ever proposed and yet provides little information on how adaptive management would be implemented. The document therefore will continue to be incomplete until this significant omission is rectified.</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). See also Master Response 5 for an elaborated discussion of the use of adaptive management in BDCP. Section 3.6 of the BDCP clearly distinguishes between research and adaptive management and specifies the proposed conduct of each program. Comment about adding adaptive management to the EIR/S is not relevant; the EIR/S is not a management plan.</p>
1601	561	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Other aspects of food webs in aquatic habitats are described but remain unanalyzed..."</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" on the quoted text is an editorial statement of opinion, and is so noted. With respect to food web effects, additional analyses have been undertaken in relation to the preferred alternative, Alternative 4A (California WaterFix)</p>

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		<p>Comment:</p> <p>This was a reoccurring theme. The BDCP introduced lots of important information and then failed to analyze it. Until these failures to complete the analysis are rectified, the document is technically incomplete and deficient.</p> <p>Quote:</p> <p>"...integration and synthesis is lacking."</p> <p>Comment:</p> <p>This is also a reoccurring theme. Lots of information would be introduced on different types of impacts to various life stages of a species and then an impact call would be made "based on professional judgment" without any supporting or disclosed rationale as to how the information was integrated and weighted in the impact call. Until the integration and relative weighting of the factors that went into an impact call are disclosed, the impact calls cannot be relied upon.</p>	<p>and are included in the Biological Assessment submitted in August 2016. These focus on operational effects, given the small amount of habitat restoration associated with the preferred alternative.</p>
1601	562	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the Effects Analysis provides a simple accounting of the number of acres of natural communities and suitable habitat that will be removed and restored but very little information is provided about the management actions that will be implemented to maintain them over the duration of the conservation plan."</p> <p>Comment:</p> <p>This is a serious omission with regards to the reliability and certainty of function and species benefits from the habitat restoration actions. Other comments made by the ISRP correctly state that there is great uncertainty in the range of outcomes in aquatic habitat restorations in terms of the type and quality of habitat that will ultimately be created. The BDCP has assumed that all habitat restorations will perform flawlessly as planned with no plans for intervention to direct the development of habitat to achieve the goals identified in the BDCP plan and claimed as benefits in the EIR/EIS. Until plans to ensure the development and function of habitat restorations are developed and disclosed in the EIR/EIS, there will be no reasonable certainty of contribution to conservation for the covered species from the habitat restorations and therefore the agencies should not allow credit to these actions to justifying the issuance of take or other permits.</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" on the quoted text is an editorial statement of opinion, and is so noted.</p>
1601	563	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Recommendation... Complete work on biological objectives... Provide triggers for adaptive management. ...the Effects Analysis as a stand-alone document falls short."</p> <p>Comment:</p> <p>The ISRP's recommendations are correct and the document will remain incomplete and</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). See also Master Response 5 for an elaborated discussion of the use of adaptive management in BDCP. Commenter's "comment" on the quoted text is an editorial statement of opinion, and is so noted.</p>

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		<p>deficient until these are fully addressed and disclosed. Once these material omissions have been addressed in the EIR/EIS it should be recirculated for additional public comment.</p> <p>Quote:</p> <p>"The Effects Analysis should evaluate likelihood of the BDCP achieving each biological objective."</p> <p>Comment:</p> <p>Without this missing analysis of likelihood of success the agencies cannot justify relying upon this document should not use it to support their decision making.</p> <p>Quote:</p> <p>"Chapter 5 seems to recognize this need in light of the incomplete evaluation of biological objectives."</p> <p>Comment:</p> <p>Underlining in the quote is our comment.</p>	
1601	564	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Approximately 72% of the objectives for covered fish could not be fully evaluated at this time due to insufficient information."</p> <p>Comment:</p> <p>That is stunning. In other words, the document is 72% incomplete or is only 28% complete. The insufficient information the ISRP is referring to is sometimes limiting information on the species and that is an uncertainty that must be addressed and disclosed appropriately. The larger source of 72% failure to fully evaluate the objectives for covered fish species comes from the incomplete project description from the BDCP. Some of the incomplete project description comes from the lack of north Delta diversion operations definitions and more come from the nearly complete lack of detail in the description, location and sequence of implementation of the aquatic habitat restorations. Until these deficiencies of the project description level of detail, e.g. water depth and breach locations of aquatic habitat, are rectified, the analysis of the impacts of the BDCP plan will continue to be 72% incomplete.</p> <p>Quote:</p> <p>"...the numeric values of these rankings were not presented or discussed in the BDCP."</p> <p>Comment:</p> <p>Without this disclosure of the process used, the credibility of the analysis cannot be determined. With this missing documentation, we are forced to take the words and conclusions of the EIR/EIS without the ability to assess their accuracy or merit. Until that</p>	<p>Comment is a quote from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comment" on the quoted text misrepresents the quote; in particular, the statement "In other words, the document is 72% incomplete or is only 28% complete" is a fabrication unsupported by the ISRP report. Commenter is referred to BDCP Section 3.2 which states the biological goals and objectives. Even a cursory review of that section shows that many of these objectives cannot be "fully evaluated" until extensive data on operations of the completed project are available, and until monitoring of the completed habitat restoration has been performed. Commenter's other ISRP quotes are fractional and are taken out of context, but nonetheless, are fully addressed in Appendix 11F. Commenter's other "comments" are editorial statements of opinion.</p>

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		<p>disclosure is completed, the document should not be relied upon by the agencies for any decision making.</p> <p>Quote:</p> <p>"A serious limiting factor of the current cumulative Net Effects is a near complete absence of any explicit weighting (in summary tables) of the biological importance of the many attributes under consideration"</p> <p>Comment:</p> <p>Again, without this missing information, the conclusions cannot be relied upon.</p> <p>Quote:</p> <p>"...what cannot be discerned is whether any critical life stages or attributes are being adversely affected by the BDCP."</p> <p>Comment:</p> <p>You cannot determine if a species will be conserved by this plan without this information.</p> <p>Quote:</p> <p>"The approach to net effect conclusions needs to be reconsidered and revamped."</p> <p>Comment:</p> <p>In other words, it is currently wrong, incomplete and poorly presented.</p>	
1601	565	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The text does not distinguish between hatchery versus wild salmonids in the analysis."</p> <p>Comment:</p> <p>See other comments regarding this critical missing information from the EIR/EIS.</p> <p>Quote:</p> <p>"...an increased residence time may promote toxigenic cyanobacteria (Microcystis aeruginosa)."</p> <p>Comment:</p> <p>The BDCP EIR/EIS failed to analyze the residence time of water in the aquatic habitat restorations and their contribution to increasing the frequency, magnitude, duration, and geographic extent of this significant environmental impact. This omission must be rectified prior to the document being considered a complete analysis of the BDCP impacts.</p> <p>Quote:</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comment" on the quoted text is not a comment, but a cross-reference.</p> <p>Commenter's second "comment" on the quoted text is correct. It is not possible to analyze the residence time of water in a restoration site that is described in programmatic terms. As noted in BDCP, individual restoration sites would be subject to all applicable environmental reviews, and site-specific water quality effects would be evaluated in that context. Please refer to Master Response 14.</p> <p>Commenter's third "comment" on the quoted text misquotes the document. BDCP does not assume that the intakes would have 5% mortality; it sets a performance measure that the intakes may not exceed 5% mortality. A performance measure states a foreseeable outcome and thus is not contingent upon assumption.</p>

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		<p>"Reduction in predation hot spots should be considered in the physical design."</p> <p>Comment:</p> <p>Yes, you cannot have a project-level design and analysis without inclusion of important design elements. The BDCP assumed that the designs of the intakes would result in a 5% mortality as a design criteria but the information disclosed in the EIR/EIS did not show how the design of the intakes would achieve that goal.</p>	
1601	566	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Evaluate effects of conservation measure attributes on species while considering all other potentially interacting conservation measures."</p> <p>Comment:</p> <p>The BDCP EIR/EIS failed to consider the impacts to the species of combinations of effects from the proposed conservation measures. Many of the conservation measures are interactive in terms of changing habitat location and quality, predator numbers and distribution, and covered species number and distribution and yet the document has failed to consider or evaluate how the conservation measures that affect these interact in combination for direct, indirect and cumulative impacts. Without this level of analysis, the EIR/EIS is wholly deficient.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" repeats the ISRP comment and is similarly addressed by Appendix 11F.</p>
1601	567	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Landscape-level effects should be considered."</p> <p>Comment:</p> <p>The BDCP is proposing to modify the habitat on over 100,000 acres on as much as 20% of the surface area of the statutory Delta and the document does not consider landscape-level effects. This is a gravely serious omission and deficiency. Without considering landscape-level concepts of minimum functional habitat patch size, habitat connectivity, migratory corridors, genetic pool interactions, degrees of suitability of habitat for different species life stages (e.g. suitability for roosting vs. foraging) and spatial coincidence of species range vs. location of habitat being created (if you build habitat in a location that is outside the range of the species, they will not use it and no species benefit would be achieved), the BDCP EIR/EIS has really failed to evaluate the impacts or justify the benefits of the habitat it proposes to create. Of all the omissions and deficiencies of the document, this may be the most egregious one (with the exception of the omission of the project description and impact analyses of the habitat restorations themselves).</p> <p>Quote:</p> <p>"...some sections of the Effects Analysis did not seem to reach a conclusion or describe the certainty about the findings, e.g., text description of Feather River flow effects on spring</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comment" is addressed by Chapter 5 of the BDCP, which details effects of the proposed project at the landscape scale.</p> <p>Commenter's second and third "comments" are editorial statements of opinion.</p> <p>Commenter's fourth "comment" refers to the ISRP quote, which is addressed in Appendix 11F.</p>

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		<p>Chinook."</p> <p>Comment:</p> <p>More important errors and omissions of critical information that is required in order to have a complete analysis and disclosure of the impacts of the project.</p> <p>Quote:</p> <p>"Findings in the literature on the response of salmonid populations to habitat restoration was not adequately addressed in the Effects Analysis when describing the net effect of each species..."</p> <p>Comment:</p> <p>More important information collected and presented, but not utilized which resulted in an incomplete analysis.</p> <p>Quote:</p> <p>"Interactions between BDCP flows and habitat was not adequately addressed in the report. For example, Table 5.5.3-4 shows that habitat units typically increased for foraging salmonids in response to habitat restoration, but the habitat analysis did not appear to consider whether salmonids would have access to the habitat during reduced flows under the BDCP scenarios (see Table 5.E.4-1). For example, flows were expected to be ~15% to 20% lower during January to April when many foraging salmonids are rearing in the Delta area. In other words, how much rearing habitat is available and what is the habitat quality for foraging salmonids when flows have been reduced 10-20%?"</p> <p>Comment:</p> <p>Without this analysis, the BDCP cannot justify or support any claims as to rearing salmonid benefits from habitat restoration and there may be significant impacts to existing habitat that have been evaluated or disclosed.</p>	
1601	568	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Recommendation: evaluate effects of conservation measure attributes on species while considering all other potentially interacting conservation measures."</p> <p>Comment:</p> <p>Yes, any analysis is incomplete and deficient without considering iterations between actions proposed in a project.</p> <p>Quote:</p> <p>"The degree to which hatchery salmonids contribute to the two life history types was not described, though hatchery fish are released as migrants. For example, 80% of juvenile spring Chinook were assumed to be migrants. To what extent was this due to the release of migrants from hatcheries given that some of the natural population produces primarily</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p>

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		foragers? The text does not otherwise distinguish between hatchery versus wild salmonids in the analysis."	
1601	569	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The approach to Net Effects conclusions needs to be reconsidered and revamped. The Net Effects summary figures (e.g., Figure 5.5.2-5) do not include the relative importance of the categories (e.g., food, entrainment, etc.). Without incorporating their relative importance, [insert underline]Net Effects conclusions are potentially meaningless and uncertainty cannot be characterized[insert underline]."</p> <p>Comment:</p> <p>Our comment is the underlining in the ISRP's quote.</p> <p>Quote:</p> <p>"Clifton Court Forebay physical changes need more evaluation before implementation because of its reputation as a predation hotspot"</p> <p>Comment:</p> <p>Clifton Court Forebay modifications are part of the conveyance plan which the BDCP asserts is analyzed at a project-level of detail to merit consideration of construction-related permits. The ISRP comment makes it very clear that the project description of the Clifton Court Forebay modifications do not meet the criteria for a project-level project description. The BDCP should not be issued any construction-related permits until this omission and deficiency in the level of project description is rectified.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>At this time the federal agencies have stopped reviewing the BDCP and are not proposing to issue an incidental take permit for BDCP implementation pursuant to ESA Section 10. Analyses related to Clifton Court Forebay have received additional refinement in the Biological Assessment submitted in August 2016, and will be a focus of the NMFS and USFWS Biological Opinion to be issued on the proposed alternative.</p>
1601	570	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Lehman et al. (2013) suggested that increased residence and warmer water temperatures in excess of 19-20° C will promote toxigenic cyanobacteria including <i>Microcystis aeruginosa</i>. It should be recognized that <i>Microcystis</i> is only one potentially important toxigenic cyanobacteria in the Bay-Delta -- Aphanizomenon was abundant in 2011 and 2012 in the Bay-Delta (Karobe et al. 2013)."</p> <p>Comment:</p> <p>This is another serious omission by the BDCP EIR/EIS to identify, characterize, evaluate, quantify and disclose an important significant impact with potentially significant magnitude of consequence to the human population that draws their drinking water and engages in contact recreation in the Delta as well as significant and potentially catastrophic consequences of fish and wildlife in the Delta.</p> <p>Quote:</p> <p>"The Panel cannot determine whether the conclusions about covered fish species or other</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>In addition, with respect to harmful algal blooms, further analyses were included in the Biological Assessment submitted in August 2016 (from the perspective of listed fishes, in particular delta smelt); effects on water quality were evaluated in the EIR/S, Impact WQ-32 in Chapter 8. Commenter's second main "comment" is an editorial statements of opinion that does not add to the substance of the ISRP comments. Commenter is referred to Appendix 11F. Please refer to Master Response 14.</p>

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		<p>species in the BDCP are accurate."</p> <p>Comment:</p> <p>This is because the project description and analyses were incomplete, the document did not fully disclose important information, and the methods and process in which conclusions were reached were not transparent, presented or justified. If the reader and decision maker do not have the ability to verify if the findings are accurate, the results cannot and should not be relied upon.</p>	
1601	571	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Monitoring needs, timing and intensity also need more explicit incorporation into the BDCP."</p> <p>Comment:</p> <p>The BDCP relies upon monitoring to determine if the project has met its goals and to feed the adaptive management process that is proposed to provide some contribution to certainty that the goals will be met and yet, the BDCP fails to provide an adequate level of description of the monitoring plan. Additionally, many types of monitoring result in take. As an example, trawls used to document the number and distribution of Delta and longfin smelt result in large amounts of fish mortality and take. Literally, these fish could be monitored to extinction. Without a complete description of the monitoring programs, including: type, location, frequency, # of samples, level of effort, duration, estimated survival rates, and monitoring program impact avoidance, minimization and mitigation plans; the plan and impact analysis are substantially incomplete.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comment" paraphrases the ISRP comments. Commenter is referred to Appendix 11F and also to Master Response 5, which provides further detail on monitoring work under BDCP.</p>
1601	572	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...uncertainty of the occupancy targets for terrestrial species are not addressed. In all cases, a single value of number of acres that will be occupied is provided. No estimates of the uncertainty of achieving stated restoration goals nor uncertainty of the proportion of the restored habitat that will be occupied are included."</p> <p>Comment:</p> <p>Without a reasonable range of projected habitat to be created that reflects the level of uncertainty and range of quality of habitat being created, the contributions to conservation of the species cannot reliably be determined from the habitat restorations and the results of the EIR/EIS should not be relied upon for decision making or as justification for the issuance of permits.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comment" is an editorial statement of opinion that does not add to the substance of the ISRP comments. Commenter is referred to Appendix 11F. Note, also, that the BDCP is no longer included in the proposed alternative. At this time the federal agencies have stopped reviewing the BDCP and are not proposing to issue an incidental take permit for BDCP implementation pursuant to ESA Section 10.</p>
1601	573	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the validity of the primary assumption that there will be no entrainment of fish at the</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Briefly, though, the BDCP does not purport to avoid entrainment of fish at the NDDs (see BDCP Appendix 5.B, for example), and indeed provides</p>

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		<p>north Delta diversion (NDD) should be evaluated."</p> <p>Comment:</p> <p>In other words, the current assumption is unrealistic and unsupported. As an example of the fallacy of this assumption, all fish that spawn by broadcasting their eggs in the water column, e.g. striped bass, will have their eggs entrained in the intakes. All analyses that rely upon this unrealistic and unsupported assumption are in error and are misleading and inaccurate in their impact assessments. There is no such thing as a screen that has zero entrainment. There are only screens that meet criteria that result in what is deemed to be an acceptable level of entrainment by the fisheries agencies.</p>	<p>an extensive analysis of the potential for such entrainment given the proposed screening meeting agency criteria.</p>
1601	574	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...does not include the potential positive or negative implications for changes in water clarity."</p> <p>Comment:</p> <p>Another major omission. Water clarity is a significant factor in smelt predation rates as they reside in the open water column. Predation rates of smelt are directly inversely proportional to water clarity. Any increase in water clarity or reduction in turbidity results in an increase in smelt predation rates. To fail to address this factor in the EIR/EIS is a major and basic omission in the impact analysis of the project on these species.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Impact AQUA-6 addresses potential impacts to delta smelt due to reduced turbidity, as was done in Chapter 5 of the public draft BDCP, and as has been done in the Biological Assessment of the preferred alternative submitted in August 2016.</p>
1601	575	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Because the panel was not provided the bathymetric configuration of the Restoration Opportunity Areas or the order in which the Restoration Opportunity Areas were established, it is not feasible to evaluate the sensitivity of the models to the placement of the Restoration Opportunity Areas. DSM2 (1-D) and RMA/TRIM (mult-D) hydrodynamic models represent Restoration Opportunity Areas differently. This could be a significant source of error, especially when Delta Cross Channel gates configuration is open."</p> <p>Comment:</p> <p>This is another area of reoccurring omission in the EIR/EIS document. Without the detail design specifics of the habitat restorations, all of the resources and impacts that are influenced by this major change in the Delta hydraulics, flows, residence times, turbidity, salinity, etc. from the aquatic habitat restorations are incomplete, in error and biased. We would go so far as to say that without a sufficient level of detail in the habitat restorations that all of the aquatic impact assessments are fundamentally flawed and inaccurate and therefore none of these analyses should be relied upon by the resource agencies.</p> <p>Quote:</p> <p>"Because the panel was not provided the bathymetric configuration of the Restoration Opportunity Areas or the order in which the Restoration Opportunity Areas were</p>	<p>Comment quotes (twice) from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Please refer to Master Response 3 regarding Program and Project level analysis in the EIR/EIS.</p>

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		established, it is not feasible to evaluate the sensitivity of the models to the placement of the Restoration Opportunity Areas."	
1601	576	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"While the [insert underline]adaptive management plan[insert underline] is considerably more developed in the BDCP Phase 3, it [insert underline]remains characterized as a silver bullet but without clear articulation about exactly how key assumptions will be vetted or uncertainties resolved[insert underline] to the point that the BDCP goals and objectives are more assured."</p> <p>Comment:</p> <p>Our comment is in the underlining of the ISRP's comment. This is such a central part of what the BDCP proposes, but their description of it is wholly inadequate to be able to evaluate the impacts of it or its reliability in contributing to the certainty of achieving conservation goals.</p> <p>Quote:</p> <p>"...many of the critically uncertain ecosystem processes, population responses, etc. that are identified as adaptive management targets are delegated to research, rather than monitoring."</p> <p>Comment:</p> <p>Research is a building block to feed into developing an adaptive management plan, but research is not an adaptive management plan in and of itself. Any adaptive management component that the BDCP proposes as research is not an adaptive management plan and therefore is incomplete.</p> <p>Quote:</p> <p>"...each and every key uncertainty should be "fleshed out" into implementable adaptive management "experiments""</p> <p>Comment:</p> <p>Yes, adequate science requires development and testing of key hypotheses. The BDCP has not identified these key uncertainties and has not developed monitoring plans to develop understandings of these uncertainties and therefore the adaptive management plan is doomed to failure before it even starts. Without these proposed project description is incomplete and the EIR/EIS is deficient.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>See also Master Response 5 concerning further development of the monitoring program, the research program, and the adaptive management program, subsequent to release of the draft BDCP.</p>
1601	577	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The DSM2 simulations should be re-run for the Early Long Term (ELT) and Late Long Term (LLT) simulations with bathymetry that does not include the Restoration Opportunity Areas</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Note that since BDCP is no longer a component of the Preferred Alternative, the simulations performed for</p>

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		<p>but driven with ELT or LLT river flow and tidal stage boundary conditions and operations."</p> <p>Comment:</p> <p>This is a very appropriate request. The DSM2 should be run both with and without the habitat restorations so that the impacts of the operations can be isolated and so that the magnitude of impacts from the assumptions related to the characteristics of the habitat restorations can be isolated and quantified in magnitude. This is not a substitute for the BDCP providing an adequate project description of the characteristics of the aquatic habitat restorations, but this requested model run comparison would at least disclose the magnitude of impacts associated with their current assumptions. Without this comparison, the proportion of impacts or lack of impacts attributable to the assumptions made in lieu of an adequate project description cannot be determined. Until this analysis is done, none of the aquatic resource impact calls should be relied upon.</p>	<p>the preferred alternative (Alternative 4A, California WaterFix) render the issue moot because no restoration was assumed in the DSM2 simulations, given the negligible potential for the much smaller restoration areas proposed under the preferred alternative to appreciably alter Delta hydrodynamics.</p>
1601	578	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The approach of analyzing flow direction every 15 minutes was a reasonable approach given the original 7b question. However, the analysis did not attempt to also look at the exchange through the Delta Cross Channel, which should be done for the modified 7b question."</p> <p>Comment:</p> <p>Yes, another reasonable and sensible request. This analysis should have been done in the first place.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Focus on Georgiana Slough and not the Delta Cross Channel was because the latter is largely closed during the migratory period of juvenile salmonids. See also the response to Comment 1601-577. Analyses conducted for the Biological Assessment submitted in August 2016 included consideration of both Georgiana Slough and the Delta Cross Channel, as well as other important junctions; see Section 5.4.1.3.1.2.1.2.1 Flow Routing Into Channel Junctions in Chapter 5, in particular.</p>
1601	579	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Chapter 5 correctly recognized that flow/habitat relationships are necessary for evaluating changes in Feather River flow and temperature on salmonids. However, relationships between flow and habitat were not presented in Chapter 5, therefore it was not possible for the Panel to evaluate changes in spawning and rearing habitat."</p> <p>Comment:</p> <p>Another major omission that must be rectified before the document could be considered complete.</p> <p>Quote:</p> <p>"Recommendations: Develop flow/habitat relationships for salmonids in the Feather River high flow channel, approximate the proportion of the population that uses this habitat, and correct inconsistencies in the text and summary figure."</p> <p>Comment:</p> <p>Flow/habitat relationships are already available for the Feather River from the PHABSIM</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's additions to the ISRP comments are also resolved in the Appendix 11F responses. Please also see response to comment 580.</p>

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		analysis (SP-F12) conducted in the DWR Oroville Relicensing Studies. This omission of this analysis clearly does not take advantage of the readily available best available science. Since DWR is the state lead agency on this document this omission is a clear indication of their lack of engagement and supervision in the development of the EIR/EIS.	
1601	580	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the evaluation did not attempt to convert predicted flow and temperature scenarios to habitat units for steelhead and Chinook salmon."</p> <p>Comment:</p> <p>The data to support this analysis is readily available from the DWR Oroville Relicensing Studies. Each type of habitat unit was rated for suitability for each salmonid species and life stage that are present in the Feather River. The studies did exactly what the ISRP requests. The studies integrated the habitat types with water temperature suitability and flows to determine the quantity of habitat that changes with flow and temperature operations. This omission of this analysis clearly does not take advantage of the readily available best available science. Since DWR is the state lead agency on this document this omission is a clear indication of their lack of engagement and supervision in the development of the EIR/EIS.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>During the development of the analytical framework for the Feather River, the analysts reviewed the PHABSIM analyses conducted for the Oroville Relicensing studies and considered using them. However, FERC documents cite that the High Flow Channel had increasingly become an unsuitable location for salmonids (Cavallo, B., R. Kurth, and J. Kindopp. 2003. Distribution and Habitat Use of Steelhead and Other Fishes in the Lower Feather River, 1999-2001. Interim report. [SP-F10, Task 3a.] Sacramento, CA: California Department of Water Resources). This pattern has been increasing through time (CDWR 2012, Distribution and Habitat Use of Juvenile Feather River Salmonids: Snorkel Survey Annual Report 2012, Oroville, CA). In fact, CDWR (2012) found that 99.52% and 99.43% of Age-0 steelhead and Chinook salmon, respectively, observed in the Feather River were found in the Low Flow Channel. Therefore, the use by BDCP/CWF of methods developed in the FERC relicensing for the High Flow Channel would have accounted for an equally miniscule percent of the population, deeming it unhelpful to the overall evaluation of significant/adverse effects. In addition, Payne and Allen (2005), during their efforts to develop flow-habitat curves for rearing steelhead, noted that changes in rearing habitat suitability for steelhead in the Feather River due to flow do not appear to be biologically significant and were greatly confounded by other habitat variables including cover. As a result, DWR purposefully omitted this analysis for the High Flow Channel based on the reasoning above.</p> <p>In the Low Flow Channel, where the majority of salmon and steelhead spawn and rear, flows and temperatures would not change under any alternative compared to the baseline under the same future climate conditions and, therefore, there would be no effect to salmonid habitat, regardless of whether FERC Relicensing methods were used or not. As a result, the analysts decided that no additional analyses were required. DWR purposefully omitted this analysis based on the lack of need.</p>
1601	581	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The text states that juvenile spring Chinook salmon may be present in the Feather River from November through June. Chapter 5 also concludes that juvenile migration would not be affected by BDCP flows, which are higher in spring and lower in summer in the high flow channel during BDCP operations. Why is juvenile migration not affected by higher spring flows and lower summer flows? To what extent is rearing habitat in the high flow channel affected by higher flows and to what extent are juveniles using this habitat? There is no mention of the actual temperature experienced by the fish in the Feather River."</p> <p>Comment:</p> <p>According to the DWR Oroville Relicensing fisheries studies, spring-run Chinook salmon juvenile emigration in the late spring/early summer already suffer from water temperatures that exceed their thermal tolerances and suitable habitat criteria. Reductions in flows during this period as a result of BDCP operations will exacerbate this existing impact of the Oroville facilities. The omission of the analysis of this significant impact is a substantial oversight. this</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Regarding the specific comment by the commenter, the analysis of spring-run juvenile migration in the Feather River analysis for each alternative was conducted in 2011 Public Draft BDCP document, Appendix 5C Flow, Passage, Salinity, and Turbidity, Section 5C.6.3, Passage, Movement, and Migration Results. The analysis of spring-run juvenile migration in the Feather River was also conducted in the FEIR/FEIS Chapter 11, Fish and Aquatic Species, Impact AQUA-60, Effects of Water Operations on Migration Conditions for Chinook Salmon (Spring-Run ESU). The analysis found, for the Proposed Project (in the BDCP Draft) and Alternative 4 (in the FEIR/FEIS), that despite some differences (higher and lower) in flows between Alternative 4 and the baseline, Alternative 4 would not affect spring-run Chinook salmon migration in a biological meaningful way because they would generally exceed minimum flows in the High Flow Channel suggested by NMFS during the BDCP planning process. In addition, despite changes in flows, water temperatures would not increase from the NEPA baseline in a substantial way (&gt;5%) at any location in the Feather River according to modeling presented in Appendix 5.D, Sacramento River Water Quality Model and Reclamation Temperature Model Results Utilized in the Fish Analysis.</p>

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		analysis must be completed and these impacts integrated with the overall impact calls before this aspect of the impact analyses could be considered complete.	
1601	582	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Chapter 5 states that real-time operations could be used to minimize adverse effects in the Feather River, but there is no mention of whether this will be done and what the criteria might be to protect salmon. The Chapter 5 description of Feather River effects on salmonids did not incorporate information related to exceedance of minimum flows that was discussed in Appendix 5C.5.2."</p> <p>Comment:</p> <p>Empty promises for actions with no supporting detail have no substance or credibility and should not be attributed any assurances of contributions to conservation or contributions to address uncertainty.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Briefly, though, this comment pertains to activities that would not be performed in the Plan Area, are not included in the proposed BDCP covered activities, and thus are not part of any of the alternatives evaluated in the EIR/EIS.</p>
1601	583	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"What percentage of steelhead rear in the high flow channel?"</p> <p>Comment:</p> <p>This answer should have been included in the affected environment and this information is readily available from the DWR Oroville Relicensing Fisheries Studies (SP-F3.2). The answer from those studies is that approximately 1/3 of the steelhead juvenile rearing occurs in the high flow channel.</p> <p>Quote:</p> <p>"The Panel notes that steelhead prefer higher velocities than other salmonids, but changes in the amount of habitat in relation to velocity was not presented."</p> <p>Comment:</p> <p>The PHABSIM data (mentioned in a previous comment) is readily available to support this ISRP requested analysis.</p> <p>Quote:</p> <p>"Potentially adverse temperature effects or predation affects (if predators are attracted to the Bypass) were not described, but BDCP authors stated at the January meeting that temperature and predator attraction are not likely to pose a problem within Yolo Bypass."</p> <p>Comment:</p> <p>I am sure it is not reassuring to the public that the ISRP was given verbal assurances that temperatures and predation would not be an impact on listed species in a private meeting. This claim of no impact does not stand the test of reason. Of course, there will be</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comments" are editorial parentheses to the ISRP comments; again, see Appendix 11F. Please also see response to comment 580.</p>

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		<p>temperature problems in the late spring in a shallow inundated area and of course, there will be predators there. Unsupported assurances delivered in a private meeting do not meet the test of full disclosure. These impacts should be evaluated in the EIR/EIS and the document will remain incomplete and deficient until they are.</p> <p>Quote:</p> <p>"Chapter 5 concluded that there is a low negative impact related to contact and impingement of salmonids with the north Delta diversion screens, but the technical appendix states that this effect could not be evaluated."</p> <p>Comment:</p> <p>The EIR/EIS needs to be revised to include an evaluation of this and these findings should be correctly integrated with the impact call. As it stands, the impact call is clearly false and should not be relied upon for any agency decision making.</p>	
1601	584	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Other processes of food webs in aquatic habitats are described but remain unanalyzed, some of which may enhance, while others of which would inhibit their biological objectives."</p> <p>Comment:</p> <p>Another reoccurring theme in the EIR/EIS document, information presented but not analyzed.</p> <p>Quote:</p> <p>"Chapter 5 contains even less information this time concerning details about timing and sequencing required to evaluate potential impacts. Understanding the sequences is also critical because they have major influences (Drake 1990, 1991; Hobbs and Cramer 2008)."</p> <p>Comment:</p> <p>Clearly the document is even more deficient in the public draft than the previous ISRP review on this point. This deficiency should be addressed before the document is advanced beyond the public draft and review.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comments" are editorial in nature and are acknowledged as such. Regarding food web effects, please see response to comment 561.</p>
1601	585	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The BDCP further ignores critical data that should have been incorporated into trajectories concerning the restoration of wetland and associated aquatic habitat. This is a crucial piece because the restoration that is planned is critical key to increasing suitable habitat and food web productivity."</p> <p>Comment:</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" is editorial in nature and is acknowledged as such.</p>

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		Yes, the document is incomplete and deficient without this information and should not be utilized as a decision making document until this deficiency is rectified.	
1601	586	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The restoration of these areas are predicted to create better habitat and food for juvenile Chinook salmon, splittail, sturgeon, delta smelt, and longfin smelt. Two issues arise from this assumption, one is their analysis of phytoplankton production and the second is that the analysis never includes potential competitors."</p> <p>Comment:</p> <p>Impact calls should not be based on assumptions of benefits. Unless there is a reasoned, well-supported and logical argument presented for the benefit, the claimed benefit should not be credited with any contribution to conservation. The ISRP obviously do not believe this impact call is supported by the facts and that the analysis is incomplete.</p> <p>Quote:</p> <p>"Beyond the analysis of assumptions, the other compartments of the food web are not incorporated into their analyses. For example, the potential for detritus as a major source of food web production was reviewed at some point and mentioned during the discussion of food webs. However, no incorporation or estimation of potential detritus production was made, nor was the detrital web discussed any further."</p> <p>Comment:</p> <p>More missing necessary analysis.</p> <p>Quote:</p> <p>"Similarly, the role of SAV (submerged aquatic vegetation) and emergent vegetation were not assessed although they were mentioned. The issue of competitors was not assessed. No incorporation was made of anthropogenic nitrogen influences on phytoplankton community composition (for example increasing the proportion of Microcystis). While the BDCP generally has a review of most of these compartments that they illustrate in the conceptual model, no quantitative models, nor estimates derived from the literature review were developed to allow a variety of scenarios that might indicate the potential robustness of the impacts of the conservation measures."</p> <p>Comment:</p> <p>Lots more missing necessary analysis.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comments" are editorial in nature and are acknowledged as such. Please refer to Master Response 14. Please also see Master Response 5 related to issues regarding uncertainty in BDCP conclusions.</p>
1601	587	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The Climate Change (Appendix 5.A) portion of the Effects Analysis needs to address the question for frequency of dry/critical water years and relate it back Appendix 5B."</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Note that the changes proposed by the ISRP and commenter were not made because no final BDCP was prepared; the Preferred Alternative no longer includes BDCP, and the lead agencies are no longer reviewing a permit application supported by</p>

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		<p>Comment:</p> <p>Yes, all of our infrastructure and water use assumptions are based on the last 150 years of observed hydrology. The geologic record shows that the last 150 years was anomalously wet. It is only prudent, as the ISRP identifies, that the BDCP analysis should include analysis of scenarios for climate change which include extended drought. Until this analysis is included, the document stands incomplete and deficient.</p>	<p>BDCP.</p>
1601	588	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"It is also important to look at how the flow patterns will also change in the north Delta. This is an equally important piece of evaluation that should be included in the entrainment analysis."</p> <p>Comment:</p> <p>Yes, the BDCP analysis and several of the biological models do not account for changes in flows in the north Delta from the north Delta intake operations. These flow change analyses should have included change in magnitude duration and frequency of reverse flows on Sutter and Steamboat Sloughs and the related water quality and biological implications of these changes, e.g. juvenile salmonid emigration survival rate changes.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Briefly, though, the BDCP effects analysis does examine this issue; see BDCP Chapter 5 and Appendix 5.C. Further analysis of these issues were developed for the Biological Assessment submitted in August 2016; see in particular Section 5.4.1.3.1.2 Far-Field Effects in Chapter 5.</p>
1601	589	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the documentation of the DSM2 PTM model in this appendix should be greatly expanded to provide clarity in their approach."</p> <p>Comment:</p> <p>Some of this documentation may already be in Appendix 5.C, however, the present documentation is not sufficient to allow Appendix 5.B to act as a stand-alone document. Our comment is in the underlining of the ISRP quote.</p> <p>Quote:</p> <p>"Before the north Delta diversion facility is operational, the operating criteria for both the North and South facilities need to be established."</p> <p>Comment:</p> <p>Yes, without the north Delta intake operations models the BDCP cannot do any kind of impact analysis on this crucial component of the proposed project. This is the most striking of all of the deficiencies of the document. Without the operational model, the project does not even meet a programmatic level of analysis, let alone the project level analysis the BDCP proposes that they would like to achieve. All other components of the CVP/SWP have operations models and the project description and analysis will continue to be incomplete and deficient.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comments" paraphrase and emphasize the ISRP comments. Commenter is referred to Appendix 11F. These issues remain relevant to the analysis of the preferred alternative (Alternative 4A/California WaterFix), and are addressed in Appendix 5.B (for DSM2-PTM) and in Chapter 3 and Appendix 5.A (operations assumptions) of the Biological Assessment submitted in August 2016.</p>

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1601	590	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The Contaminants Appendix is limited to direct contaminant effects on covered species even though it is recognized that both direct and indirect contaminant effects must be considered (p. 5.2.3, lines 5-7). The Effects Analysis authors indicate that indirect contaminant effects are handled within Appendix 5.F: Biological Stressors on Covered Fish. Given the degree to which indirect contaminant effects are presently covered in Appendix 5.F this is not satisfactory."</p> <p>Comment:</p> <p>CEQA and NEPA require analysis of indirect effects. Obviously, from the ISRP's comment, the document fails to meet this requirement and is therefore deficient.</p> <p>Quote:</p> <p>"Recommendations: Provide more information with Chapter 5: Effects Analysis rather than relying heavily on Appendix 5.D: Contaminants. Include both indirect and direct contaminant effects within Contaminants Appendix (Phase II recommendation). Methylmercury Management and Selenium Management should be evaluated by contaminants experts. Incorporate grey literature where needed (especially herbicide application for control of Invasive Aquatic Species)."</p> <p>Comment:</p> <p>All of these recommendations need to be addressed and the EIR/EIS recirculated for public comment.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). The ISRP recommendations have been addressed in the Final EIR/EIS, but no final BDCP was prepared because the BDCP is no longer a component of the Preferred Alternative and the project proponents are no longer seeking an incidental take permit pursuant to ESA Section 10. Operations-related effects of contaminants were included in the Biological Assessment submitted in August 2016; see Section 5.4.1.3.2.2.2.2 Selenium in Chapter 5 and Section 6.1.3.5.6 Selenium in Chapter 6.</p>
1601	591	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The Contaminants Appendix is limited to direct effects of contaminants on covered species despite the recognition (Chap. 5, pg. 5.2-3, lines 5-7) that that both direct and indirect contaminant effects must be considered. Appendix 5.D states that with the exception of herbicides used to control Aquatic Vegetation, the BDCP does not add any contaminants to the Plan Area. Nonetheless, as stated (Chapter 5, page 5.3-26, lines 29-30) BDCP activities will alter freshwater flow and alter water residence times at various locations in the Delta. These changes can result in major changes in how contaminants interact with the Delta ecosystem by changing the local concentration of a given contaminant or duration of exposure. For these reasons, restricting the analysis to direct effects on covered species is inadequate."</p> <p>Comment:</p> <p>Inadequate is too kind a word, it is deficient. The ISRP and BDCP analysis missed some the other aspects of the BDCP contaminants. An example of this is the water quality that will result from water being held in the tunnels during low or no diversion flows. As identified in several related comments on the water quality chapter, the water discharged from the tunnel from those periods will contain several important contaminants that are significant</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" is, however, not relevant to the ISRP comments. Please refer to responses to comments 379 and 919 regarding the quality of water in the tunnels.</p>

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		impacts to human and aquatic wildlife.	
1601	592	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"... [insert underline]at present discussion of potential indirect contaminant effects are not sufficient in scope, detail, or characterization of uncertainty[insert underline]."</p> <p>Comment:</p> <p>Our comment is underlined in the quote from the ISRP.</p> <p>Quote:</p> <p>"...the environmental effects related to constructing ROAs (Restoration Opportunity Areas) are a bigger concern for contaminants than the north Delta diversion. However, in the case of selenium, changing the pumping operation location in conjunction with the establishment of ROAs in the South Delta has a potential significant effect. Changing to the north Delta diversions shifts the primary source of water in the South Delta to San Joaquin derived water rather than Sacramento source water under certain conditions."</p> <p>Comment:</p> <p>Correct, you have to know where the ROAs are and how they are designed to know water residence time and interactions with the BDCP operations. Without both, you cannot know or disclose the impacts to the public and agency decision makers.</p> <p>Quote:</p> <p>"...the location of the ROAs and how these areas are connected to the adjacent channels is unknown."</p> <p>Comment:</p> <p>Yes, and without that you cannot determine the tidal exchange volumes or rates for the required analysis.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comments" paraphrase and emphasize the ISRP comments. Commenter is referred to Appendix 11F. Comments regarding selenium remain relevant despite the preferred alternative (Alternative 4A, California WaterFix) not including extensive habitat restoration; see response to comment 590.</p>
1601	593	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Conservation Measure 13: Invasive Aquatic Vegetation Control is discussed in Section 5.F-6. There is little consideration of the potential effects on lower trophic levels (algal primary producer) due to herbicide applications."</p> <p>Comment:</p> <p>There is readily available published scientific literature on the impacts to algae and the rest of the aquatic food web from herbicides -- see (Effects of sulfonylurea herbicides on non-target aquatic micro-organisms: Growth inhibition of micro-algae and short-term inhibition of adenine and thymidine incorporation in periphyton communities, Bo Nyström, Bo Björnsäter, Hans Blanck, Aquatic Toxicology, Volume 47, Issue 1, October 1999, Pages</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Briefly, though, there is extensive consideration of those effects in the Endangered Species Act documents already prepared for the existing invasive aquatic vegetation program, which would simply be continued and expanded under BDCP; those documents are cited in the draft BDCP.</p>

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		<p>9-22; Rick A. Relyea 2005. The impact of insecticides and herbicides on the biodiversity and productivity of aquatic communities. <i>Ecological Applications</i> 15:618-627. <a href="http://dx.doi.org/10.1890/03-5342">http://dx.doi.org/10.1890/03-5342</a>; Junghans, M., Backhaus, T., Faust, M., Scholze, M. and Grimme, L. H. (2003), Predictability of combined effects of eight chloroacetanilide herbicides on algal reproduction. <i>Pest. Manag. Sci.</i>, 59: 1101-1110. doi: 10.1002/ps.735) Just a cursory review of these readily available scientific publications makes it clear that not only does herbicide harm algae, it also disrupts and reduces diversity across the entire aquatic food web. Lack of consideration of this significant impact on important resources is a serious omission that must be rectified.</p>	
1601	594	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Microcystis blooms can have an adverse effect on phytoplankton, zooplankton, and fish. Factors associated with blooms include high water temperature, high water transparency, low flows, high nutrient concentration, and high nitrogen/phosphorus (N/P) ratios. Runoff from land use contributes to these favorable conditions. Microcystis affects fish populations through declines in food sources, mortality, and reduced fecundity. Water operations that reduce flow and increase water residence time may promote Microcystis. Shallow water habitat reduction may also promote Microcystis. Actions that increase water velocity and turbidity are helpful in controlling Microcystis blooms. ESO_ELT (Evaluated Starting Operations_Early Long Term) and LOS_ELT (Low Outflow Scenario_Early Long Term) scenarios are projected to increase average water residence time (Table 5.F.8-2), which would have a detrimental effect in trying to control Myrcocystis."</p> <p>Comment:</p> <p>Yes and the BDCP proposed project will exacerbate all of these contributing conditions by increasing water residence times, reducing assimilative capacity, increasing water clarity from sediment capture at the north Delta intakes and sediment sink Restoration Opportunity Areas (ROAs). The BDCP failed to analyze these impacts and therefore is an incomplete disclosure of impacts.</p> <p>Quote:</p> <p>"Recommendations: Provide more detailed description of the 14 different scenarios modeled (Table 5.G-2) than shown on p. 5.G-17. For instance, specify what are the low- and high-flow operations specified in scenarios HOS (High Outflow Scenario) and LOS."</p> <p>Comment:</p> <p>Yes, without a description of what the HOS and LOS are, we cannot independently evaluate the analysis that the BDCP has done.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comments" paraphrase and emphasize the ISRP comments. Commenter is referred to Appendix 11F. Please see response to comment 570 regarding treatment of Microcystis analyses in the Biological Assessment submitted in August 2016 and the FEIR/S. Please refer to Master Response 14.</p>
1601	595	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Presently, 5% entrainment is based on engineering specifications and is lower than at other intake facilities (Perry 2010). These results are also in sharp contrast when through-Delta mortality was increased by 5% and escapement changed by only 0 to 4.6% in the OBAN</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Briefly, though, BDCP does not assume that the intakes would have 5% mortality; it sets a performance measure that the intakes may not exceed 5% mortality. A performance measure states a foreseeable outcome and thus is not contingent upon</p>

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		<p>model. Additional analyses must be done over a wider range of mortality values, 1% to 10%, to assess how bad the intake problem could be and how well must the intake function."</p> <p>Comment:</p> <p>The BDCP impact analysis cannot assume a 5% mortality just because that is the engineering criteria they propose to select, especially when the BDCP has not provided any detailed designs with design elements that would give any support the BDCP achieving that design goal. The BDCP needs to accede to the ISRP recommendation.</p>	<p>assumption.</p>
1601	596	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Recommendations: The description of the methods used to arrive at the number of acres of restored habitat that will be occupied needs to be revised."</p> <p>Comment:</p> <p>Not just the description needs to be revised. The entire approach is flawed from the beginning that all acres of all habitats will be fully functional for their target species. Habitat restorations never work this way in reality. There are readily available examples of more appropriate approaches to calculating ranges of habitat function through time, and example is: Moilanen, A., Van Teeffelen, A. J. A., Ben-Haim, Y. and Ferrier, S. (2009), How Much Compensation is Enough? A Framework for Incorporating Uncertainty and Time Discounting When Calculating Offset Ratios for Impacted Habitat. <i>Restoration Ecology</i>, 17: 470-478. doi: 10.1111/j.1526-100X.2008.00382.x.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Note, however, that the analysis has not been revised, because the BDCP was not finalized; see Master Response 5 for further discussion of this issue.</p>
1601	597	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Provide a citation for the database and a brief discussion of the error associated with the different community types."</p> <p>Comment:</p> <p>In general, the entire document was not well supported by references. In some cases, it is clear that information came from other sources, e.g. project descriptions on CVP and SWP facilities, and yet the BDCP EIR/EIS failed to provide the appropriate references. How can the public and reviewers determine the credibility of the data sources utilized by the BDCP if the BDCP has chosen not to document or disclose them? In summary of the comments regarding the missing and incomplete analyses of the BDCP EIR/EIS, it should be clear from the sheer magnitude of comments from the ISRP that the document is incomplete and deficient. Many of the missing elements identified by the ISRP are central issues to determining the impacts of the BDCP. Even though their comments regarding the extent of the deficiencies and omissions of required analyses were numerous and substantial, the ISRP's comments only addressed the fisheries and to a lesser extent, the wildlife chapters of the document. These ISRP comments on the incomplete BDCP EIR/EIS represent about 15% of the entire document, so by inference we can see just how incomplete the entire document is. Without these requested analyses, the document is not only incomplete and deficient, but it is not suitable to support the agencies in their decision making, nor does it</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" expresses a general dissatisfaction with the extent to which the BDCP cites literature (several thousand sources being cited in the document), but does not identify any specific concerns and thus constitutes a statement of opinion, here acknowledged as such.</p>

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		provide sufficient justification to warrant issuance of permits by these or other agencies.	
1601	598	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the long, highly detailed document was difficult to review and comprehend."</p> <p>Comment:</p> <p>This is a bunch of PhDs that are saying they had a hard time understanding the document.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Recognizing the length and complexity of the Draft EIR/EIS, the lead agencies have taken numerous steps to make the information accessible and understandable. The lead agencies posted online documents highlighting important aspects of the BDCP and the EIR/EIS. They produced 17 narrated informational webinar episodes regarding the BDCP and EIR/EIS that were available online, and they distributed factsheets throughout the comment period. In addition, both the BDCP and EIR/EIS contain executive summaries, and the most complex EIR/EIS chapters contain reader guides and summaries of impacts. For more information regarding document length and complexity, please see Master Response 38.</p>
1601	599	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...Chapter 5 continues to be fragmented in its presentation and sometimes inconsistent with the technical appendices..."</p> <p>Comment:</p> <p>Most of the real information was in the appendixes. Without adequate direction from the main document to the over 4,500+ pages of appendixes, those appendix materials may as well as not even existed for how useful they are in supporting the main document. You cannot just leave the reader to sift through 4,500+ pages of material in the hope that they will find what they are looking for especially since the document is so incomplete as noted in the previous comments. The combination of poorly organized, low comprehensibility and incomplete leaves the reader wondering if the information they were looking for to validate an issue in the document was just not present in the document in any form or location or if they just missed the material in the unprecedentedly large and poorly organized document. The ISRP made it clear in their comments that even they did not go all the way through the fisheries-related appendixes. The result of the poor organization and internal references to supporting materials is that the BDCP has effectively failed to disclose information even in cases when that information was included (somewhere) in the document.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" is a statement of opinion, here acknowledged as such. The FEIR/S and permitting application documents (ESA Biological Assessment submitted in August 2016; CESA Incidental Take Application submitted in October 2016) for the preferred alternative (Alternative 4A, California WaterFix) have strived to achieve appropriate cross-referencing to appendix materials from the main body of the text.</p>
1601	600	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...inefficient organization and incomplete cross-referencing among sections within the Effects Analysis (e.g., the 8 supporting appendixes, totaling ~4500 pages) as well as with the larger BDCP planning documents make interpretation of anticipated net effects of BDCP implementation difficult at best."</p> <p>Comment:</p> <p>The document is not even readable or comprehensible by a bunch of PhDs who were paid to review it. Obviously, the document fails the accessibility information test for NEPA and</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter here complains that the document is too long, and elsewhere complains that it is too short; either way, it is a statement of opinion, here acknowledged as such.</p>

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		CEQA compliance if people cannot find or understand the disclosures.	
1601	601	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...Chapter 5: Effects Analysis does not represent a stand-alone document and it relies extensively on the associated appendices and other chapters for the presentation of scientific information, with insufficient guidance for the reader."</p> <p>Comment:</p> <p>It is a large and complex topic made worse by purposely bad internal and external referencing.</p> <p>Quote:</p> <p>"The lack of accessibility to information within the chapter or clear reference to supporting detail inhibits rather than elucidates comprehension of the findings and thus conveys an unsatisfying "trust us" message."</p> <p>Comment:</p> <p>This is a clear lack of transparency in the document and the reader should not be forced to just take the BDCP's word for their unsupported and unjustified assumptions, methodologies, synthesis of information or conclusions.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statements of opinion, that the document is large and complex, may be valid and are acknowledged.</p>
1601	602	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the Panel found the Chapter 5 text describing the two life cycle models (IOS and OBAN), which provide alternative views of BDCP effects compared with other analyses, to be complicated and somewhat confusing. It was not clear whether or not the models were appropriately applied to evaluate a portion of the BDCP attributes."</p> <p>Comment:</p> <p>Yes, very unclear. This must be rectified.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comment" emphasizes the ISRP comment. Commenter is referred to Appendix 11F. These life cycle models were also applied in the Biological Assessment submitted in August 2016; see Section 5.4.1.3.1.2.1.3.4 Life Cycle Models (IOS and OBAN): Winter-run Chinook Salmon, and cross-references in Appendix 5.D cited therein. These write-ups have built on previous comments received.</p>
1601	603	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...we often found assumptions or conclusions stated in the Effects Analysis to be lacking in sufficient detail to stand alone..."</p> <p>Comment:</p> <p>If the assumptions are incorrect or biased then so are any conclusions drawn that relied upon them. Without sufficient detail, justification and supporting rationale, none of the analyses conducted without sufficient detail should be included in considerations on</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Briefly, though, the extensive appendices to BDCP Chapter 5 serve as the support for the analysis and conclusions in the chapter. Further elaboration appears in Appendix 11F as related to specific ISRP recommendations.</p>

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		contribution to conservation of the species or to confer benefits to any resource impact call.	
1601	604	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the Effects Analysis (Chapter 5) itself is still poorly substantiated and leaves too much to appendices and other BDCP chapters without explicit cross references."</p> <p>Comment:</p> <p>Without the cross references, the materials may as well as not even exist for all the good it does for the comprehension of the reader.</p> <p>Quote:</p> <p>"...it was often necessary in the report to draw on information from a number of appendices or other sections of the report. In many cases, these sections were not referenced or the specific findings of those sections not restated. This leaves the reader to hunt for the pertinent facts."</p> <p>Comment:</p> <p>In other words, the document is unusable.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statements of opinion are noted. Please also see response to comment 599.</p>
1601	605	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The summary table (e.g., Fig. 5.5.1-5) was extremely difficult to read, used text to describe the effect (zero to high) and color to describe certainty. A small, essentially illegible "-" sign identified negative rankings. This summary table needs to be redesigned to improve readability."</p> <p>Comment:</p> <p>Yes, anything negative is systematically downplayed in every case in this document.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statements of opinion are noted.</p>
1601	606	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Implementation of methods for evaluating BDCP effects was not readily transparent."</p> <p>Comment:</p> <p>If you cannot tell how methods were implemented, then you cannot assess their credibility and accuracy. This ISRP comment should be taken seriously for how badly the document fails to meet NEPA and CEQA disclosure requirements.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statements of opinion are noted.</p>
1601	607	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews</p>

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		<p>Quote:</p> <p>"The tremendous length of the documents did not reduce the uncertainty in the overall net effects."</p> <p>Comment:</p> <p>Given the previous ISRP comments on the poor organization and linkages in the document to supporting information, the length of the document makes the problem of finding relevant materials even worse. The document is so long because it is chock full of unnecessary and redundant material.</p>	<p>following modification of the proposed project to Alternative 4A). Commenter has not otherwise identified any "unnecessary and redundant material," thus this is acknowledged as a statement of opinion.</p>
1601	608	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The text is not clear how the models predict these changes associated with the BDCP during egg incubation, if the BDCP has no effect on upstream conditions..."</p> <p>Comment:</p> <p>It is unclear because the BDCP is self-contradictory. If there were no changes in upstream conditions then there could not be changes in egg incubation. There are obviously changes in upstream conditions and there are as a result adverse impacts to egg incubation. When the document is so poorly organized that it self-contradicts, how is the reader to make any sense of this document? The EIR/EIS must be revised to remove these internal inconsistencies so it does not further confuse the reader and obfuscate the truth.</p> <p>Quote:</p> <p>"...the text below it is confusing and should be clarified (did the model receive inaccurate information for upstream conditions?)."</p> <p>Comment:</p> <p>No, the document mislead the reader with the false statement that there were no changes in upstream conditions.</p> <p>Quote:</p> <p>"...the presentation of the temperature results and the synthesis of the results should be improved to aid understanding."</p> <p>Comment:</p> <p>The current organization and presentation is incomprehensible and should be revised.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statements of opinion are noted. These issues remain relevant to the preferred alternative (Alternative 4A, California WaterFix) and the permitting application documents for the preferred alternative (ESA Biological Assessment submitted in August 2016; CESA Incidental Take Application submitted in October 2016) have resolved any apparent inconsistencies related to upstream potential effects.</p>
1601	609	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...data is presented in individual species and life stage sections. It is very hard to synthesize</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's "comments" paraphrase the ISRP comments and include varied statements of opinion. Commenter is referred to Appendix 11F.</p>

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		<p>the results in this format."</p> <p>Comment:</p> <p>The ISRP identifies in other comments that the synthesis is largely missing from the document anyway. Perhaps even the BDCP is confused by their own organization and that is why they failed to present an impact synthesis and supporting rational to the reader.</p> <p>Quote:</p> <p>"To help the reader understand what locations, which species, what life stages are most likely to be impacted by temperature as a result of upstream reservoir operations in response to north Delta diversion requirements, a synthesis section in the main Effect Analysis Chapter 5 should be included."</p> <p>Comment:</p> <p>Yes, this section should be either presented in map form or at the very least by affected river reach, e.g. Lower Feather River from the Thermalito Afterbay Outlet to the Yuba River confluence. This kind of reporting is standard in all related project environmental documents, see DWR's Oroville Facility Federal Energy Regulatory Commission (FERC) Relicensing studies or EIR.</p> <p>Quote:</p> <p>"Most charts in this section are hard to visually synthesize the temperature data. Color coding the charts would help guide the reader."</p> <p>Comment:</p> <p>Color coding temperature charts is also standard for comprehensibility for these types of documents, again, see the DWR documents related to their Oroville Facility Relicensing.</p> <p>Quote:</p> <p>"Table 5C.5.2-32 (p. 5.C.5.2-79) show compares the level of exceedance for the different scenarios. This table is not effective at communicating that the level of exceedance is shifting between different categories. For example, less "orange" classifications may mean that there are more "red" classifications. It would be helpful to re-visit how this information is presented."</p> <p>Comment:</p> <p>Exceedance plots are always confusing to anyone who does not use them on a regular basis. Even the ISRP was confused. These plots always are presented with explanatory text in other similar documents, see DWR Oroville Relicensing.</p> <p>Quote:</p> <p>"In many cases the description of the results were very repetitive and did not explain how the results differed from other species."</p>	<p>Note that BDCP is no longer a component of the Preferred Alternative and the project is currently seeking ESA compliance via a Section 7 consultation. The biological assessment for that consultation has been posted to the California WaterFix project website and contains analyses and results presentation reflecting numerous rounds of comments, including those of the ISRP.</p>

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		<p>Comment:</p> <p>Without this, there is no value conveyed to the reader, just useless volumes of text for the reader to wade through in the hopes of finding anything useful.</p> <p>Quote:</p> <p>"To help the reader understand what locations, which species, what life stages are most likely to be impacted by temperature as a result of upstream reservoir operations in response to north Delta diversion requirements, a synthesis section in the main Effect Analysis Chapter 5 should be included. The current summary of upstream temperature (Table 5.3-5, p. 5.3-21) is too general to be useful. It is not a sufficient synthesis of the information contained in Section 5C.5.2. This synthesis should address the summary of the problem presented in Section 5C.4 (5C.4-16 lines 26-32)."</p> <p>Comment:</p> <p>Yes, please revise and recirculate the document.</p>	
1601	610	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The documentation of the DSM2 and particle tracking model (PTM) model in this appendix should be greatly expanded to provide clarity in their approach."</p> <p>Comment:</p> <p>Without disclosing the approach, the public and the agencies which would rely upon this document to support decision making, have no way to assess its accuracy or identify its flaws or limitations. If you cannot assess the limitations of an analysis because the approach has not been disclosed, then those results cannot be used for reliable decision making or as a defensible justification for issuance of permits.</p> <p>Quote:</p> <p>"Appendix 5.C has been a catch-all appendix ever since Phase 1 of this Effects Analysis review. Unlike the Entrainment or Contaminants appendices, this appendix does not have an individual issue that it is trying to address. This appendix is 2,636 pages long and spans a laundry list of topics including flows in river, salmon migration through the Delta, Delta Cross Channel and Georgiana Slough circulation, non-physical barriers, temperature modeling, water clarity, turbidity, invasive species, nutrients, dissolved oxygen, and algae. This appendix should have been divided into multiple appendices in previous iterations of the BDCP document. At this point, the division of the appendix will likely never happen. As a result, this is a very difficult appendix to review."</p> <p>Comment:</p> <p>Yes, it was unusable in its current form and effectively all the material contained in it a waste of time to try to find any meaningful support to the document.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). See also the response to Comment 1601-589.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1601	611	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Water clarity and suspended sediment should have been in an appendix all its own rather than being buried in Part 6 of Appendix 5.C."</p> <p>Comment:</p> <p>Yes, they should, but from the previous ISRP comments regarding the incomplete analysis of sediment and water clarity in the document, you can see why the BDCP did not want to highlight their deficiencies by making these the logical stand alone appendixes that they should have been.</p> <p>Quote:</p> <p>"The inherent challenges in navigating a document of this size could be overcome by placing all of the contaminant effects under the Appendix entitled "Contaminants". This was a recommendation made during the Phase 2 review."</p> <p>Comment:</p> <p>It seems that repeatedly, the BDCP did not incorporate the input and recommendations of the ISRP in their earlier phase report comments. The BDCP had the opportunity to address these deficiencies after they were pointed out and they choose to ignore the input of the best available science advice they were given.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Briefly, though, both ISRP and commenter are here making statements of opinion, requesting that the document be longer and more complex than it already is.</p>
1601	612	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"How the benefits of Yolo Bypass Fisheries Enhancement were modeled is unclear."</p> <p>Comment:</p> <p>That is because there were few benefits and many adverse impacts.</p> <p>Quote:</p> <p>"...the description of the approach that was used to estimate the amount of habitat for each species (pp. 5J.B-1 and 5J.B-2) is poorly worded and needs revising. The description should state that the details of the approaches used to develop the species-specific habitat models are provided in the species accounts in Appendix 2A."</p> <p>(Delta Science Program Independent Review Panel Report BDCP Effects Analysis Review, Phase 3; March 2014)</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statement of opinion is noted. The modeling related to Yolo Bypass was described in detail in Appendix 5.C. Further consideration of effects on terrestrial species has been provided in the Biological Assessment submitted in August 2016, including methods estimating habitat extent (see Appendix 6.B Terrestrial Effects Analysis Methods, and cross-referenced documents cited therein).</p>
1601	613	<p>In summary of this comment, the Independent Scientific Review Panel (ISRP) found the organization and writing to be of poor quality, important explanations and internal reference to supporting materials were missing and that the overall effect of these deficiencies resulted in a difficult to read and comprehend document. Combine these comprehensibility problems with the previous comments regarding the essential omitted information in the document and you have an EIR/EIS that is clearly deficient and fails to</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statement of opinion is noted. However, commenter lacks authority to determine whether the EIR/EIS is compliant with NEPA and</p>

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		appropriately disclose information per NEPA and CEQA requirements.	CEQA requirements.
1601	614	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"There is "an apparent disconnect between the assessments of the levels of scientific uncertainty presented in Chapter 5 versus what is characterized in the technical appendices."</p> <p>Comment:</p> <p>Yes, the main body of the EIR/EIS is often in direct conflict with the analyses and conclusions of the appendix materials that were supposed to be supporting it. This is just one of many examples that must be rectified.</p> <p>Quote:</p> <p>"Some details of the hydrodynamic modeling, especially where 1D and 2D models did not agree or situations where counter-intuitive results were reported, could not be evaluated due to the limited information provided."</p> <p>Comment:</p> <p>It is obvious that there problems and internal conflicts between related analyses, but the BDCP failed to address them and failed to disclose important information which is required for the reader to be able to make their own judgments.</p> <p>Quote:</p> <p>"...there is a disconnect between the summary pages with the conclusions drawn in Chapter 5."</p> <p>Comment:</p> <p>Because they are in direct conflict. Please note that in almost every case that these internal inconsistencies occur, the appendix will have an adverse impact indicated and the main body of the EIR/EIS will have a no effect or beneficial impact indicated. This demonstrates a clear and consistent bias in the EIR/EIS document. This problem is made worse by the lack of presentation of synthesis of impacts in the document and the reliance upon unsupported and unexplained conclusions based on professional judgment. Professional judgment that is not supported by disclosure of how information was interpreted and weighted or with sufficient rationale presented is just an unsupported opinion with no professional credibility.</p> <p>Quote:</p> <p>"In situations in which an array of outcomes may be possible, only the more beneficial outcomes are used in conclusions about the BDCP."</p> <p>Comment:</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter appears to have misunderstood the ISRP report; they commented on Chapter 5 of the BDCP and its supporting appendices, not on the EIR/S. Commenter's statements of opinion are noted. Please also see Master Response 5 related to issues regarding uncertainty and other issues noted for the BDCP.</p>

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		Even the ISRP noted how consistently biased the EIR/EIS document was.	
1601	615	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The Effects Analysis modeling of salmon sensitivity to water temperature during egg incubation in the Sacramento River is not clear, given that the BDCP has no effect on upstream conditions according to some sections of Chapter 5. The Chapter 5 evaluation needs clarification, including a clear description of how the BDCP might affect flow and temperature in this area."</p> <p>Comment:</p> <p>The BDCP statement that there are no upstream affects is false and misleading. That is why the ISRP and the reader in general are confused.</p> <p>Quote:</p> <p>"Recommendation 1: Analysis of biological effects needs more consistency and specificity. In some respects, the current draft of the Effects Analyses lacks even more specificity than before..."</p> <p>Comment:</p> <p>So some information that was presented and disclosed is now being withheld by the BDCP. These missing materials that the ISRP refers to that the public has not had presented to them should be included in the revision of the draft document and it should be recirculated.</p> <p>Quote:</p> <p>"...while the Effects Analysis recognizes that suspended sediment has been declining in the Sacramento River and that the new diversions would remove an additional 8-9%, all analyses used a high and constant amount with no mention of downstream sediment effects on either Suisun or San Francisco Bay."</p> <p>Comment:</p> <p>This ISRP comment hits on several reoccurring themes in the EIR/EIS document. Present correct information in the Affected Environment, then make a conflicting assumption in the analysis and then, when convenient, forget to analyze important aspects of the impacts altogether.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Apart from editorial statements of opinion, commenter's "comments" reiterate the ISRP comments; commenter is referred to Appendix 11F. Please also see responses to previous comments, in particular responses to 555 and 608.</p>
1601	616	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...this level of detail, which sometimes included conflicting information, inhibits rather than elucidates comprehension of the findings."</p> <p>Comment:</p> <p>Combine this with the 40,000+ pages that are poorly organized and internally referenced</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statement of opinion is noted.</p>

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		and you have a wholly unusable document.	
1601	617	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The simple accounting approach does not consider landscape-level effects such as connectivity and patch size nor does it take into account differences in habitat quality."</p> <p>Comment:</p> <p>The BDCP analysis is inconsistent with generally accepted analyses for these resources as the ISRP points out.</p> <p>Quote:</p> <p>"A simple surface area versus water volume calculation would provide a first-order estimate of potential food subsidy to open water habitats of the low salinity zone."</p> <p>Comment:</p> <p>Even the most basic of analyses that are utilized in other similar documents was not conducted. The BDCP is inconsistent with generally accepted analytical methods for these resources.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comment" is inconsistent with the ISRP quote and appears to be a statement of opinion. Commenter's second "comment" is also a statement of opinion, for there is no suggestion by the panel that this the type of analysis is generally accepted. Uncertainty in food subsidy to open water was acknowledged; please also see Master Response 5 related to this uncertainty.</p>
1601	618	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The survival model is largely based on Chinook salmon exceeding 140 mm in fork length; therefore the DPM (Delta Passage Model) does not represent foragers or smaller migrants, which are the target of the habitat restoration activities."</p> <p>Comment:</p> <p>You cannot utilize larger size fish observations of for predicting how smaller size fish will utilize habitat or their rates of survival. This extrapolation by the BDCP is inappropriate and, as the ISRP points out, produce inconsistent results.</p> <p>Quote:</p> <p>"The Effects Analysis states that it was assumed with moderate certainty that flow has high importance to foraging winter Chinook salmon, then notes that the moderate level of uncertainty reflects the relative lack of investigation on the influence of flows on smaller salmonids (Page 5.5.3-24, line 39-41). Moderate uncertainty is quite different from moderate certainty... If there is no information on how flows affect survival of smaller foraging salmonids in the Delta, it is difficult to accept a moderate level of certainty associated with the low negative impact of flows on foraging juveniles salmonids, especially when data suggest flow has a significant effect on larger salmonid (migrant) survival (Fig. 5C.5.3-4). To what extent is foraging habitat and exposure of foragers to predators affected by reduced spring flows?"</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comments" paraphrases the ISRP comment; the analysis was limited by the best available data, which was for larger fish and was employed in a comparative sense (i.e., BDCP vs. baseline), with the BDCP and baseline scenarios using the same relationships. Commenter's second "comment" is a tirade elaborating the ISRP statement that "Moderate uncertainty is quite different from moderate certainty" which is itself a debatable statement of opinion. Commenter's third "comment" is also a statement of opinion.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment:</p> <p>The ISRP makes a good point here, the BDCP has misrepresented the uncertainty and the document is internally in direct conflict. Again, the summary in the main document takes the consistent bias of using the position that is more favorable to the BDCP project. NEPA and CEQA require an unbiased impacts assessment and as this comment points out, it clearly is not unbiased, it is systematically biased. When the BDCP revises the document to address these internal inconsistencies, it should disclose how many of them there were and the direction of the correction (e.g. from positive to neutral, positive to negative, neutral to negative, neutral to positive, and negative to positive. This disclosure would allow the reader and agencies to determine if there was systematic bias in the previous draft that needs to be addressed. I think we all know the answer we will get when the BDCP addresses this request.</p> <p>Quote:</p> <p>"There continue to be discrepancies between conclusions regarding certainty and level of effect between the text and summary tables."</p> <p>Comment:</p> <p>Internal conflicts like this just prove how deficient the document is, as even the EIR/EIS document refutes itself.</p>	
1601	619	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the BDCP is inconsistent in how models and analyses handle uncertainty and model assumptions, making it difficult to complete assessment."</p> <p>Comment:</p> <p>The document is inaccurate and inconsistent and cannot be assessed and therefore it is not usable as a decision making document or as justification for issuance of permits.</p> <p>Quote:</p> <p>"...wetland restoration will require considerable input of sediment in the short-term to meet the outcomes described in the BDCP. Yet Chapter 5 models tidal wetland restoration with a constant concentration of suspended sediment, even though the document discusses the fact that sediment has been declining over the past decades, and further that the operations of the north Delta pumps may remove 8-9% more. In other words, there is considerable inconsistency between a discussion of uncertainty and how uncertainty is incorporated into the conclusions."</p> <p>Comment:</p> <p>It is not just an internal inconsistency in the document, but when conclusions are consistently are more favorable than the analysis, that is bias.</p> <p>Quote:</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). All of commenter's "comments" simply reiterate the ISRP comment and are similarly addressed in Appendix 11F.</p>

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		<p>"No formal comparison of output from the OBAN and IOS models was provided, either on an absolute scale or relative scale. It should be acknowledged that adult escapement differs between models by a factor of 5."</p> <p>Comment:</p> <p>A 500% inconsistency in results is unexplained.</p> <p>Quote:</p> <p>"In neither case was an explanation for the discrepancy provided."</p> <p>Comment:</p> <p>Please provide the requested explanations.</p> <p>Quote:</p> <p>"Variance calculations need to be corrected. There appear to be analytical errors in expressing uncertainty."</p> <p>Comment:</p> <p>Please correct the identified errors.</p> <p>Quote:</p> <p>"This evaluation needs clarification and should be consistent with the Appendix."</p> <p>Comment:</p> <p>The analyses in the appendix are consistently more critical of the impacts of the project on the resources than the conclusions presented in the main document.</p> <p>Quote:</p> <p>"Recommendation: Clarify confusing and conflicting text related to salmon models. Explanation for the large discrepancies in predictions in adult returns"</p> <p>Comment:</p> <p>If there are unexplained large inconsistencies in results, neither set of results should be relied upon for conclusions or decision making until they are explained and reconciled.</p>	
1601	620	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The text states, "Several models show no change in upstream condition as a result of BDCP". In the same paragraph, it states that SacEFT predicts a 12% reduction in egg incubation "condition" based on water temperature effects on egg survival. In contrast, the Reclamation Egg Mortality model predicts no effect due to the BDCP except in below normal water years (12% reduction in survival). SALMOD predicts negligible impacts of the BDCP on</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>In commenter's "comment," commenter fails to understand that the question of whether a model is simulating results or "no action" is completely irrelevant to the question of whether model bias exists, and that model bias does not "cancel out" in different model runs; see Appendix 11F for further detail. Commenter's speculations (in the absence of any numerical support or references) on the topic of juvenile</p>

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		<p>eggs, fry and smolt. The text concludes that the adverse impacts are related to high sensitivity of some models to small changes in upstream conditions. The text is not clear when describing how the models might predict these changes during egg incubation, if the BDCP has no effect on upstream conditions as reported in portions of Chapter 5. In spite of these conflicting results, Figure 5.5.4-1 shows that there would be zero effect on eggs in the Sacramento River with moderate to high certainty in this conclusion. This evaluation needs clarification."</p> <p>Comment:</p> <p>First, the model results of the proposed project are compared to the no action, so the statement that the results of the models are biased because they are overly sensitive is nonsense and purposely misleading to the less well informed reader. The no action model run has the same sensitivities, so they cancel out in the comparison. Second, the egg incubation life stage is the most vulnerable life stage of the species as it is immobile and cannot seek thermal refuge in other locations. Third, the egg incubation life stage is the most important to the productivity of the species because it is first and survival rates of this life stage ripple through the survival rates of all of the subsequent life stages. As an example, if there is less juvenile emigration from reduced populations from adverse water temperatures from the BDCP operations then there will be even less juvenile emigration survival. Predators get too full to eat and some juveniles survive because the predators were too full to consume more. If there are 12% less juvenile emigrants then there will be more than a 12% reduction in the overall juvenile migration survival as compared to the no action condition. The same thing happens again in the ocean cycle survival and adult immigration (increased fishing pressure per returning fish). You can see from this explanation that a 12% reduction in egg incubation survival results in a greater than 12% reduction in adult escapement (return to spawn). There is no denying that this is a significant impact and that this magnitude of reduction in production could lead to jeopardy of extinction for this endangered species. To be protective of the species, the BDCP should take the most conservative approach to interpreting analytical results, not being dismissive of results just because they do not like them. This explanation of the implications of an increase in egg mortality and how it relates to the species productivity overall is more detailed and coherent than any material presented in the EIR/EIS. This significant impact to the salmonids from the degradation in upstream conditions in favor of Delta conditions and species is precisely the kind of trade-off in condition and species benefit that the U.S. Fish and Wildlife Service (FWS) said in its early letters to the BDCP that it could not tolerate or support.</p>	<p>survival are self-evident nonsense; commenter states that as fish numbers decline predation rates increase, which if true would be a positive feedback mechanism that would shortly lead to the extirpation of any fish species. Commenter then leaps from discussion of juvenile fish to discussion of eggs, evidently assuming that the same processes act equally on these two distinct life stages, a proposition neither supported nor true. Regarding upstream effects, please also see response to comment 608.</p>
1601	621	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The text concludes with moderate certainty that there would be a low negative effect in the Feather River (the text should clearly identify that it is the rearing stage in the high flow channel that is affected). However, Figure 5.5.6-1 shows zero effect on rearing steelhead and low positive effect on migration. The results in this figure are not consistent with the text."</p> <p>Comment:</p> <p>Yes, again there are systematic positive bias in the conclusions in the face of negative</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comment" is illogical. The ISRP report states that the BDCP analysis found a negative effect but that Figure 5.5.6-1 does not show it. Commenter states the opposite.</p> <p>Commenter's second "comment" reiterates the ISRP comment; see Appendix 11F.</p> <p>Commenter's third "comment" is a statement of opinion, acknowledged as such.</p>

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		<p>assessments in the analysis.</p> <p>Quote:</p> <p>"Recommendations: Correct inconsistency in conclusions in Chapter 5 and the Appendix regarding impingement."</p> <p>Comment:</p> <p>Yes, please do.</p> <p>Quote:</p> <p>"...information presented in Chapter 5 on injuries related to the north Delta intakes was inconsistent with information presented in the supporting Appendix. This inconsistency needs to be corrected."</p> <p>Comment:</p> <p>Again, positive bias in conclusions compared to negative information presented in the analysis.</p> <p>Quote:</p> <p>"This standardization has utility for the purpose of calculating entrainment per volume of exported water, but it provides only a partial view of the pumping effect on fish populations. The percent of the populations entrained is more important. This value has more relevance to Effects Analysis on the population. It also appears the variance calculations for salvage abundance and entrainment index are being calculated incorrectly."</p> <p>Comment:</p> <p>The analysis should not be relied upon until the corrections are made.</p> <p>Quote:</p> <p>"Recommendations: Calculation of salvage density and entrainment need to be revisited and the variance calculations corrected. Current variance calculations for salvage density are underestimating actual variance and uncertainty."</p> <p>Comment:</p> <p>Again, errors and underestimation of impacts.</p> <p>Quote:</p> <p>"The report variance is too small. The variance of the total salvage estimate also appears to be wrong (pages 5.B-65 and 66)."</p> <p>Comment:</p> <p>Too small and in error -- are you seeing a consistent pattern of positive bias in favor of the project? We are.</p>	<p>Commenter's fourth "comment" is a statement of opinion, acknowledged as such.</p> <p>Commenter's fifth "comment" is a statement of opinion, acknowledged as such.</p> <p>Commenter's sixth "comment" is a statement of opinion, acknowledged as such.</p> <p>Commenter's seventh "comment" asserts that confidence intervals were not 95% confidence levels. Commenter is referred to Appendix 11F.</p> <p>Commenter's eighth "comment" is an editorial change to the ISRP comment, and is acknowledged as such.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Quote:</p> <p>"The report then states that the confidence intervals were then computed using the 95% confidence levels of the estimates of the regression. This calculation, as described, is wrong."</p> <p>Comment:</p> <p>Not only wrong, but the confidence level used was not nearly as high as claimed in the analysis. Again, more bias in favor of the project.</p> <p>Quote:</p> <p>"...the BDCP contains a number of assumptions, some of which are inappropriate, others of which contain considerable uncertainty. Uncertainties are mentioned, but no effort was made to include whether conservation efforts reach only a portion of the goals of biological objectives. Thus the <u>analysis of effects further assumes only the most beneficial potential results in any calculations</u>, but doesn't incorporate other possibilities."</p> <p>Comment:</p> <p>Our comment is in the underlining and bolding of the quote from the ISRP comment. The ISRP's criticism and condemnation of the bias in favor of the project inherent throughout this document is very global and so is ours.</p>	
1601	622	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The BDCP assumes a constant sediment concentration for the time period of the plan (Appendix 5.E, pp. 43-44: turbidity held constant in models and interpretations), yet they indicate that sediment concentration has been declining over the past 50 years (p.109) and that the BDCP conservation measures will further reduce the sediment supply by an additional 8-9%. While in their discussion of sediment supply, they also conclude that declining sediment concentration and the impact of CM1 will mean much lower sediment supply, these issues have no impact on the BDCP analysis and inference. Yet the loss of sediment supply creates great uncertainties in the rate and potential for restoration of these habitats, while only the most optimal circumstances are modeled or estimated."</p> <p>Comment:</p> <p>The BDCP document background on the historical trend in declining sediment load is ignored in the analysis. Then the BDCP impact on sediment load from the north Delta intakes is ignored. Then the whole topic of the importance of sediment load and turbidity is ignored. The analysis needs to include some interpretation of future declining sediment load in the no action condition and then incorporate that assumption and impacts of the north Delta diversions into the impact assessment. The function of sediment and turbidity changes on resources then need to be assessed for impact calls. Until this is completed, the EIR/EIS will remain internally inconsistent, inaccurate, incomplete and deficient.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comment" is almost wholly inaccurate. All of the issues that commenter describes as "ignored" were addressed in the draft BDCP; see Appendix 11F for further detail. Note that these sedimentation issues have since received much further discussion and analysis, as reflected in the Biological Assessment submitted in August 2016. Commenter's reference to the EIR/EIS appears irrelevant to the rest of the comment and is acknowledged as a statement of opinion.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1601	623	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"In contrast to their assumption, they cite literature that models the impact of introduced clams and their rate of filtering of phytoplankton and other aquatic organisms."</p> <p>Comment:</p> <p>The inconsistencies between the assumptions used in their analysis vs. the best available supporting science literature referenced need to be reconciled and the analysis redone consistent with this best available information.</p> <p>Quote:</p> <p>"Ammonia (NH3) / ammonium (NH4) effects, as written in Appendix 5.D, appear to consider indirect effects of ammonia/ium which is inconsistent with the authors' intent for Appendix 5.D."</p> <p>Comment:</p> <p>Correct the inconsistency identified by the ISRP please.</p> <p>Quote:</p> <p>"Figure 5.F.5-3 projects it would take approximately 10 years to eradicate Egeria under a high treatment scenario and a 20% annual expansion rate. Some of this benefit may be offset by the fact that habitat restoration under the Plan would also create susceptible Egeria habitat."</p> <p>Comment:</p> <p>Yes, this is a major inconsistency in their analysis and conclusions. The BDCP aquatic restorations substantially expand the potential area for Egeria so the BDCP claim that Egeria could be potentially eradicated under the program described and in the timeframe indicated is fundamentally and obviously wrong.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comment" has no apparent relevance to the ISRP comment and is acknowledged as a statement of opinion.</p> <p>Commenter's second "comment" reiterates the ISRP comment. Commenter is referred to Appendix 11F.</p> <p>Commenter's third comment states that there is a "major inconsistency" but there is no inconsistency in the ISRP comment referred to. Commenter is referred to BDCP Section 3.4.13 for a discussion of the aquatic weed control program and to BDCP Section 3.4.4 for a discussion of the tidal wetland restoration program. Reserve design would be performed in a manner that would minimize the risk of aquatic weed infestation of reserves; moreover control of such weeds is a performance measure for restoration sites. Thus the assertion that "BDCP aquatic restorations substantially expand the potential area for Egeria" is fundamentally and obviously wrong.</p>
1601	624	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Under the fixed predation loss method, it is unclear how proportions of 11.7%, 12.1%, and 12.8% for various fish stocks are estimated (p. 5.F-77) when a simple model based on independent intake events estimates <math>(1 - (1 - 0.05)^3) \times 100\% = 14.26\%</math>."</p> <p>Comment:</p> <p>The ISRP demonstrates that the BDCP's analysis is refuted using even the most basic of mathematical checks.</p> <p>Quote:</p> <p>"Check survival estimates. The 94-98% or 96-98% survival values (inconsistent text, p. 5.6-42</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comment" is a statement of opinion; the ISRP clearly missed the description in Appendix 5.F, which notes that fish entering the Yolo Bypass and therefore avoiding the NDD were accounted for.</p> <p>In commenter's second comment, commenter is correct that BDCP meant oceanic mortality rates but incorrectly stated them as survival rates (see Appendix 11F). Commenter is erroneous in thinking that an ocean survival rate of 4% to 29% is worse than a rate of 2% to 6%. Higher survival rates are preferable to lower ones.</p> <p>For commenter's third comment, see Appendix 11F, but briefly, 5% north Delta intake mortality is a performance standard and thus is foreseeably not to be exceeded. Reduced through-Delta mortality is part of the BDCP's proposed biological objectives for salmonids (see BDCP Sections 3.3.7.3 through 3.3.7.6) and is</p>

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		<p>and Table 5.G-3) between ocean entry and age 2 seem very high. Rechisky et al. (2009), for instance, found early ocean survival of yearling Chinook salmon smolts from the Columbia River to be as low as 0.28 within the first month. Rechisky et al. (2012) reported early ocean survival of yearling Chinook salmon smolts to range from 0.04 - 0.29."</p> <p>Comment:</p> <p>Yes, this BDCP claim of ocean cycle survival rates of 94-98% is laughably inaccurate. What the BDCP meant was the compliment (94-98% mortality), e.g. 2 to 6% survival and even this is grossly overstated as compared to any available literature on this topic as the ISRP references point out.</p> <p>Quote:</p> <p>"...the discrepancy between the effects of the 5% north Delta intake mortality and the 5% through-Delta mortality needs to be reconciled. It is unclear why these sensitivity results noted in the Conclusion (5.G.4) were not reconciled."</p> <p>Comment:</p> <p>Yes, please reconcile these.</p> <p>Quote:</p> <p>"The appendix does not include a formal comparison of model output for OBAN and IOS, either on an absolute scale or relative scale. It should be acknowledged that adult escapement differs between models by a weighting factor of 5."</p> <p>Comment:</p> <p>A 500% discrepancy in results remains unexplained in the EIR/EIS. Discrepancies that are explained can lead to insights and understanding. Unexplained discrepancies in results leave both results without credibility or utility and should not be relied upon. In summary of the ISRP's comments on the inaccuracies and errors in the BDCP EIR/EIS fisheries section, it is clear from the nature and volume of their comments that there are extensive and sometimes egregious errors and inconsistencies which must be rectified before the document could be considered correct and not materially deficient. After the BDCP has rectified these errors and inconsistencies, the document should be recirculated for public comment.</p>	<p>not achievable solely through BDCP, but requires a wide range of habitat improvements in the Delta.</p> <p>Commenter's fourth comment reiterates the ISRP comment (see Appendix 11F) and then makes several statements of opinion, here acknowledged. The BDCP is no longer a component of the Preferred Alternative, the draft BDCP was not revised, and it will not be recirculated.</p>
1601	625	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Recommendation 2: Net Effects Analysis needs greater objectivity. Regardless of the degree of uncertainty and the number of linkages without analyses, the conclusion is often overstated as the most beneficial result."</p> <p>Comment:</p> <p>Given CEQA and NEPA requirements for objectivity, this is a very damning statement from the ISRP. Given the ISRP assessment of "often overstated most beneficial results" the</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A). Commenter's statement of opinion is acknowledged.</p>

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		<p>EIR/EIS document that is supposed to be objective and neutral to the project is instead consistently biased in favor of the project and the document therefore corrupt. The entire document must be gone through thoroughly to remove these biases and only then can the true impacts of the project be assessed and the document be suitable to inform decision makers at the agencies.</p>	
1601	626	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The net effects analysis tends to overreach conclusions of positive benefits for covered fish species"</p> <p>Comment:</p> <p>This is an ISRP global condemnation of the bias in the analytical conclusions and must be rectified in the document.</p> <p>Quote:</p> <p>"...the level of uncertainty is often downplayed."</p> <p>Comment:</p> <p>Disclosure of uncertainty is a requirement of NEPA and CEQA and the issuance of permits requires a reasonable degree of certainty of achieving species conservation. From the ISRP's comment, it is clear the EIR/EIS fails both of those requirements with its current treatment of uncertainties.</p> <p>Quote:</p> <p>"...conclusions regarding covered fish often overstated potential beneficial effects while not adequately addressing the lower-end effects."</p> <p>Comment:</p> <p>Again, the systematic bias in favor of the project is identified by the ISRP comment. Bias in favor of a project in an EIR/EIS analysis and document is in direct contradictions to the requirements and spirit of NEPA and CEQA.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first comment, equating "overreach conclusion" with "global condemnation" is acknowledged as a statement of opinion.</p> <p>Commenter's second comment, about uncertainty, reiterates the ISRP comment. Evaluation of uncertainty is a prominent theme in the response to comments presented in Appendix 11F. Commenter's reference to the EIR/EIS has no apparent relevance to this comment and is acknowledged as a statement of opinion.</p> <p>Commenter's third comment reiterates the ISRP comment; commenter is referred to Appendix 11F. Commenter's reference to the EIR/EIS has no apparent relevance to this comment and is acknowledged as a statement of opinion</p>
1601	627	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The lack of accessibility to information within the chapter or clear reference to supporting detail inhibits rather than elucidates comprehension of the findings and thus conveys an unsatisfying "trust us" message."</p> <p>Comment:</p> <p>The reader should never be forced just to take the word of the document authors without supporting evidence and rationale. The adversarial nature of the public portions of the EIR/EIS process should make it clear to the BDCP that the public does not trust the project</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comment" raises no issues except those included in the ISRP comment, and is a statement of opinion; commenter is referred to Appendix 11F.</p>

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		<p>proponents or their consultant team and given the consistent biases identified in the document by the ISRP, the BDCP has not earned nor do they deserve that trust or benefit of a doubt from the reader.</p>	
1601	628	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the Effects Analysis contains a number of assumptions, some of which are inappropriate (such as the magnitude and location of invasive clam depression of phytoplankton production), and others highly uncertain."</p> <p>Comment:</p> <p>Unsupported and unreasonable assumptions should be removed from the document as all impact assessments and impact calls that rely upon these are fundamentally flawed and should not be relied upon to support decision making or for justification for issuance of permits.</p> <p>Quote:</p> <p>"...the analysis of effects further assumes only the most beneficial potential results, but doesn't incorporate other possibilities."</p> <p>Comment:</p> <p>The ISRP makes similar statements many times in their report, so they must have felt very strongly regarding these blatant and systematic biases in favor [sic] of the project throughout the document.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's "comments" are both statements of opinion that raise no issues except those included in the ISRP comment; commenter is referred to Appendix 11F. As described in Master Response 5, it is acknowledged that there is appreciable uncertainty in the assessment of some potential BDCP outcomes.</p>
1601	629	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"A systematic approach to synopsise the overall net effect on each species was not used even though a ranking approach that could have been used in a systematic roll-up was described. Instead, professional judgment was used to assess the overall net effect."</p> <p>Comment:</p> <p>A weighted synthesis of each impact should be summarized for each species life stage. Then the relative importance of the impacts to each life stage should be put into context and from there the author summarizes their rationale for how they came to their conclusions. If these elements, which are standard practice in other similar documents (as an example see DWR Oroville Relicensing studies and EIR as well as the Lower Yuba River Accord EIR/EIS), are not included, then what is presented is not best professional judgment, but merely an unsupported statement of opinion. The document should be revised to provide this integrated explanation of the impact synthesis and rationale for the impact calls that are based on professional judgment. Otherwise the document has failed to disclose, is unsupported and subject to bias as the ISRP indicates.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter is referred to Appendix 11F for an explanation of why this "roll-up" technique was used. Note too that BDCP is no longer included in the Preferred Alternative and under the preferred alternative ESA compliance is achieved through the provisions of ESA section 7. Please see response to comment 580 regarding review by an independent scientific review panel working under the direction of the Delta Science Program for the Biological Assessment submitted in August 2016, the Incidental Take Permit Application submitted in October 2016, and the draft Biological Opinion that will be issued.</p>

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1601	630	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The estimates of habitat restoration assume that restoration targets for the different habitats will be achieved with certainty, an assumption that unlikely to be met."</p> <p>Comment:</p> <p>It is unrealistic to assume all restorations will all turn out exactly as planned to function - all habitat restoration implementation monitoring results will indicate that this never occurs. Habitat has different levels of functionality for each species and life stage use, so the BDCP document is tremendously overstating their case by crediting 100% of all restored acres with 100% functionality for every species benefit identified. The current accounting is either incredibly naive and ignorant or purposely misleading and biased.</p> <p>Quote:</p> <p>"It also appears at times that conclusions are based on a select subset of the facts..."</p> <p>Comment:</p> <p>Yes, a select subset of facts and limitations on interpretation as well as undisclosed decision factors makes for quite a biased document.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first "comment" reiterates the ISRP comment. Commenter is referred to Appendix 11F. Commenter's second comment is acknowledged as a statement of opinion.</p>
1601	631	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The overall net effects conclusion for each species seemed to be based on the judgment of the authors, rather than a systematic ranking of attribute importance..."</p> <p>Comment:</p> <p>Yes, the current document does not conform to standard industry practices conducted in similar documents.</p> <p>Quote:</p> <p>"A systematic approach for synthesizing the net effect on each Covered Species was not used even though a ranking system was described that could have been used as a semi-quantitative scoring approach. Instead, professional judgment was used to assess the overall net effect."</p> <p>Comment:</p> <p>Worse, the so-called professional judgment was not supported by any rationale. The reader is just expected to take the unsupported opinion of the author.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's first comment refers to a "standard industry practice." The BDCP authors found no evidence of such a standard, nor did the ISRP. Commenter does not provide the source of this "standard industry practice." Absent such information, commenter's statement of opinion is noted.</p> <p>Commenter's second "comment" is also a statement of opinion, acknowledged as such.</p>
1601	632	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews</p>

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		<p>"It is imperative that model-based assessments clearly state when such extrapolation is occurring and the potential direction of bias that might likely arise."</p> <p>Comment:</p> <p>If models are used for conditions that are outside the range of data that were used calibrate them, the models are not reliable, are unverifiable and therefore should not be utilized at all. The BDCP analysis not only used models under conditions that exceeded the range of conditions under which they were calibrated, but as the ISRP comment notes, the risks, inaccuracies and potential biases of doing this were undisclosed.</p>	<p>following modification of the proposed project to Alternative 4A).</p> <p>In their "comment," commenter asserts that, in situations calling for extrapolation, models should not be used at all. This statement of opinion is noted. However, the BDCP analysis was required to use best available scientific and commercial data, and use of extrapolating models is common in both science and commerce; a familiar example is the use of climate change models, which extrapolate future conditions unlike those seen on the planet today.</p>
1601	633	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"... it is also unclear whether the Net Effects conclusions are correctly taking critical life stages into account when deriving overall Net Effects conclusions."</p> <p>Comment:</p> <p>This could only happen when the critical impacts synthesis section and rationale are missing from the document. Without this section all impact calls are unsupported and unlinked to the preceding analyses.</p> <p>Quote:</p> <p>"The Effects Analysis does not adequately defend conclusions regarding the net effects of the BDCP..."</p> <p>Comment:</p> <p>That is because the impact synthesis section is missing and therefore, as the ISRP comment identifies, the BDCP impact calls are unsupported by facts or rationale.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Regarding commenter's first and second "comments," commenter is referred to BDCP Chapter 5 for summary statements of impacts. The ISRP review focused on covered fish species; the synthesis of effects for these species appears in the final subsection, "Net Effects," for each section from Section 5.5.1 to Section 5.5.9.</p>
1601	634	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The conclusion statements from Chapter 5 (and/or the Executive Summary) tend to overstate the beneficial effects of BDCP for many different fish populations (e.g., salmonids, delta smelt, green and white sturgeon). The net effects analysis tends to over-reach conclusions of positive benefits for covered fish species, given the inability to quantify the overall net effect and the realization of high uncertainty."</p> <p>Comment:</p> <p>These overstatements of benefits must be corrected. When they are, it will become even more clear that the No action condition is more beneficial for the covered species than the proposed project.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's statements of opinion are acknowledged. Please also see Master Response 5 with respect to acknowledgement of uncertainty and the importance of adaptive management in the BDCP.</p>
1601	635	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews</p>

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		<p>Quote:</p> <p>"For hydrodynamic modeling, only one set of ROAs (Restoration Opportunity Areas) were modeled. Because the locations of these assumed ROAs are not being presented to the public, there are details of the hydrodynamic modeling that cannot be factored into the Panel's evaluation of the Effects Analysis."</p> <p>Comment:</p> <p>We have many comments related to the deficiency of the document for not disclosing the location, characteristics and implementation timing and sequence. As the ISRP points out in its comment, without this information it is impossible to assess the impacts of the proposed operations of the BDCP.</p>	<p>following modification of the proposed project to Alternative 4A).</p> <p>Commenter's statements of opinion are acknowledged. It is also noted that commenter grossly misrepresents the ISRP comment. Please also see response to comment 577 regarding the limited extent of habitat restoration under the preferred alternative (Alternative 4A, California WaterFix) and the significance for hydrodynamic modeling.</p>
1601	636	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Examine and re-write conclusion statements about population net effects in both Chapter 5 and the Executive Summary to objectively express the range in anticipated population effects."</p> <p>Comment:</p> <p>Yes, this is standard practice in this type of document. See the previous comment regarding population level affects from the 12% decrease in salmonid egg incubation survival.</p> <p>Quote:</p> <p>"This figure would also enhance transparency in the final professional judgment of net effects."</p> <p>Comment:</p> <p>This entire document lacks transparency.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Regarding commenter's first "comment," see response to Comment 1601-620.</p> <p>Commenter's second "comment" is a statement of opinion, acknowledged as such.</p>
1601	637	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The Effects Analysis does not adequately defend conclusions regarding the net effects of the BDCP..."</p> <p>Comment:</p> <p>Unsupported conclusions should not be relied upon.</p> <p>Quote:</p> <p>"Conclusions Often Overstate Beneficial Effects. The Panel believes that the net effects analysis tends to over-reach conclusions of positive benefits for covered fish species, given the uncertainty and inability to quantify the overall net effect."</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's three "comments" are statements of opinion that raise no issues except those included in the ISRP comment; commenter is referred to Appendix 11F. Please also see Master Response 5, which acknowledges uncertainty in the potential effects of the BDCP.</p>

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		<p>Comment:</p> <p>Wow, the ISRP says this a number of times, they must feel very strongly about this systematic bias in the document.</p> <p>Quote:</p> <p>"Statements about increased resiliency and abundance are inappropriate given the high uncertainty expressed in the initial sentence. The statements tend to focus on the upper end of beneficial effects rather than a balanced analysis that might capture the range in net effects."</p> <p>Comment:</p> <p>Yes, this is a systematic bias in the entire document, not just the fisheries section that the ISRP reviewed.</p>	
1601	638	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The BDCP should help conserve the species in the Plan Area and help it cope with expected climate change...."</p> <p>Comment:</p> <p>The term "conserve" implies a large beneficial population effect for salmon that may help the population recover from ESA listing. Maybe the BDCP will lead to a positive effect, but the magnitude of the effect is uncertain, as stated above, so it seems inappropriate to imply the BDCP would eliminate attributes in the Delta that cause lower population viability. Yes, given the uncertainty of BDCP benefits (most of them overstated as previously identified) and the magnitude of the factors affecting the species populations, this claim by the BDCP is a gross overstatement. As illustration of the BDCP's gross overstatement of benefits, the BDCP's own analysis indicates that the differences in the proposed project vs. the no action condition are vastly overshadowed in magnitude by the changes assumed to occur under climate change conditions. Given these BDCP statements it would be impossible for the BDCP to result in the certainty of conservation of the species in the future with climate change.</p>	<p>Comment quotes from the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3. A full response to the recommendations made in this report appears in Appendix 11F of the Final EIR/EIS (please also see response to comment 554 with respect to subsequent panel reviews following modification of the proposed project to Alternative 4A).</p> <p>Commenter's generalized statements about BDCP effectiveness are acknowledged. Commenter is accurate in stating that BDCP effects, in the context of climate change, are highly uncertain. This is one of the principal reasons why the Preferred Alternative was revised to not include the BDCP, and why the federal lead agencies are no longer reviewing the BDCP as a habitat conservation plan proposal; the 50-year time frame of the BDCP represented an era of great and largely irreducible uncertainty regarding the effects of climate change.</p>
1601	639	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The following conclusion for delta smelt overstates and over-emphasizes the potential for significant beneficial effects (by emphasizing great potential) while also noting the conflicting conclusion of high uncertainty in the net effect: "While there is great potential for large benefits for delta smelt, there is a high level of uncertainty regarding the resulting effects. However, combined with the Fall X2 decision tree, the BDCP will have at least a minor beneficial effect on the species, but a great potential for larger benefits depending on actual food production and location of delta smelt population in relation to restored areas." The high-end benefit is emphasized in the BDCP text. Perhaps there is higher certainty for a positive versus negative net effect but there is high uncertainty for the net effect of actions</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR strived to use the best available science throughout the effects analysis, consistent with the requirements of the ESA. Additionally, the official public review process for the proposed project provides an opportunity for formal public comment on the proposed project and project alternatives. Public and agency comments on the public draft have led to further refinement of the proposed project, as evidenced in the RDEIR/SDEIS.</p> <p>The use of specific scientific data and findings was often vetted with fisheries managers to ensure it was the best available. A variety of data were obtained for the proposed project process: quantitative data from peer-reviewed published literature on topics specific to the Plan Area; peer-reviewed published literature</p>

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		<p>on the delta smelt population, ranging from little to high population effect. This evaluation would benefit by the removal of "great"."</p> <p>Comment:</p> <p>You cannot claim a high certainty of benefit for smelt when there is high uncertainties of all the factors that contribute to the uncertainty. The BDCP should rectify these overstatements by providing a calculation of benefit vs. probability. As an example, if something was determined to potentially be beneficial, but there is only a 15% probably of it occurring, then there is only a 15% probability of benefit. This would allow the uncertainties to be more realistically and unbiased addressed.</p>	<p>outside the Plan Area but on topics relevant to the proposed project; unpublished quantitative data from within the Plan Area and from outside of the Plan Area; qualitative data or personal communication with topical experts; and expert opinion if no other sources were available.</p> <p>A full description of the methodology of the Net Effects analysis, including justification for the qualitative approach, can be found in Chapter 5, Section 5.2.7.10, Approach for Determining Net Effects on Covered Fish Species, and Section 5.5, Effects on Covered Fish. As indicated in Section 5.2.7.10 of the BDCP, "The [BDCP net effects] conclusions represent qualitative judgments of the effects of the BDCP that are grounded in the detailed quantitative and qualitative analyses in the appendices... BDCP net effects conclusions are necessarily qualitative and synthesize results from the more detailed (and often quantitative) analyses found in the appendices to this chapter. While qualitative, the net effects conclusions are derived from a transparent and structured approach. This approach is based on conceptual models that describe the logic and assumptions embedded within the effects analysis.</p> <p>For information on the project's purpose and need, please see Master Response 3 and Chapter 2 of the Final EIR/EIS.</p> <p>Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A is also the NEPA Preferred Alternative, a designation that was not attached to any of the alternatives presented in the 2013 Public Draft EIR/EIS. Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p>
1601	640	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"For green and white sturgeon, the BDCP concluded: "Therefore, the BDCP is expected to conserve both species in the Plan Area through improvements in abundance, productivity, life history diversity, and spatial diversity." The term "conserve" implies a large beneficial population effect that was not supported by the evaluation. The conclusion statement also implies and therefore overstates measureable positive changes to four population viability criteria. These benefits may reflect the goals of the BDCP, but the uncertain magnitude of benefits to sturgeon should not be described as improving abundance, productivity, life history diversity, and spatial diversity."</p> <p>Comment:</p> <p>Once the level of uncertainties are incorporated per our immediately preceding comment, the deminimus benefit to the species from the BDCP will become apparent.</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>This conclusion was based on the full analysis of BDCP effects to the species and there is supporting evidence that these viability parameters will improve and that the species will be conserved. Please see Chapter 5 of the BDCP and associated appendices for this evidence. It is acknowledged that there is uncertainty in the conclusions. Ultimately, it would be up to the fisheries agencies to decide whether the plan meets their requirements for a permit. As noted in the previous comment, the new proposed project (Alternative 4A) does not include an HCP or NCCP. Alternative 4A would instead achieve incidental take compliance through the ESA Section 7 and CESA 2081(b) permitting processes.</p> <p>For information on permitting please see Master Response 45. For information on compliance with the Endangered Species Act, please see Master Response 29. Please see response to comment 1601-639.</p>
1601	641	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"For salmonid species, weighting is discussed for migrant vs. foraging forms, but this too is</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>Please see response to comment 1601-639. For information on transparency please see Master Response</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>seemingly ignored (or at least not mentioned) in the Net Effect conclusions."</p> <p>Comment:</p> <p>Yes, weighting is a common practice in these types of document. This kind of rigorous approach avoids a non-transparent process and the bias that is inherent to the current BDCP draft EIR/EIS document.</p> <p>Quote:</p> <p>"In its current form, at the level of detail conveyed, in the models used, and in the verbal assessments and conclusions, the level of uncertainty is downplayed."</p> <p>Comment:</p> <p>Consistently downplaying the negatives of a project is a bias in favor of the project which is contrary to the requirements and intent of NEPA and CEQA.</p>	<p>41. For a discussion on alternatives development, please see Master Response 4.</p>
1601	642	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Disconnect between uncertainty and BDCP conclusions: Frequently, explicit modeling is reduced to small portions of conceptual models. When a range of potential outcomes may result from uncertainties in multiple conditions, [insert underline]only the most beneficial outcome is considered when coming up with a conclusion or summary[insert underline]."</p> <p>Comment:</p> <p>Our comment is in our underlining of the ISRP's comment.</p> <p>Quote:</p> <p>"Nonetheless, these uncertainties are simply ignored when it comes to conclusions, where it is determined that only the beneficial results of control invasive aquatic vegetation will result..."</p> <p>Comment:</p> <p>Again, negatives are ignored and only positives are considered.</p> <p>Quote:</p> <p>"In addition, the validity of the primary assumption that there will be no entrainment of fish at the north Delta diversion should be evaluated. In reality, there will be some fish lost at the transfer point..."</p> <p>Comment:</p> <p>Entrainment happens on criteria fish screens for species life stages that are free floating and smaller than the screen size. These entrainment losses are just accepted by the fisheries agencies, but it does not mean that these losses do not occur. An example of this entrainment would be for striped bass egg stage which is free floating and occurs in the</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>Regarding a range of potential outcomes, these were based on consideration of various factors and, as stated in section 5.5 of Chapter 5 of the draft BDCP document, included input from agency biologists at workshops in August 2013. Uncertainties were articulated through qualitative scoring, as described in Chapter 5 of the draft BDCP document. As previously noted, although the new proposed project (Alternative 4A) does not include an HCP or NCCP and would instead achieve incidental take compliance through the ESA Section 7 and CESA 2081(b) permitting processes, the comment regarding uncertainty is acknowledged and would be addressed through monitoring and adaptive management, as described in Chapter 3 of the recently submitted Biological Assessment for the preferred alternative (Alternative 4A, California WaterFix). For more information on adaptive management and monitoring, please see Master Response 33. For information on operational criteria, please see Master Response 28.</p> <p>With respect to entrainment losses at the north Delta diversion, the public draft BDCP was focused on covered fishes and did include assessment of entrainment of smaller life stages (see section 5.5 of Chapter 5 and Appendix 5.B of the Draft BDCP; entrainment of striped bass eggs and larvae is assessed in the EIR/S (see Impact AQUA-201 in Chapter 11).</p> <p>Regarding the panel's lack of clarity about how the information presented in Figure 5.5.4-1 was derived for Feather River flows, that information was provided in the draft BDCP, Section 5.5.4.1.6, Upstream Habitat Effects. Note that analysis of Feather River flows is provided in the EIR/S for all alternatives.</p> <p>Please see response to comment 1601-639.</p> <p>For information on modeling for the proposed project, please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>

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		<p>same geographic area as the north Delta intakes. There is not mention of this from the BDCP.</p> <p>Quote:</p> <p>"It is not clear how the low positive effect with moderate certainty (Figure 5.5.4-1) was derived, given that there was no presentation on flow/habitat relationships, which were discussed as being key to the analysis."</p> <p>Comment:</p> <p>Here is an example of a positive impact assessment determination by the BDCP without any supporting analysis -- this is a clear overstatement if not outright fabrication without the supporting documentation.</p>	
1601	643	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Chapter 5 concluded that there is a low negative impact related to contact and impingement of salmonids with the north Delta diversion screens, but the technical appendix states that this effect could not be evaluated."</p> <p>Comment:</p> <p>Both of the BDCP statements are incorrect and the low negative impact call is overly optimistic and unsupported. The screen impingement impacts could have been evaluated if the BDCP had produced a project-level detail project description which should have included detailed screen designs, bathymetry at the intake locations, intake operation models and 2D or 3D modeling of approach velocities during screen operations under a range of conditions. Given the extreme length of the fish screens (reportedly up to a half mile), low to no or even reverse flow velocities in this tributary reach which would result in long duration of fish exposure to screen (as much as several hours during slack tide and slow flow velocities), repeated exposures of fish at the same screen from tidal sloshing, exposure to subsequent downstream screens with inadequate resting time between them for the fish to recover swimming performance and the fact that approach velocities are based on fish swimming performance criteria which assume a short duration of exposure from a well rested fish, it is much more logical and supported to assume that fish impingement will be much more severe than a "low negative" affect. Given the factors related to impingement identified in the previous sentence it is much more logical to conclude that impingement would be significantly adverse and result in substantial take. The argument and conclusion presented here is more comprehensive, logical and rationally supported than the BDCP analysis on this topic.</p>	<p>It is acknowledged that there is uncertainty with respect to the potential effects of the north Delta diversion screens. The Biological Assessment for the California WaterFix (Alternative 4A) submitted in August 2016 describes the pre- and postconstruction studies that would inform refined intake designs (including issues related to screen passage) and would assess effectiveness (see Tables 3.4-17 and 3.4-18 in Chapter 3 of the Biological Assessment). The importance of loss associated with the north Delta intakes is recognized in the preferred alternative (Alternative 4A, California WaterFix) and, similar to the HCP alternatives which have stressor reduction targets, there is a performance standard of survival to be <math>\geq 95\%</math> of baseline survival in the reach where the north Delta intakes are proposed to be situated. Monitoring of this standard would occur, with adaptive management as necessary should monitoring indicate that the standard is not being met.</p> <p>For more information on adaptive management and monitoring, please see Master Response 33.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	644	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Current variance calculations for salvage density are underestimating actual variance and uncertainty."</p>	<p>Regarding the salvage-density method, the original concern with this analysis (as posed in the question for the panel to address) was related to whether the normalization method that was applied was appropriate. Based on the panel comments, the normalization method was deemed appropriate, but the method used to estimate variance was not. Given that differences in mean estimates of entrainment index are the main response used to judge differences between scenarios, changes in the variance calculation will not affect the conclusions of the analysis, particularly given that the analysis is mostly a species-specific weighting of changes in exports. The normalization to population size does not actually affect the relative difference</p>

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		<p>Comment:</p> <p>This must be corrected in the revised document.</p> <p>Quote:</p> <p>"The normalization process has dampened the variability among annual values such that any subsequent variance calculations will underestimate the actual magnitude of the uncertainty..."</p> <p>Comment:</p> <p>Yes, once the data has been corrupted by inappropriate conditioning, then all subsequent calculation and analyses based on that data are corrupted. The normalization of the data and analyses must be redone in order to have a credible and accurate analysis.</p> <p>Quote:</p> <p>"Uncertainties are mentioned, but no effort was made to include whether conservation efforts reach only a portion of the goals of biological objectives. Thus the analysis of effects further assumes only the most beneficial potential results in any calculations, but doesn't incorporate other possibilities."</p> <p>Comment:</p> <p>NEPA and CEQA require that uncertainties are disclosed. From the ISRP comment makes it clear that the BDCP has failed to do so. The BDCP must remove the bias of always coming to the most beneficial interpretation of information in making their impact calls. Impact calls must consider all information, not just the selected ones that lead to the biased predetermined positive outcome.</p> <p>Quote:</p> <p>"While the overall conceptual model is adequate, integration and synthesis is lacking. Consequently [insert underline]the conclusions and net effects are not appropriate[insert underline] given the gaps in analyses and the uncertainties."</p> <p>Comment:</p> <p>Comment is in the underlining of the ISRP comment.</p>	<p>between scenarios, which is the main focus of the analysis.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>The Biological Assessment for the preferred alternative (Alternative 4A, California WaterFix) included a new method based on the published work by Zeug and Cavallo (2014) which considers variability in salvage for winter-run Chinook salmon. For all species, modeled entrainment has some uncertainty regardless of method because of the ability to manage entrainment by real-time adjustments of operations, which the modeling does not reflect.</p> <p>The Biological Assessment can be found at <a href="http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf">http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf</a>.</p> <p>For information on modeling done for proposed project please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p> <p>Regarding net effects, the qualitative conclusions reflected the analyses presented in the draft BDCP to the extent possible. Further consideration of net effects in terms of the potential for jeopardy to the species of the preferred alternative (Alternative 4A, California WaterFix) will be provided by the federal fish agencies through the ESA section 7 process, and also by the project proponents during the application for the CESA 2081(b) permitting process.</p>
1601	645	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...while potentially negative impacts on the success of restoration are considered in passing, e.g., invasive bivalves, none of their potential effects are incorporated into their analyses or conclusions. The simplest effects perspective of [insert underline]the BDCP is that it edits out all potential outcomes except for the most favorable one[insert underline]."</p> <p>Comment:</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>Please see response to comment 1601-639. Also see Master Response 4 regarding alternatives development. For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Comment is in the underlining of the ISRP comment.</p> <p>Quote:</p> <p>"Yet the loss of sediment supply creates great uncertainties in the rate and potential for restoration of these habitats, while <u>only the most optimal circumstances are modeled or estimated</u>."</p> <p>Comment:</p> <p>Comment is in the underlining of the ISRP comment.</p> <p>Quote:</p> <p>"These models suggest 1) that the depth-productivity model they used is completely inaccurate in the context of invasive clams and 2) remind us that while the potential impact of clams are mentioned as an uncertainty, only the most optimal scenario without clams is used for conclusions about the short and long-term benefits of the BDCP."</p> <p>Comment:</p> <p>If the BDCP had incorporated scenarios that included invasive bivalves (which are reasonable and prudent to include due to the likelihood of this occurring and the magnitude of the impacts from it occurring that must be considered and disclosed), it would have had to conclude that the aquatic habitat restorations proposed by the BDCP would significantly increase the adverse effects to the environment and adverse impacts to the covered species by creating more habitat for the invasive species. The analysis must be revised to include these scenarios in order to be complete and credible.</p>	
1601	646	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...some quantitative detail on one or a few compartments, complete with large tables showing all the numbers produced, lacks significant meaning when other compartments are merely discussed. The overall impression is that these compartments live in conceptual isolation, lacking the integration of multiple and linked processes/interactions together into a synthesis. Consequently <u>the BDCP analyses are ambiguous and conclusions and estimates of net effects overestimate the net positive impacts of conservation measures</u>."</p> <p>Comment:</p> <p>Comment is in the underlining of the ISRP comment.</p> <p>Quote:</p> <p>"Section 5.D.43 (lines 8-10) on the impact of restoration on ammonium suggest that restoration will not have an impact on NH4 concentrations -- This is overly simplistic as tidal wetlands are known to be important in nitrogen biogeochemistry, acting as a source via sediment re-mineralization (Cornwell et al. 2014) or clam excretion (Kleckner 2009) or as a sink via organic matter production or coupled nitrification -- denitrification (Cornwell et al.</p>	<p>Please see response to comment 1601-639.</p> <p>Please see Master Response 5 for information on the characterization of Ammonia. Additional examination of the effects of the alternatives on ammonia are presented in Impact WQ-1 and WQ-2, in Chapter 8 of the EIR/S. For more information on water quality, please also see Master Response 14.</p>

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		<p>2014)."</p> <p>Comment:</p> <p>The BDCP assumptions, analysis and conclusions on the topic of nitrogen cycle impacts from the habitat restorations are incorrect and in direct contradiction to readily available published scientific literature as the ISRP points out.</p>	
1601	647	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Recommendations: Page 5.F-107, last paragraph, first sentence, and Executive Summary: The 1% to 12.8% range in predation effects due to the north Delta diversion is a mixture of population-level and localized effects and should not be treated as measuring the same quantity. That range estimate is deceptive and technically incorrect."</p> <p>Comment:</p> <p>By incorrectly combining incompatible information, the analyses have not been correctly interpreted and therefore the impact conclusion is wrong. The ISRP's word choice of "deceptive" indicates that they believe the information was purposely misrepresented to achieve a favorable outcome for the BDCP.</p>	Please see responses to comments 1601-639 and 1601- 648.
1601	648	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"For the north Delta diversion facilities, two approaches were used to estimate predation-related effects: bioenergetics modeling and fixed estimate of 5% predation loss at each of three intakes screens. The Executive Summary states predation losses at north Delta intakes should be from less than 1% to 12.8%. However, this range is contradicted by the simple fixed estimate model: Assuming three intakes each with a 5% independent rate of loss, then the overall rate is <math>1 - (1 - 0.05)^3 = 0.1426</math> or 14.26%."</p> <p>Comment:</p> <p>The ISRP comment indicates that the BDCP analysis used an engineering design objective as a predetermined outcome of a rate of predation that is unsupported by the literature cited or the analyses disclosed in the document. The two analytical approach results are in contradiction with each other and the document does not explain these discrepancies. Then the BDCP analysis fails even the most basic of mathematical analysis using their flawed and unsupported assumption of 5% predation losses. If the 5% predation rate is accepted (it should not without supporting literature citations and rationale), the ISRP calculation of 14.26% would be correct. That means that the BDCP conclusion that predation could be as low as 1% is understating the impact by 1300+%. A 14+% loss of juvenile salmonids will equate to a greater than 14% decrease in adult escapement. A 14% reduction in the adult escapement of an endangered species results in jeopardy for the species. The BDCP therefore does not result in conservation of the proposed covered salmonid species, should not be approved and should not be issued incidental take permits (ITPs).</p>	<p>Regarding the loss at the intake screens, the analysis presented based on a 5% fixed loss per screen took into account the fish that entered the Yolo Bypass and therefore would not be exposed to the intakes; see section 5.F.5.3.1 in Appendix 5.F of the public draft BDCP. It is unclear why the commenter suggests a 14% loss will equate to a greater than 14% loss of adult escapement. Other factors such as ocean conditions and changes in south Delta exports, to name but two, would also be of importance; see also response to comment 687. Further examination of potential effects on the full life cycle of salmonids was provided in the form of life cycle models undertaken for the Biological Assessment that was submitted in August 2016. As previously noted, the new proposed project (Alternative 4A) does not include an HCP or NCCP and would instead achieve incidental take compliance through the ESA Section 7 and CESA 2081(b) permitting processes, which require agency approval.</p> <p>The analysis based on bioenergetics modeling was not intended to be misleading and is presented in terms of the incremental effect that the north Delta intakes might have on the overall population of juvenile salmonids entering the Delta (which is consistent with how take is assessed for loss at the south Delta export facilities under the NMFS [2009] SWP/CVP biological opinion, for example).</p> <p>For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		<p>Quote:</p> <p>"...the bioenergetics models to express the effects of predation at the north Delta intakes as a percentage of total juvenile predation can be misleading (p. 5.F-75)."</p> <p>Comment:</p> <p>It is purposely misleading and is a symptomatic of a systematic bias in favor of the project in all impact analyses and impact call conclusions. Even with this consistent bias, the BDCP is not very beneficial to the proposed covered species. If an honest assessment were done with no bias, the EIR/EIS would conclude that there were significant adverse impacts to the covered species as compared to the No Action condition.</p> <p>Quote:</p> <p>"...ratios of model output (i.e., relative differences) will not eliminate biases due to structural defects in the model under alternative scenarios."</p> <p>Comment:</p> <p>Yes, a model with corrupted base assumptions is not useful and only produces misleading results.</p>	
1601	649	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"As discussed in other sections of our review, providing a single value for the number of acres of habitat that will be occupied by each species is scientifically questionable."</p> <p>Comment:</p> <p>Not only is it scientifically questionable, it is wrong. The BDCP assumes that all habitat created will provide 100% function and value to the target species. This accounting is ridiculously and indefensibly optimistic and results in a huge overstatement of species benefit. Habitat value and suitability is not absolute, it is a gradient of some suitability to mostly suitable. No habitat restoration provides 100% suitability and function to any species or life stage over 100% of its area, yet that is exactly the assumption that the BDCP has used in their accounting. A reasoned and supported accounting of partial suitability should be analyzed and presented as the ISRP has repeatedly requested and the magnitude of benefits to the species reassessed based on this corrected analysis. The benefits will be significantly revised down under any realistic assessment.</p> <p>Quote:</p> <p>"...the estimate of the amount of habitat that will be occupied by a species following restoration is questionable."</p> <p>Comment:</p> <p>Same comment as the previous quote.</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>Please also see response to comment 1601-4 regarding habitat restoration and Alternative 4A. Please also see response to comment 1601-639.</p>

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		<p>Quote:</p> <p>"Restoration rarely achieves immediate conservation or biodiversity goals (Hobbs and Cramer 2008, Hobbs et al. 2011)."</p> <p>Comment:</p> <p>We will use segments of the ISRP's comments on the lack of objectivity and bias to summarize this comment.</p>	
1601	650	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quotes:</p> <p>"Net Effects Analysis needs greater objectivity."</p> <p>"Regardless of the degree of uncertainty and the number of linkages without analyses, the conclusion is often overstated as the most beneficial result."</p> <p>"...only the most beneficial outcome is considered when coming up with a conclusion or summary."</p> <p>"...the conclusions and net effects are not appropriate"</p> <p>"...the BDCP is that it edits out all potential outcomes except for the most favorable one."</p> <p>"...only the most optimal circumstances are modeled or estimated."</p> <p>"...the BDCP analyses are ambiguous and conclusions and estimates of net effects overestimate the net positive impacts of conservation measures."</p> <p>Comment:</p> <p>The global condemnation of the ISRP for the lack of objectivity and systematic bias and most positive presentation of only selected facts is stunning in its severity. The BDCP lead agencies should fire the contractors were hired to conduct an impartial and professional review of the environmental impacts of the project that delivered this obviously advocate biased assessment. The lead and responsible agencies that this document is supposed to represent should throw this current document out and start over with a truly, and legally required, unbiased, neutral, independent, third party assessment of impacts. Until this is done, this document will remain a farce and a mockery of what NEPA and CEQA is supposed to achieve.</p>	<p>As noted in previous responses which touch on these issues, a qualitative assessment of uncertainty in the potential outcomes was indicated in the various analyses. Although Alternative 4A does not include an HCP or NCCP and would instead achieve incidental take compliance through the ESA Section 7 and CESA 2081(b) permitting processes, it is recognized that much remains uncertain and therefore would be subjected to monitoring, research, and adaptive management, as discussed most recently in Chapter 3 of the Biological Assessment of California WaterFix (Alternative 4A) that was submitted in August 2016. For more information on adaptive management and monitoring please see Master Response 33. Please also see response to comment 1601-639.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>For information on agency roles and responsibilities, please see Chapter 1 of the Final EIR/EIS.</p>
1601	651	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the Panel felt that there was appropriate characterization of high uncertainty within the technical appendices but Chapter 5 did not sufficiently acknowledge or articulate this reality, especially when using professional judgment to reach overall net effects of the BDCP on key species. In particular, the Panel observed that the critical uncertainties associated with presumed beneficial effects of tidal wetland restoration were not recognized in the</p>	<p>Please see response to comment 1601-650.</p>

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		<p>Chapter 5 summary."</p> <p>Comment:</p> <p>Disclosing uncertainties in an appendix and then ignoring those uncertainties in the main document and in the synthesis of conclusions for impacts and benefits of the project does not meet the criteria for disclosure nor does it meet the test of best available science. As the conclusions stand now, they are unsupported in light of the uncertainties and should be heavily discounted regarding benefits to species conservation.</p>	
1601	652	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Our conclusion of the Effects Analysis is that many of the critical assumptions in modeling effects and justifications behind the supposed benefits of the conservation measures are highly uncertain."</p> <p>Comment:</p> <p>If assumptions are corrupted at the beginning of the modeling then all subsequent analysis of the modeling results are corrupted and should be disregarded.</p>	<p>Please also see response to comment 1601-650.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>For more information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>
1601	653	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The net effects analysis tends to overreach conclusions of positive benefits for covered fish species"</p> <p>Comment:</p> <p>Yes, all uncertainties are ignored and only the most positive set of outcomes that could possibly occur if everything went perfect and according to plan are considered in the impact conclusions. Until some accommodation is integrated into the analysis for a range of outcomes and implementation realities, this analysis stands as biased, utterly unrealistic and describes an outcome that could never occur in the real world. Therefore, this document provides no certainty for the agencies to utilize as a basis for approval of this document or issuance of permits.</p> <p>Quote:</p> <p>"...the level of uncertainty is often downplayed."</p> <p>Comment:</p> <p>Ditto.</p>	<p>Please also see response to comment 1601-650. For information on the project's purpose and need please see Master Response 3 and Chapter 2 of the Final EIR/EIS.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	654	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Given uncertainty in effects analysis, more description of monitoring and adaptive</p>	<p>Although the preferred alternative (Alternative 4A, California WaterFix) is no longer an HCP, development of the framework for adaptive management plan will be very important in implementation of the preferred alternative; development of this framework is underway as part of the permitting process. Please see Master Response 33 for more information on adaptive management and monitoring. Permitting for the</p>

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		<p>management would be worthwhile to show that the BDCP would adequately address the uncertainty."</p> <p>Comment:</p> <p>- said differently, the current analysis does not adequately address uncertainty. The ISRP is wrong on this one. Future monitoring does not compensate for impact calls that are wrong in the EIR/EIS that have led to incorrect conclusions and decisions. The uncertainties must be addressed in the impact analysis and a range of outcomes considered. Only once the range of outcomes has been bracketed by an analysis that incorporates uncertainty can a monitoring plan be designed and contingency plans (adaptive management) developed.</p> <p>Quote:</p> <p>"... this isn't a conservation plan, but rather a conservation menu that generally fails to describe how major uncertainties will be resolved."</p> <p>Comment:</p> <p>The ISRP observation that the BDCP lacks an actual plan is really a central point. The BDCP lacks so many of the elements that are required to formulate a plan that can be evaluated. In the absence of being able to develop a functional and complete plan, the BDCP has given us a menu from which they will choose what they may or may not do in the future. The menu approach cannot be properly evaluated and provides the agencies no reasonable certainty of outcome. If the BDCP cannot even describe and integrate uncertainty in their EIR/EIS document as the ISRP repeatedly identifies, how can the agencies have any assurances that the BDCP in implementation would successfully address uncertainties when they actually occur?</p>	<p>proposed project is discussed in Master Response 45. Please also see response to comment 1601-639.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	655	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Chapter 5 reflects the lowest common denominator in terms of uncertainty."</p> <p>Comment:</p> <p>Taken literally, the ISRP is saying that only uncertainties that were identified in each of the related supporting appendix analyses were included in the main document synthesis of information and given consideration in the impact call. That would be precisely none.</p> <p>Quote:</p> <p>"While sensitivity analyses would have informed the Effects Analysis in the case of some of the biological models, this recommendation was generally not followed."</p> <p>Comment:</p> <p>The ISRP criticized the administrative draft document on this fundamental problem with how the BDCP was not adequately addressing uncertainty and the BDCP continued to ignore this scientific review panel's best available science input in the development of their public draft.</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS. Please also see response to comment 1601-39.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1601	656	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...sustaining or enhancing covered species will seemingly fall almost entirely on adaptive management..."</p> <p>Comment:</p> <p>The ISRP is saying that there is NO certainty of any benefit for the proposed covered species from the actual BDCP plan and that there are only vague promises to do undefined things in the future as an assurance of conservation. The regulatory cannot take this level of assurance as justification for issuance of permits.</p> <p>Quote:</p> <p>"The tenuous conclusion drawn from the Effects Analysis is that many of the critical justifications behind the supposed benefits of the conservation measures are highly uncertain."</p> <p>Comment:</p> <p>Again, with no reasonable certainty, as the ISRP indicates there is not, the agencies cannot issue permits nor should they approve the EIR/EIS document.</p> <p>Quote:</p> <p>"the Effects Analysis contains a number of assumptions, some of which are inappropriate (such as the magnitude and location of invasive clam depression of phytoplankton production), and others highly uncertain."</p> <p>Comment:</p> <p>Combine inappropriate assumptions with a negligent "blind eye" treatment of uncertainties and you get an analysis and conclusion that are worth precisely nothing in terms of assurances of outcome.</p>	<p>Please see response to comment 1601-639 regarding the effects analysis. For information on permitting please see Master Response 45. For information on adaptive management and monitoring please see Master Response 33.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	657	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"If there is one area of general scientific consensus among the Panel about the implementation of the Bay Delta Conservation Plan is that its outcomes remain highly uncertain."</p> <p>Comment:</p> <p>In other words, the ISRP's conclusion that the conclusions reached in the document are highly suspect was unanimous. In order for the agencies to accept this document, they have to completely ignore the input of the best available science from the ISRP.</p>	<p>Please see response to comment 1601-639. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	658	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p>	<p>Please see response to comment 1601-654 with respect to adaptive management. As noted previously, specific performance standards have been proposed, for example juvenile salmonid survival to be <math>\geq 95\%</math> of</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Quote:</p> <p>"The BDCP Effects Analysis should better integrate where uncertainty exists, identify the most relevant monitoring indicators necessary to evaluate the trajectory of the outcome, provide triggers for adaptive management"</p> <p>Comment:</p> <p>Yes, uncertainty must be defined with a range of outcome and some sense of probability. Once that is defined then there need to be thresholds established for specific management actions. Without this the document has not dealt with uncertainty and it does not have an adaptive management plan. It currently does not address uncertainty and in place of a plan, it has adaptive management empty promises.</p>	<p>baseline survival in the reach where the north Delta intakes are proposed to be situated, with monitoring and adaptive management. Please also see response to comment 1601-639 regarding the net effects analysis.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	659	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Without incorporating their relative importance in the summary figure, net effect conclusions are potentially meaningless and uncertainty cannot be characterized."</p> <p>Comment:</p> <p>The ISRP's point here is that the conclusions are meaningless and therefore cannot be relied upon to support decision making.</p> <p>Quote:</p> <p>"Algal toxins could be an attribute for monitoring to reduce uncertainty in contaminants and food web conceptual models."</p> <p>Comment:</p> <p>Algal toxins are a good example of a major impact of the proposed project due to the changes in water circulation patterns and the reduction of the rate of turnover of water in the central and south Delta. Not only does the BDCP not adequately characterize and evaluate this impact, but it also fails to provide a monitoring plan or action thresholds for adaptive management. These deficiencies (and many others) must be rectified.</p>	<p>With respect to the net effects analysis please see response to comment 1601-639. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>With respect to algal toxins, additional analysis of this was provided in the recent Biological Assessment for Alternative 4A, California WaterFix, as submitted in August 2016 (<a href="http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf">http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf</a>).</p>
1601	660	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"An assessment might have high uncertainty for all low importance categories and still have high overall certainty if all the important categories carry with them high certainty. Conversely, the overall assessment would have low certainty, if one or more of the high importance categories carry high uncertainty. The Net Effects conclusions for a fish species needs to therefore take into account the relative importance of the various categories, make them explicit, and interpret Plan effects within that context on a species-by-species basis. Uncertainty plus uncertainty is more uncertainty. Uncertainty never averages or cancels out uncertainty; any more than noise plus noise is less noise."</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		<p>Comment:</p> <p>What the ISRP is asking for here in terms of how uncertainty should be addressed in the impact synthesis could not be more basic and yet the BDCP EIR/EIS fails to provide even this most basic and common sense treatments of uncertainty. Even worse than the BDCP not following the ISRP's reasonable and prudent request for this treatment of uncertainties is that the BDCP's EIR/EIS actually does the opposite of their request. The current draft EIR/EIS actually takes high impact drivers of high uncertainty and makes impact calls that they categorize as low uncertainty. The BDCP is mathematically and logically wrong and the entire document needs to be revised to the common sense treatment of uncertainty requested by the ISRP.</p>	
1601	661	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"A broad consensus exists among the Panel that Chapter 5 does not adequately address uncertainty."</p> <p>Comment:</p> <p>We concur.</p> <p>Quote:</p> <p>"...the outcomes for conservation measures and their interaction and effectiveness are glossed over and uncertainties are not apparent in conclusions and summary discussions."</p> <p>Comment:</p> <p>The ISRP's repetitive criticism of the document on this point is illustrative of just how pervasive this set of problems is with the EIR/EIS document.</p>	<p>Please see response to comment 1601-639. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	662	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The concerns raised above, at best, add additional uncertainty to the conclusion drawn by the Plan. At worst, these concerns may result in systematic biases in the model projections. The direction of the net effect of these biases is unknown."</p> <p>Comment:</p> <p>Actually, the net effect of the biases is easy to determine. None of the uncertainties that were not included in the development of the conclusions are beneficial to the net effects of the project. The BDCP counts 100% of the habitat will be fully functional when uncertainty (and tons of published literature on implemented restoration project performance) will certainly fall far short of this most positively biased assessment possible. If they could have claimed 110% habitat functionality, they would have.</p>	<p>Please see response to comment 1601-661.</p>
1601	663	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p>	<p>The commenter is misinterpreting the ISRP's comment, which notes that there is not a relationship between screen passage time (which was estimated for the public draft BDCP, as well as the Biological Assessment for</p>

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		<p>Quote:</p> <p>"Because of the lack of an established relationship between passage time, screen contact rate and injury or mortality, it is not possible to conclude with certainty what the effects of the north Delta intakes may be on juvenile Chinook salmon or indeed on juvenile steelhead..."</p> <p>Comment:</p> <p>The information the EIR/EIS author says is missing and therefore they cannot do an assessment is because the BDCP project description is incomplete. Duration of fish exposure to screens (passage time) determination only requires screen length, 2D modeling of flows in the vicinity of the screen and operating rules for how the screens will be run. These are basic, but as the EIR/EIS author identifies, these are missing from the EIR/EIS document project description. There may not be a better, and more directly self proclaimed, example of the deficiencies and incompleteness of the project description and analyses in the EIR/EIS than this. The project description and the environmental analysis of the project will remain incomplete until the requisite information to conduct this analysis is completed.</p>	<p>California WaterFix) and injury. The uncertainty in such analyses was acknowledged in these analyses, reflecting that the estimated potential passage times are high in relation to the study used to derive the relationships, in addition to uncertainty regarding how fish in the field may compare to fish in the laboratory, for example. Modeling of flows and screen dimensions provided in the project description informed these analyses. For more information on Fish and Aquatic Resources please see Chapter 11 of the Final EIR/EIS.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	664	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The assumption of rapid positive food web benefits from restoration of aquatic habitat is a potential benefit, but the degree of benefit, its timing, and even whether benefits will accrue is uncertain. Restoration even may be on a pathway to achieving desired biological objectives, but the time frame may be considerable and beyond the 50-year period of the BDCP."</p> <p>Comment:</p> <p>Habitats do not become instantly functional and beneficial as the BDCP analysis treats them. Studies of recently inundated lands from levee breaks show that there is a clear overall reduction in habitat quality and quantity at the beginning. Only after months or even years do any net positive habitat contributions occur. An example of these studies is the DWR assessment of habitat impacts from the Jones Tract levee break as well as in the assessment of the proposed In-Delta Water Storage Project.</p> <p>Quote:</p> <p>"Provide clear statements within Chapter 5 and the Executive Summary of Appendix 5.D about the high level of uncertainty associated with contaminant effects as a result of site-specific details that cannot be modeled without explicit information about the location and connectivity of ROAs (Restoration Opportunity Areas)."</p> <p>Comment:</p> <p>Note the ISRP says, "high level of uncertainty" not just "uncertainty". High levels of uncertainty should never be relied upon, especially for impacts that could carry a heavy price in terms of human and environmental impact such as contaminants - period.</p>	<p>Please see response to comment 1601-4 regarding habitat restoration. Also see response to comment 1601-639 regarding the net effects analysis. For more information on Fish and Aquatic Resources please see Chapter 11 of the Final EIR/EIS.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		Quote:  "uncertainty was not considered when estimating the number of acres of restored habitat that a species would occupy following restoration."	
1601	665	In summary regarding the BDCP's inappropriate and inadequate treatment of uncertainties, it is true there are many uncertainties in a project with the scope and complexity of the BDCP's proposed project, but just because there are many and it is complex it does not give the BDCP license to ignore uncomfortable uncertainties and to take only the most optimistic interpretation of would could transpire as a result of the project. NEPA and CEQA require not only disclosure of uncertainties, but also a rationale and logically integrated treatment and integration of those uncertainties in the assessment of effects. From the severity and volume of the ISRP's comments, it is clear the ISRP has concluded that the BDCP has dismally failed to meet these standards and requirements for how uncertainties are identified, disclosed, evaluated and integrated into the impact calls.	Please see response to comment 1601-639. Regarding the length and complexity of the environmental document please see Master Response 38.  Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.
1601	666	[Quotes from Independent Scientific Review Panel (ISRP)]  Quote:  "...the lack of an integrated or quantitative assessment of net effects..."  Comment:  The BDCP did a few quantitative assessments, but the results of them were directly contradictory and inconsistent. The BDCP did not address these inconsistencies and did not integrate the range of outcomes into their impact assessment. This is like doing your homework and then not bothering to turn it in to get credit. Because of this deficiency, no credit should be given for impact calls that purport to contribute to species conservation.  Quote:  "...in the case of covered species, effects could not be quantified and only two of the sixteen existing life cycle models were deemed to be relevant to BDCP. For these and other reasons, a systematic approach to synopsise the overall net effect on each species was not used. Instead, professional judgment was used instead of a ranking approach to quantify a synthesis of cumulative effects and associated certainty in the projected outcome."  Comment:  The BDCP utilized professional judgment even when better, more objective assessments were available. Even the execution of professional judgment was flawed, as the authors never disclosed their thought process or rationale as to how the information was integrated into their conclusions. Without knowing which impacts were important drivers for the overall outcome, the agencies cannot be informed as to which variables in the program need to be most closely monitored or managed and which are most important to reaching conservation goals. Without this information, the assessments are meaningless and fail to fulfill their required function to support decision making.	Analyses contained in the August 2016 Biological Assessment for ESA section 7 have reflected continued collaboration with the regulatory agencies in terms of providing useful information allowing informed decisions to be reached regarding the appropriateness of approving the permits, with this approval ultimately being the decision of the regulatory agencies. For more information on permitting please see Master Response 45.  As previously discussed regarding net effects, the qualitative conclusions reflected the analyses presented in the draft BDCP to the extent possible. Further consideration of net effects in terms of the potential for jeopardy to the species of the preferred alternative (Alternative 4A, California WaterFix) will be provided by the federal fish agencies through the ESA section 7 process, and also by the project proponents during the application for the CESA 2081(b) permitting process. Please also see response to comment 1601-639.  Compliance with the Endangered Species Act is discussed in Master Response 29. For more information on impact determinations of the various alternatives please see Table ES-8 in the Executive Summary of the Final EIR/EIS.  Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.
1601	667	[Quotes from Independent Scientific Review Panel (ISRP)]	Please see response to comment 1601-666.

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		<p>Quote:</p> <p>"...the Effects Analysis (Chapter 5) itself is still poorly substantiated..."</p> <p>Comment:</p> <p>In other words, the reader is not able to verify the truthfulness of the document and conclusions with the incomplete set of information that the BDCP has presented. We the public and the regulatory agencies cannot accept an incomplete document that requires us to "just trust" without the ability to independently assess and verify.</p> <p>Quote:</p> <p>"The approach to net effect conclusions needs to be reconsidered and revamped."</p> <p>Comment:</p> <p>Yes, this is another requirement from the ISRP phase 2 report that the BDCP failed to implement in the public draft.</p>	
1601	668	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"A systematic approach to synopsise the overall net effect on each species was not used even though a ranking approach that could have been used in a systematic roll-up was described. Instead, professional judgment was used to assess the overall net effect."</p> <p>Comment:</p> <p>The BDCP described an appropriate synthesis approach for the impact call and then proceeded to ignore their own proposed procedure for the assessments. The inconsistency in following methodology must be rectified. The type of synthesis described is common to all similar environmental documents done in California water projects over the last decade. The more complex the impacts of a project, the more important a well-reasoned, presented and justified information integration process is for the impact synthesis and impact call. This glaring deficiency must be rectified.</p>	Please see response to comment 1601-666.
1601	669	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...some quantitative detail on one or a few compartments, complete with large tables showing all the numbers produced, lacks significant meaning when other compartments are merely discussed. The overall impression is that these compartments live in conceptual isolation, lacking the integration of multiple and linked processes/interactions together into a synthesis. Consequently the BDCP analyses are ambiguous and conclusions and estimates of net effects overestimate the net positive impacts of conservation measures."</p> <p>Comment:</p> <p>Data presented that is not discussed, integrated, put into perspective, weighed for importance only serves to obfuscate rather than clarify understanding of the impacts, issues</p>	<p>As previously noted, uncertainty was reflected in each conclusion; ideally, it would have been possible to include a full quantitative evaluation, but this was not possible in all cases. See response to comment 1601-666. Regarding the specific section of Appendix 5.C that is referred to in the comment, these results were referred to as necessary in the effects analysis of Chapter 5.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		<p>and cause and effect relationships. The BDCP is required to take all relevant information and present it to the reader.</p> <p>Quote:</p> <p>"Passage, Movement, and Migration Results, Flow Summary (Section 5C.5.3.1, Pages 5C.5.3-1 through 5C.5.3-64). Please improve the synthesis of results in this section. These pages contain only charts with no dialogue or graphs to aid the reader."</p> <p>Comment:</p> <p>Again, data presented like this is designed to obscure rather than reveal the truth.</p>	
1601	670	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the foundation of the BDCP is weak in many respects and the default burden to ensure covered species benefit, if not recovery, depends on adaptive management."</p> <p>Comment:</p> <p>The species benefit default to adaptive management is a serious problem with the document as other ISRP comments criticize the lack of a functional or complete adaptive management program by the BDCP. Given the default of benefits to an undefined adaptive management plan, there are no reasonable assurances of conservation provided by the EIR/EIS to justify the agencies approving the plan or issuing incidental take permits (ITPs).</p> <p>Quote:</p> <p>"The adequacy of the BDCP therefore rests not in the intent and development of the conservation measures, but in the rigor and application of adaptive management to ensure that the critical uncertainties are addressed and strategically incorporated into a progressively refined Plan."</p> <p>Comment:</p> <p>Again, other ISRP comments determined that the BDCP does not yet have a complete or functional adaptive management plan to rely upon.</p> <p>Quote:</p> <p>"...adaptive management is identified considerably more in the Phase 3 review version of the Effects Analysis, it remains characterized as a silver bullet but without clear articulation about how key assumptions will be vetted or uncertainties resolved to the point that the BDCP goals and objectives are more assured."</p> <p>Comment:</p> <p>The BDCP goals and objectives are not assured in the EIR/EIS document at all considering that the ISRP comments correctly identifies that the BDCP analysis was: incomplete, internally self-contradictory, in error and inaccurate, biased and lacking in objectivity, incorporates only the most favorable interpretation of possible outcomes, does not address</p>	<p>Please see Master Response 33 for information on adaptive management and monitoring. For more information on incidental take permits please see response to comment 1601-18. Additionally, information on permitting can be found in Master Response 45.</p> <p>The biological goals and objectives were developed over several years of input with resource agencies. The biological goals and objectives are not included under Alternative 4A, but are still relevant for Alternative 4 (BDCP), which remains a viable alternative and is the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, containing biological goals and objectives.</p> <p>For more information on the biological goals and objectives for the BDCP, please see Master Response 5.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		<p>uncertainties, analyses and discussion presented were not integrated into impact calls and impact calls often directly contradicted this other information, and does not apply the best available science. Given this large list and magnitude of deficiencies of the BDCP document and that even with the most optimistic, myopic and biased interpretation of information, the BDCP does not present a compelling benefit. Therefore, once these deficiencies and biases are corrected it is clear that the No Action will have less adverse impacts and greater benefits than the proposed project. It should be noted that the No Action condition contains many less uncertainties and risks than the implementation of the proposed project. On this basis, it is not possible to identify the No Action as the Least Environmentally Damaging Practicable Alternative (LEDPA).</p> <p>Quote:</p> <p>"There is a tremendous trust embodied in an ill-defined adaptive management process."</p> <p>Comment:</p> <p>Dictionary.com defines "ill-defined" as, "badly or inadequately defined; vague: He confuses the reader with ill-defined terms and concepts."</p> <p>Quote:</p> <p>"Recommendation 16: Provide more detail about the specific approaches that will be used when implementing adaptive management"</p> <p>Comment:</p> <p>Yes, please do and since it is such an essential component of the success of the plan, this will be material new information and therefore requires recirculation of the public draft.</p>	
1601	671	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Other than the impression that the foundation of the BDCP is weak in many respects, the default burden to ensure Covered Species benefit, if not recovery, rests on adaptive management. The adequacy of the BDCP therefore rests not in the intent and development of the conservation measures, but in the rigor and application of adaptive management..."</p> <p>Comment:</p> <p>And yet the ISRP comments consistently identify the inadequacy of the plan and description for adaptive management.</p> <p>Quotes:</p> <p>"Recommendation... Provide triggers for adaptive management."</p> <p>"The BDCP Effects Analysis should better integrate where uncertainty exists, identify the most relevant monitoring indicators necessary to evaluate the trajectory of the outcome, provide triggers for adaptive management"</p>	Please see response to comment 1601-670.

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		<p>Comment:</p> <p>The ISRP is saying that the current monitoring plan is so inadequate that it cannot determine if there is even a positive or negative change, let alone if biological goals and objectives that lack decision making thresholds to trigger adaptive management are met. The monitoring plan must be fully developed and disclosed or how else will the public and resources agencies be able to tell if the plan can meet its goals? Monitoring plans have species impacts that have to be disclosed, e.g. seine trawl monitoring of delta smelt could literally cause the extinction of this listed species.</p> <p>Quote:</p> <p>"Adaptive management is unlikely to succeed unless clear targets and thresholds for alternative management approaches are identified."</p> <p>Comment:</p> <p>Actually, it is impossible for a program to be successful without performance measures and action thresholds. To paraphrase an old aphorism, the BDCP has failed to plan so they have planned to fail.</p> <p>Quote:</p> <p>"...the specific process whereby adaptive management would be utilized to ensure BDCP meets its goals and objectives by rigorous adaptive management need to be described in much more detail. There needs to be a more obvious commitment to active adaptive management."</p> <p>Comment:</p> <p>The ISRP comments are true and should be addressed and resolved. However, the real problem is that the BDCP plan is incomplete. If the plan was complete and better founded, then it would not need to rely upon adaptive management in order to claim contribution to conservation for the covered species. Until the BDCP plan no longer relies upon the adaptive management plan for success, but is merely utilized as a contingency plan for what the BDCP has failed to anticipate, the plan will continue to be incomplete, deficient and not worthy of approval or issuance of permits.</p>	
1601	672	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Some life cycle models inappropriately excluded. Appendix 5G excluded delta smelt life cycle models in the Effects Analysis without adequate justification. Based on the premise of using the "best available science," it is unclear how none of the delta smelt models could have reached that level of acceptance."</p> <p>Comment:</p> <p>Yes, the BDCP inappropriately dismissed a number of useful, generally accepted and readily available analytical tools without sufficient justification or rationale provided. Another example of this would be dissolved oxygen models. Analytical tools such as those identified</p>	<p>With respect to exclusion of delta smelt life cycle models, although several of the models met the main criteria for consideration of inclusion in the BDCP effects analysis (i.e., inclusion of Plan Area, inclusion of Study Area, inclusion of covariates affected by the BDCP, completion at the time of BDCP preparation, and peer review), these models included food-related covariates (zooplankton abundance) for which inputs were uncertain and unavailable in relation to BDCP effects. Note that the Delta Science Program Independent Review Panel's suggestion that "the BDCP Net Effects assessment indicated zooplankton was only of moderate importance to delta smelts (Figure 5.5.1-5)" and that therefore "some assumptions about zooplankton could have been made, allowing life-cycle modeling to be performed" is incorrect; the referenced figure is a qualitative assessment of the effect of the BDCP on the attributes affecting delta smelt, with the effect reflecting the importance of the attribute and the magnitude of the potential effect of the BDCP on the attribute; as described in sections 5.5.1.1.1 and 5.5.1.1.2 of the delta smelt effects analysis in the public draft BDCP, it was assumed that zooplankton abundance is of critical importance to larval and juvenile delta smelt, based on published literature. The model of Rose et al. (2013) became available after</p>

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		<p>in the preceding comment and by the ISRP must either be utilized in a revised EIR/EIS analysis or the BDCP must provide sufficient rationale that is consistent with how other models and tools were evaluated.</p> <p>Quote:</p> <p>"One justification was that none of the models used zooplankton data; however, the BDCP Net Effects assessment indicated zooplankton was only of moderate importance to delta smelts (Figure 5.5.1-5). It would therefore seem that some assumptions about zooplankton could have been made, allowing life-cycle modeling to be performed. Robustness studies could have accompanied the modeling process. Furthermore, if the BDCP team felt none of the delta smelt models to be adequate, why was there no investment made in model development for such an important species of interest?"</p> <p>Comment:</p> <p>The ISRP correctly points out that the BDCP rationale for not using these available models was flawed and unsupported. Additionally, as the ISRP notes, impact analyses that are central to addressing the objectives and impacts of the project should have the highest level of effort and rigor applied to them.</p>	<p>the preparation of the public draft BDCP but in any case has the same limitation as the other excluded models, i.e., requiring food-based inputs, as well as requiring extensive expansion to accommodate DSM2 grid revisions for the BDCP's proposed restoration areas. It is not feasible within the scope of the BDCP preparation to develop a life cycle model for delta smelt; experience gleaned from existing life cycle models suggests that each model takes several years to develop and there remains the difficulty of developing inputs, as was the case for the BDCP effects analysis.</p> <p>Where possible and available, newer life cycle models currently in preparation (e.g., the NMFS model for winter-run Chinook salmon) will be used in the permitting process for the preferred alternative (Alternative 4A, California WaterFix). Such models could also be used during implementation and to guide adaptive management. In lieu of a life cycle model for each species, the Effects Analysis provided in the public draft BDCP and the subsequent Biological Assessment for California WaterFix drew on species and ecosystem conceptual models that are informed by several quantitative models and qualitative analyses. Areas of uncertainties regarding the conceptual models or analysis tools used will be better identified in the final BDCP and as more information is developed, can be used to improve existing and future life cycle models. For more information on adaptive management please see Master Response 33. For more information on permitting please see Master Response 45.</p> <p>Regarding the use of dissolved oxygen models, the commenter does not indicate which specific models are lacking in the analysis; the public draft BDCP included analysis of dissolved oxygen using DSM2-QUAL (see Appendix 5.C, sections 5C.4.4.5 and 5C.5.4.3), as well as qualitative analyses of the Stockton Deepwater Ship Channel (see section 5C.5.3.11). Analyses of dissolved oxygen were qualitatively provided in the EIR/S assessment of water quality effects.</p> <p>For more information on modeling and the proposed project please see Master Response 30 and Appendix 5A of the Final EIR/EIS. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	673	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Lack of specificity in Restoration Opportunity Areas limits conclusions of many aspects of Effects Analysis. For the hydrodynamic modeling, only one set of Restoration Opportunity Areas were modeled."</p> <p>Comment:</p> <p>This is a core deficiency of the document as discussed in many related comments. If the BDCP only modeled one scenario (incompletely as the ISRP points out) and analyzed and disclosed only this scenario then the permits should only cover the actions that would occur under this one and only one scenario as they are explicitly defined. If elements are not defined at a project-level of detail, they no related permits should be issued. If the implementation plan deviates at all from this scenario then another environmental review must be conducted prior to issuance of permits.</p> <p>Quote:</p> <p>"While sensitivity analyses would have informed the Effects Analysis in the case of some of the biological models, this recommendation was generally not followed."</p>	<p>Please see response to comment 1601-672 regarding modeling. Also see Master Response 2 related to specificity in restoration areas. Please also see response to comment 1601-666. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		<p>Comment:</p> <p>With so much uncertainty in biological response to changed conditions, sensitivity analyses are critical to test the influence of assumptions utilized in the analysis to ensure that the conclusions are appropriate and reliable. Since the BDCP did not do this (contrary to the input from the ISRP) then there is no way the BDCP can even reasonably prove that their analytical results are accurate, reliable or correct.</p>	
1601	674	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The approach used to calculate residence time is also of concern. The residence time in each Restoration Opportunity Areas is a function of bathymetry, the exchange between the Restoration Opportunity Area and the adjacent channels. The 1-D DSM2 model does not have the capability to calculate this parameter. In addition, because the specific locations and configurations of the Restoration Opportunity Areas are not presented in the Effects Analysis, the panel has no basis to comment on the validity of the approach."</p> <p>Comment:</p> <p>If the ISRP cannot determine the validity of the process the BDCP used, then neither can the resources agencies. If the resource agencies cannot verify the validity of the approach, then they cannot rely upon these results or conclusions. Therefore, they cannot use the EIR/EIS as a decision document.</p> <p>Quote:</p> <p>"Rather than using current estimates of habitat occupancy within the Plan Area to estimate occupancy of restored habitat, we recommend using spatially explicit occupancy models. In addition, the minimum width and maximum distance of riparian habitat corridors should be identified for terrestrial mammals that are restricted to riparian habitats (riparian woodrat and riparian brush rabbit). Persistence of these species in the Plan Area requires riparian habitat patches that are sufficiently large to support stable populations as well as riparian corridors that will allow movement between suitable habitat patches. Both the minimum patch size and minimum corridor parameters (width, distance, over story cover) should be specified to ensure long-term occupancy of restored riparian habitat."</p> <p>Comment:</p> <p>These are all common elements of any assessment of habitat restoration at a landscape level and have been since landscape level restorations were first initiated in the 1990s. Failing to address these most basic of landscape analysis approaches is clearly deficient and does not meet the test of best available science. Without these additional dimensions of habitat value and use evaluation, the current assessment is incomplete, lacking and deficient.</p>	<p>As previously noted, analyses contained in the submitted August 2016 Biological Assessment for ESA section 7 have reflected continued collaboration with the regulatory agencies in terms of providing useful information allowing informed decisions to be reached regarding the appropriateness of approving the permits, with this approval ultimately being the decision of the regulatory agencies. For more information on permitting please see Master Response 45. Please also see response to comment 1601-674.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	675	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Communication of uncertainty would be improved by consideration of a range of potential</p>	<p>Please see response to comment 1601-639 regarding the net effects analysis. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		<p>outcome values in models."</p> <p>Comment:</p> <p>Yes, when you are using a model, you have to test the sensitivity of the model to various ranges of inputs, otherwise you cannot evaluate the utility and limitations of the model results. Without the sensitivity assessments the ISRP requests, the model results should not be relied upon and any conclusions drawn from them heavily discounted.</p> <p>Quote:</p> <p>"...the Effects Analysis does not lend itself to evaluation of chained statistical uncertainties."</p> <p>Comment:</p> <p>What the ISRP is saying is that if you have uncertainties that are not bounded by ranges and you compound (multiply) those uncertainties with multiple additional sets of interdependent and interactive uncertainties, by the end you have a result that is ultimately useless. Uncertainties can be managed in analyses and the ISRP is saying that the BDCP analysis failed to do that.</p> <p>Quote:</p> <p>"Phytoplankton productivity is unrealistically modeled..."</p> <p>Comment:</p> <p>Bad and flawed science, let alone the best available science.</p>	
1601	676	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The assumptions made in hydrodynamic models TRIM/ RMA versus DSM2 or CALSIM2 result in a range of outcomes; their analysis is limited to only one set of ROA (Restoration Opportunity Area) configurations"</p> <p>Comment:</p> <p>There should be a set of sensitivity analysis done on the input assumptions and then this range of outcome should be run on a range of implementation scenarios. Even if it were a good plan (it is not) if it implemented in an incorrect sequence of inter-related ROA impacts then substantial, significant and unforeseen impacts will occur. This cannot be allowed to occur and the project cannot be approved with a single set of ROA implementation assumptions when that is obviously not how it would ultimately be implemented.</p> <p>Quote:</p> <p>"The panel concluded: 1) the assumption of a 3-day moving average to characterize flow on the Sacramento below Georgiana Slough is not valid..."</p> <p>Comment:</p>	<p>Please see Master Response 2 regarding project level versus program level analysis. Please also see It is acknowledged that there is uncertainty related to empirical relationships developed for the current configuration of the Delta, and this point was of considerable relevance to the BDCP with extensive proposed habitat restoration; however, the much more limited extent of restoration for the preferred alternative (Alternative 4A, California WaterFix) is more similar to the current configuration. Uncertainty remains in applying empirically derived relationships, with this uncertainty reflected where possible in presentation of confidence and prediction intervals in the Biological Assessment for California WaterFix that was submitted in August 2016.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>For information on modeling and the proposed project please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>

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		<p>Yes, it is not best available science when flow data is available from DWM2 at 15-minute increments and the BDCP decides to water down the analysis to a 3-day moving average. This reach of the river is highly tidally influence and BDCP operations would intensely interact with the tidal flows, e.g. cessation of pumping at slack or near slack tides - even though the BDCP did not develop or disclose their north Delta operating process or ops model. Averages of conditions over even a daily data aggregation make any analyses meaningless. An easy example of the absolute loss of utility of data by aggregation into simple daily or multiple day averages is the analysis of duration of juvenile salmonid exposure to screen operations. This is an important impact of the project that was not fully or accurately addressed in the EIR/EIS. One of the reasons the BDCP gave for not doing the analysis was the lack of appropriate flow and velocity data. The data was available, the BDCP just opted to condition and use the data in such a way as to render it useless for this type of analysis. This is unacceptable and certainly does not even meet the test of good science, let alone best available.</p> <p>Quote:</p> <p>"At worst, these concerns may result in systematic biases in the model projections."</p> <p>Comment:</p> <p>Systematic biases must not be tolerated and must be corrected.</p> <p>Quote:</p> <p>"...the empirical relationship created for the current configuration of the Delta is not valid for the future configuration."</p> <p>Comment:</p> <p>The ISRP is saying that the BDCP should not assume that relationships between current conditions and biological responses of the species will hold true under substantially altered hydrologic conditions that will occur with the BDCP north Delta operations and implementation of the ROAs. The BDCP's assumption that these relationships will hold true is fundamentally flawed and they have not even accounted for the possibility or risks to the success of the project that changes in responses would occur. Until these deficiencies are addressed, the document remains deficient.</p>	
1601	677	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"This analysis should have been broken into two time periods: gate open and gate closed conditions. This table raises a significant concern that the author did not have a basic understanding of how the Delta Cross Channel gate changes flow patterns (and migration patterns) in the Delta."</p> <p>Comment:</p> <p>Yes, the analysis aggregated data that had two radically different hydrologic conditions and sets of migratory pathway options. The analysis was not only fundamentally flawed, it demonstrates a fundamental misunderstanding of the functions of the system operations</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		and variables affecting the data being used. This is not just bad science; it is dangerously naive and ignorant.	
1601	678	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Positive barrier fish screens are widely used throughout the Pacific Northwest to protect juvenile salmonids from entrainment into water diversions, and this information should be readily available to the BDCP team."</p> <p>Comment:</p> <p>Yes, the northwest provides much of the best available and applicable scientific literature and the BDCP has systematically failed to capture and benefit from these learning's. The BDCP should conduct an exhaustive search of this available literature and summarize those applicable learning's in the affected environment.</p> <p>Quote:</p> <p>"Recommendation: Conduct literature search on positive barrier fish screens, which are widely used."</p> <p>Comment:</p> <p>That is what I just said.</p> <p>Quote:</p> <p>"Positive barrier fish screens are widely used throughout the Pacific Northwest to protect juvenile salmonids from entrainment into water diversions, and fish screening criteria are widely applied. The BDCP team could access relevant documents on the web."</p> <p>Comment:</p> <p>Yes, these are really readily available and it is shameful the BDCP chose not to utilize these resources.</p> <p>Quote:</p> <p>"Recommendations: Develop flow/habitat relationships for salmonids in the Feather River high flow channel, approximate the proportion of the population that uses this habitat, and correct inconsistencies in the text and summary figure."</p> <p>Comment:</p> <p>Flow/habitat relationships are already available for the Feather River from the PHABSIM analysis (SP-F12) conducted in the DWR Oroville Relicensing Studies. This omission of this analysis clearly does not take advantage of the readily available best available science. Since DWR is the state lead agency on this document, this omission is a clear indication of their lack of engagement and supervision in the development of the EIR/EIS.</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>For more information on screening considered under the various alternatives, please see Appendix 3A of the Final EIR/EIS.</p>

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1601	679	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"...the evaluation did not attempt to convert predicted flow and temperature scenarios to habitat units for steelhead and Chinook salmon."</p> <p>Comment:</p> <p>The data to support this analysis is readily available from the DWR Oroville Relicensing Studies. Each type of habitat unit was rated for suitability for each salmonid species and life stage that are present in the Feather River. These readily available studies did exactly what the ISRP requests. The studies integrated the habitat types with water temperature suitability and flows to determine the quantity of habitat that changes with flow and temperature operations. This omission of this analysis clearly does not take advantage of the readily available best available science. Since DWR is the state lead agency on this document this omission is a clear indication of their lack of engagement and supervision in the development of the EIR/EIS.</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p> <p>Please note that operations of Oroville Reservoir and flows in the Feather River were not covered in the Biological Assessment for California WaterFix because operations would be consistent with those described for permitting as part of the FERC relicensing process.</p>
1601	680	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Currently, the temperature analysis includes: 1) a comparison of mean monthly temperatures categorized by water year type..."</p> <p>Comment:</p> <p>Mean monthly temperatures are an inappropriate aggregation of data that makes analysis of water temperature exposures to fish meaningless. Hourly water temperature data is available and has been used for environmental assessments of DWR Oroville operations impacts on fish in their FERC relicensing studies.</p> <p>Quote:</p> <p>"Another potential key statistic that could be extracted from the model data is the number of consecutive days in which water temperature is greater than the threshold level."</p> <p>Comment:</p> <p>Another even more rigorous approach is to aggregate the number of hours and degrees of water temperature analytical threshold exceedance. As an example, 4 hours of 1 degree exceedance is 4 units of exceedance and 2 hours of 2 degrees of exceedance is 4 units of exceedance. This is done for the No Action and alternative to compare relative duration and magnitude of exceedances. This way, larger magnitude exceedances which are biologically more severe are ranked accordingly. Additionally, multiple analytical thresholds should be utilized for different levels of biological impact to fish. These thresholds should have included a threshold which published literature generally agrees that no adverse effects have been reported. This optimal suitable threshold criteria is then complemented by other temperature thresholds at which literature generally agrees that adverse biological consequences occur. These other thresholds should have included, prespawn mortality, egg</p>	<p>Please see response to comment 679 regarding Oroville FERC relicensing analyses. Although a HEC-5Q model at a sub-monthly time step does exist and has been used in previous analyses, the lead agencies, in collaboration with modelers and biologists, decided that the model was too unreliable to provide accurate assessments of potential temperature effects in the Feather River. The Reclamation Temperature Model, despite being at a monthly time step, was deemed superior in its reliability and therefore was used in this analysis. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		mortality and reduced fecundity and incipient adult mortality at the very least.	
1601	681	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Ironically, the literature they rely on, Lopez et al. (2006) and Lucas and Johnson (2012), indicate that biomass and production of phytoplankton in the Delta do not fit this simple model expectations. A major limitation of the depth-productivity model is the impact bivalve grazing on available net production. Net phytoplankton production (in excess of potential grazing) peaked at different depths and at much lower rates depending on overall habitat depth and water residence time. Assumptions of phytoplankton production and their conversion to zooplankton and invertebrates as food sources for covered species in aquatic systems consequently lack realism."</p> <p>Comment:</p> <p>The assumptions are flawed and are contradicted by the literature the BDCP themselves referenced. This results in a flawed result that lacks incorporation of reasonably foreseeable conditions and certainly does not meet the test of best available science.</p>	Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.
1601	682	<p>[Quote from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"Transport timescales calculated in sub-regions rather than full Delta "average" residence time will give much more detailed information about changes in circulation patterns as a result of alterations to the system as a result changes in operations and additions of Restoration Opportunity Areas."</p> <p>Comment:</p> <p>Best available science can go much farther than even the ISRP request. The entire Delta can be analyzed using Geographic Information System (GIS) segments of river area. This methodology was utilized in the Oroville Facilities Relicensing by DWR and is how a landscape analysis of changes in habitat suitability must be analyzed in order to meet the test of best available science.</p>	<p>A subregion-based residence time analysis was included in the Biological Assessment of the preferred alternative (Alternative 4A, California WaterFix), as submitted in August 2016; see Chapter 6, section 6.1.3.5.5 Microcystis and the sections of Appendix 6.A referenced therein for more details (<a href="http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf">http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf</a>).</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS. Please refer to Master Response 14.</p>
1601	683	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"The modeling of methyl mercury effects are highly uncertain due in large part to site-specific characteristics that cannot be modeled at present."</p> <p>Comment:</p> <p>This is because the BDCP did not define the aquatic habitat restoration bathymetry and restoration designs. These and other dependent analysis will continue to be incomplete and inconclusive until the BDCP completes the project description. The project description must be completed and then a complete, thorough and unbiased analysis completed.</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS. Additional analyses related to selenium concentration was conducted in the Biological Assessment submitted in August 2016 (see Appendix 5.F of the Biological Assessment).</p> <p>For more information on water quality please see Master Response 14 and Chapter 8 of the Final EIR/EIS.</p>

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		<p>Quote:</p> <p>"...even if the proportion of San Joaquin discharge relative to the Sacramento River is low, the increase in Se (selenium) concentration could still be significant. This conclusion should be reviewed."</p> <p>Comment:</p> <p>A simple mass balance equation of the flow contributions from the respective tributaries would have allowed at least a quasi-quantitative analysis to be conducted. The current unsupported supposition that the Se concentration will not go up much due to low San Joaquin River (SJR) flows is a fallacy. As the ISRP requests, this analysis needs to be revisited as the assumption is invalid and better science than unsupported opinion is readily available as we suggest a better and simple assessment method in our previous comment.</p>	
1601	684	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"While the literature is not well developed for the SFE (San Francisco Estuary) there is at least some indication that herbicide applications are detrimental to photosynthetic organisms (phytoplankton)."</p> <p>Comment:</p> <p>Actually, there is a lot of published literature on the adverse effects of herbicides on the entire aquatic food web, not just the algae.</p> <p>Quote:</p> <p>"The analysis also apparently ignores smaller size prey (assumption 6, p. 5.F-16)."</p> <p>Comment:</p> <p>Yes, ignoring smaller size prey certainly is not using best available science or generally accepted methods.</p> <p>Quote:</p> <p>"Perform a sensitivity analysis at to generate confidence intervals at the north Delta intakes using mortality values at existing structures (Perry 2010) (p. 5.G-46). The 95% survival value used in simulations of the north Delta intake is an engineering specification."</p>	<p>Regarding Conservation Measure 13, which would apply herbicides to control invasive aquatic vegetation, the need to avoid and minimize effects was described in Chapter 3, Section 3.4.13 of the public draft BDCP. Note that this measure is not part of the preferred alternative (Alternative 4A, California WaterFix).</p> <p>Regarding smaller fish not being included in the analysis, the bioenergetics modeling actually included all sizes of fish; the documentation included consideration of smolts (defined as fish &gt;70 mm) because these were of interest with respect to the assumed size of migrants.</p> <p>Regarding sensitivity analysis of north Delta mortality effects, this was undertaken in the August 2016 Biological Assessment with respect to varying levels of north Delta mortality to inform the analysis based on OBAN. As previously noted in these responses, the Biological Assessment includes consideration of confidence and prediction intervals from empirically derived quantitative relationships, which addresses another aspect of sensitivity.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	685	<p>[Quotes from Independent Scientific Review Panel (ISRP)]</p> <p>Quote:</p> <p>"None of the smelt models were selected, despite the fact that four models (state-space, multivariate auto regression, Bayesian change point, and smolt survival regression) met their five selection criteria. Given the relative importance of the delta smelt, it is unclear how none of the models met the criteria of best available science."</p>	<p>With respect to exclusion of delta smelt life cycle models, although several of the models met the main criteria for consideration of inclusion in the BDCP effects analysis (i.e., inclusion of Plan Area, inclusion of Study Area, inclusion of covariates affected by the BDCP, completion at the time of BDCP preparation, and peer review), these models included food-related covariates (zooplankton abundance) for which inputs were uncertain and unavailable in relation to BDCP effects.</p> <p>Please also see response to comment 1601-639. Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		<p>Comment:</p> <p>The BDCP inconsistently applied their analytical tool selection criteria. Models and analytical tools that were not utilized, but lack supporting rationale and justification for why they were not utilized should be included in a revised analysis. Taken in their totality, the ISRP has many comments and specific instances that the BDCP has failed to meet the NEPA and CEQA requirement to utilize the best available science.</p>	
1601	686	<p>Issue:</p> <p>The Independent Scientific Review Panel identifies (ISRP) that important elements of the proposed project have changed since the release of the Public Draft EIR/EIS. The comment is a summary of the ISRP's comments on the changes in the project scope and the design and environmental analyses required. All quotes included in the comment are from the Delta Science Program Independent Review Panel Report BDCP Effects Analysis Review, Phase 3; March 2014.</p> <p>Quote:</p> <p>"Conservation Measure 1 now includes significant modifications to Clifton Court Forebay. These modifications include building a wall in Clifton Court Forebay to create two separate regions, the north region would receive water from the North Delta pump facilities and the south region would receive water from the existing south Delta channels. In addition, the current size of the Clifton Court Forebay would also be enlarged by flooding an adjacent tract of land to the south. Based on the public panel discussion with ICF and the Fish agencies on January 29, 2014..."</p> <p>Comment:</p> <p>This is a material change in the scope and impacts of the BDCP and requires that this new material information is recirculated for public comment.</p> <p>Quote:</p> <p>"ICF acknowledged that this is a newer element of the design for Conservation Measure 1. There was no documentation in Appendix 5.H..."</p> <p>Comment:</p> <p>There was no documentation of this design because they changed the proposed project description after the document was released for public review and comment. This information, that was only disclosed during a private meeting with the ISRP, has still not been disclosed to the public by the BDCP.</p>	<p>Please note that a RDEIR/SDEIS was noticed and circulated for public review in 2015. Please see Master Response 39, Public Review Period, for more information. More information on recirculation and scoping can also be found in Master Response 46.</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	687	<p>Issue:</p> <p>The Independent Scientific Review Panel (ISRP) is concerned over the magnitude of impacts from the implementation of the BDCP. All quotes included in the comment are from the Delta Science Program Independent Review Panel Report BDCP Effects Analysis Review, Phase 3; March 2014.</p>	<p>Additional modeling of the preferred alternative has been undertaken as part of the August 2016 Biological Assessment, including examination of various levels of north Delta intake loss with the OBAN model. Additional effort has been placed to illustrate the variability in the estimates, which for both the IOS and OBAN models shows that there is considerable overlap in escapement estimates for the proposed project and the baseline, reflecting the uncertainty in the parameter estimates. The resource agencies will have this information, as well as potentially additional life cycle modeling, available to assess the effects of the preferred alternative.</p>

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		<p>Quote:</p> <p>"Evaluate and compare sensitivity of populations to a broader range in mortality at the north Delta intakes and passage through the Delta. A 5% mortality at the north Delta intake is projected to cause a 58 to 61% reduction in adult escapement (i.e., Existing Biological Conditions-Early Long Term (EBC2-ELT) or Existing Biological Conditions-Late Long Term (EBC2-LLT) vs. Evaluated Starting Operations (ESO)-95-ELT or ESO-95-LLT). This is a huge effect that would have to be mitigated by other BDCP conservation actions."</p> <p>Comment:</p> <p>This relates to our previous comments that a 5% loss from the intakes in juvenile emigration would translate to much higher adult escapement impacts. Although it was easily understandable that this would be the case (even though the BDCP did not identify or disclose it), even we are shocked at the magnitude of this impact as cited and reported by the ISRP. This magnitude of impact definitely warrants a jeopardy impact call on listed species rather than contributing to conservation of the species. Unless the BDCP can thoroughly and defensibly refute the ISRP's and our related comments, the project should never be approved as it would substantially contribute to the extinction of the species that it proposes to conserve.</p>	<p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>
1601	688	<p>Issue:</p> <p>The Independent Scientific Review Panel (ISRP) says that the BDCP EIR/EIS significantly underestimates take at the north Delta intakes. All quotes included in the comment are from the Delta Science Program Independent Review Panel Report BDCP Effects Analysis Review, Phase 3; March 2014.</p> <p>Quotes:</p> <p>"Because of the lack of an established relationship between passage time, screen contact rate and injury or mortality, it is not possible to conclude with certainty what the effects of the north Delta intakes may be on juvenile Chinook salmon or indeed on juvenile steelhead..."</p> <p>"Positive barrier fish screens are widely used throughout the Pacific Northwest to protect juvenile salmonids from entrainment into water diversions, and fish screening criteria are widely applied. The BDCP team could access relevant documents on the web."</p> <p>"Application of the Glenn Colusa analysis to the north Delta intake suggested a cumulative loss of 12% of the juvenile winter-run Chinook salmon at the north Delta intake..."</p> <p>Comment:</p> <p>The Glenn-Colusa Irrigation District (GCID) intake at Hamilton City the ISRP comment refers to is the most directly comparable and relevant installation and monitoring result experience that the BDCP should be relying most heavily upon. It is in the same system, on the same species and runs (literally the same fish) and is similar in design to what the BDCP has proposed. The only major difference is that the BDCP intakes are larger than the GCID screens, so the predation rate losses should be anticipated to be even higher. The BDCP should have used the observed results from GCID as the basis for anticipated losses associated with their proposed intakes. The math is easy. 12% loss at each of three</p>	<p>The ISRP's analysis noted that the 12% loss was cumulative across screens and therefore would not be loss per screen, as the commenter incorrectly suggests; the 12% loss was based on the GCID study. The RDEIR/SEIS issued in 2015 noted that there are uncertainties in such estimates, particularly with respect to unknown baseline mortality in the river reach; the loss estimate along the GCID fish screen was similar to the loss rate downstream of the screen (see, for example, Impact AQUA-42 for Alternative 4A in Chapter 11 of the Final EIR/EIS).</p> <p>Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.</p>

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		proposed fish screens equates to a 32% population loss. This is catastrophic and must not be allowed to happen. The BDCP must redo their analysis utilizing these much more credible data sources and rates of losses.	
1601	689	Issue:  Incorporate comments by reference.  Comment:  This comment is a request to incorporate by reference the Delta Science Program Independent Review Panel Report BDCP Effects Analysis Review, Phase 3; March 2014 in its entirety as a comment from Central and South Delta Water Agencies and San Joaquin County.	Regarding the Delta Science Program Independent Review Panel Report: BDCP Effects Analysis Review, Phase 3, please see Appendix 11F of the Final EIR/EIS.
1601	690	Issue:  The BDCP EIR/EIS did not quantify construction related losses from dewatering for intakes  Comment:  The BDCP intakes are in waters that are designated critical habitat for several Endangered Species Act (ESA) species (delta smelt, spring- and winter-run Chinook salmon, steelhead and North American green sturgeon. The impoundments that have to be drained to do the in-water construction for the intakes will result in fish being harmed, harassed or in outright mortality -- which is take. The BDCP will require permits for this take, but the BDCP analysis was not specific enough to warrant issuance of an incidental take permit (ITP). Compare the level of detail provided by other environmental documents that secured similar take permits, e.g. South Natoma Intakes, and you will see a huge disparity in terms of the level of detail in the description of the project as well as the detail in the mitigation and salvage planning. The BDCP cannot even say exactly where these impoundments are, exactly how big they are, what time of year the construction would occur, does not provide a detailed plan for minimizing take, does not provide a detailed salvage plan and does not estimate how many fish would be taken. Until the BDCP EIR/EIS provides a commensurate level of detail as other similar projects have been held to in their project description and their avoidance, minimization and mitigation plans, the BDCP should not be issued take permits for in-water work.	Please see response to comment 1601-18 regarding incidental take permits. Also see Master Response 45, permitting.  For more information regarding construction assumptions of the proposed project please see Chapter 3 of the FEIR/EIS. For more information regarding Environmental Commitments, including a fish rescue and salvage plan please see Appendix 3B of the FEIR/EIS. For information in intake location analysis please see Appendix 3F of the Final EIR/EIS.  For more information regarding impacts to aquatic resources and its mitigation measures please see Chapter 11 of the FEIR/EIS.
1601	691	Issue:  The conveyance is misrepresented as a conservation measure.  Comment:  The conveyance does not reduce take of species or restore habitat, therefore it should not be classified as a conservation measure. The document should be revised to correct this deliberately misleading misrepresentation.	Please see response to comment 1601-22. For information on habitat restoration, please see response to comment 1601-4.
1601	692	Issue:  The BDCP EIR/EIS does not disclose what proportion of contribution to conservation comes	It would be challenging to try and assign a contribution to conservation from other stressor conservation measures, and the EIR/S has the focus of assessing potential impacts of each of the conservation measures. Uncertainty is acknowledged in the need for monitoring and adaptive management associated with each measure. Please see Master Response 33 for more information on adaptive management, Information on

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		<p>from other stressor measures.</p> <p>Comment:</p> <p>No level of certainty of benefit has been identified for all of the other stressors measures. The BDCP EIR/EIS document should be revised to more clearly disclose the limitations of the certainty of benefit of these actions and the overall contribution to conservation put into context so that the reader (and agency decision makers) can evaluate how much of the alleged benefit of the project is based on these uncertain and tenuous other stressor actions.</p>	<p>other stressors can also be found in Master Response 23.</p>
1601	693	<p>Issue:</p> <p>The Biological Goals and Objectives are not specific enough to support the use of adaptive management.</p> <p>Comment:</p> <p>Much of the document relies upon adaptive management to meet project goals. The goals are very poorly defined, the monitoring methods proposed are inadequate to measure changes that are meaningful in evaluating if a biological goal has been achieved actions are concurrently implemented so it is impossible to attribute which action may be driving the species benefits. None of these limitations are disclosed in the BDCP EIR/EIS. Given these constraints on the usefulness of the monitoring proposed by the BDCP and their lack of applicability to the biological goals, the proposed reliance upon adaptive management is wholly unrealistic and cannot and will not be achieved if the project is implemented. Seeing as so many of the benefits of the BDCP plan are proposed to rely upon adaptive management and that the benefits of many of the actions are uncertain and the programs to monitor success are very unlikely to be successful, all of the benefits claimed by the BDCP in the EIR/EIS analysis should be called into question and evaluated for their true level of certainty.</p>	<p>The biological goals and objectives were developed over several years of input with resource agencies. The biological goals and objectives are not included under Alternative 4A, but are still relevant for Alternative 4 (BDCP), which remains a viable alternative and is the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, containing biological goals and objectives. Please also see response to comment 1601-11.</p> <p>For more information on the biological goals and objectives for the BDCP, please see Master Response 5.</p>
1601	694	<p>Issue:</p> <p>Historical increases of salt water intrusion in the Delta region allowed the teredo, a saltwater worm, to thrive and destroy piers and ships in Suisun Bay.</p> <p>Comment:</p> <p>The BDCP EIR/EIS analysis did not evaluate the property destruction that would occur with the increase in range, distribution and population levels of teredo that would result from the reduction in water quality and increased salt-water intrusion that would result from the BDCP proposed operations. The BDCP EIR/EIS should be revised to identify, characterize, evaluate and disclose this impact of the BDCP project and alternatives.</p>	<p>The teredo worm generally requires mesohaline salinity levels (i.e., &gt;5 parts per thousand); substantial increases in salinity in Suisun Bay are not expected as a result of the preferred alternative; therefore, it is unlikely the proposed project would create an environment for this situation to occur. For information on salinity, please see Master Response 14, Water Quality, and Master Response 22, Mitigation.</p>
1601	695	<p>Issue:</p> <p>Methods proposed to measure habitat and species population conditions are not accurate enough to measure the improvements that are set in the biological goals and objectives.</p> <p>Comment:</p>	<p>The statistically defensible reliability of measurements made to assess achievement of stressor reduction targets would be evaluated during the experimental design phase of targeted studies of through-Delta juvenile salmonid survival, for example, which would ascertain necessary sample sizes to assess survival past the north Delta intakes that is ≥95% that of the baseline estimates, with a certain degree of statistical precision.</p>

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		<p>As an example, you cannot measure with a statistically defensible reliability, a 75% fish survival from salvage operations or a 2% increase in juvenile salmonid escapement. The biological goals definitions and monitoring methods proposed need to be reconciled so that they are meaningfully compatible. As it stands, the BDCP has no way to monitor in any practicable method to a degree of accuracy to prove or disprove that it is meeting the biological goals. The BDCP plan needs to be modified to something which can be reliably measured and the level of success or failure of the program determinable.</p>	<p>Please also see response to comment 1601-12 and 1601-693.</p>
1601	696	<p>Issue:</p> <p>The assumptions used on the Screening Effectiveness Analysis (North Delta Intake) are flawed.</p> <p>Comment:</p> <p>The assumptions used in the analysis did not correctly take into account the duration of exposure and repeated exposure (on the same screen) from slowing, slack and reverse tidal operations. As an example, a delta smelt, which tends to float with the currents, could be exposed to a single screen for several hours during a tidal change. Certainly, this duration of exposure would exceed the fish's sustained swimming performance such that it would become impinged or entrained at the screen. The BDCP EIR/EIS analysis failed to take into account the intertidal effects of duration of exposure of fish to the screens and therefore the conclusions reached in those analyses are flawed, should be revised to take into account this important variable and should be recirculated.</p>	<p>As described in the EIR/S, it was assumed for modeling purposes that sweeping velocity of at least 0.4 feet/second was required before diversions would be allowed (see Appendix 5A). This restricts diversions to periods when flow is downstream, and is also related to bypass flow requirements, which restrict diversions based on the flow at Freeport. The modeling of potential delta smelt screen contacts and mortality in relation to approach velocity and a range of sweeping velocity reflects plausible combinations of these variables, and is explored in detail in the California WaterFix Biological Assessment submitted in August 2016. (<a href="http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf">http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_8216_Rev.pdf</a>)</p> <p>The BA also identifies that, regardless of operations of the NDD, it may be challenging for delta smelt to pass the intakes because of the sweeping velocity; access upstream may be restricted if delta smelt are unable to use the opposite nearshore area or the channel near the bottom, where velocity would be expected to be lower. Recognizing this potential reduced access upstream, the BA proposes 245 acres of shallow-water habitat restoration, including 108 acres of sandy beach spawning habitat restoration (see Table 3.4-1 in Chapter 3 of the submitted August 2016 BA).</p>
1601	697	<p>Issue:</p> <p>Intertidal operations are not fully described for maintaining screen-sweeping velocities for fish.</p> <p>Comment:</p> <p>An important criteria for protecting fish from fish screen-related take is the duration of exposure. Duration of exposure is a result of the length of the screen and the velocity of the water column passing the screen. Duration of exposure is important as there are fish swimming performance curves which have been developed and are accepted as representing how fast a fish can swim and for how long. The BDCP EIR/EIS did not define exactly how long the screens are. The BDCP did not provide any 2D or 3D modeling of water velocities at the screen faces for each screen or under various flow depths and velocities. Without the accurate length of the screen, an estimation of water velocities under different conditions and a set of operations the project proposes to adhere to, the duration of exposure cannot be determined and therefore screen-related fish take cannot be reliably estimated. The BDCP needs to revise their analysis to a project-level of detail with specific screen lengths, water velocity modeling under a range of conditions and a detailed operating plan as to how fish screen exposure duration would not be exceeded. Until this level of analysis is conducted, the BDCP should not be awarded any take or construction-related permits.</p>	<p>The specific lengths of intakes are provided in the EIR/S and associated documents; see Appendix 5.B of the public draft BDCP. Analysis undertaken for the Biological Assessment of the preferred alternative (Alternative 4A, California WaterFix) is similar to that for the public draft BDCP, and includes consideration of screen passage time. Chapter 3 of the BA describes criteria related to screen operations. Screen design will be to agency standards, and research and monitoring will assess the effectiveness of the screens, with adjustments being adaptively managed as necessary.</p> <p>Performance standards for passage at the screens are described in the California WaterFix BA submitted in August 2016, Chapter 3. The facility will, during operational testing and as needed thereafter, demonstrate compliance with the then-current NOAA, USFWS, and CDFW fish screening design and operating criteria, which govern such things as approach and sweeping velocities and rates of impingement.</p> <p>In addition, the screens will be operated to achieve the following performance standard: Maintain listed juvenile salmonid survival rates through the reach containing new north Delta diversion intakes (0.25 mile upstream of the upstream-most intake to 0.25 mile downstream of the downstream-most intake) of 95% or more of the existing survival rate in this reach. The reduction in survival of up to 5% below the existing survival rate will be cumulative across all screens and will be measured on an average monthly basis.</p> <p>For more information on adaptive management and the proposed project, please see Master Response 33. Information on operational criteria can be found in Master Response 28.</p> <p>Regarding project level versus program level analysis, please see Master Response 2.</p>
1601	698	<p>Issue:</p> <p>The National Marine Fisheries Service (NMFS) Operations Criteria and Plan (OCAP) Biological</p>	<p>The timeline associated with this action has been granted an extension from NMFS and methods to achieve the 75% survival are being investigated. Therefore there is no additional information that could be included.</p>

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		<p>Opinion (BO) Reasonable and Prudent Alternative (RPA) Action IV 4.1 requires "whole facility overall survival is 75%" for Chinook, steelhead and green sturgeon at the Reclamation Tracy Fish Collection Facility.</p> <p>Comment:</p> <p>This survival objective was supposed to be achieved no later than 12/31/12 per the OCAP BO so this survival rate is applicable to the Existing Condition/No Action/No Project as well as Reclamation's south Delta component of Joint operations in the alternatives. The BDCP EIR/EIS did not include this assumption of compliance with the existing requirement in the No Action alternatives and analyses. The BDCP EIR/EIS needs to be revised to correct this error and provide an accurate No Action characterization as the basis for comparison to identify and quantify the effects of the proposed project and alternatives.</p>	<p>Please also see response to comment 1601-128 for more information on OCAP.</p> <p>Please also refer to Master Response 1 and Appendix 3D (Defining Existing Conditions, the No Action/ No Project Alternative, and Cumulative Impact Conditions) of the Final EIR/EIS for a discussion of the environmental baselines used in the EIR/EIS.</p>
1601	699	<p>Issue:</p> <p>The project is implementing a number of conservation measures simultaneously that are intended to benefit the same species that the project proposes to adaptively manage.</p> <p>Comment:</p> <p>Even if the project could measure the biological performance of these measures (it cannot), how does it propose to determine which of the conservation measures are working and which ones have failed and are not contributing to conservation and recovery? Unless the success and or failure of programs to contribute to recovery can be determined, how can any legitimate adaptive management scheme be successfully implemented and result in a reliable benefit and outcome for the species? The answer is, "it cannot". Therefore, all of the benefits ascribed to adaptive management should be discounted based on the certainty that the monitoring programs will not lead to better future decisions and adequate certainty of contribution to conservation for the species.</p>	<p>Please see response to comment 1601-13.</p>
1601	700	<p>Issue:</p> <p>Impacts of water quality on fisheries habitat suitability have not been adequately addressed in the EIS/EIR.</p> <p>Comment:</p> <p>Complex and dynamic temporal and spatial distribution of a gradient of water quality constituent concentrations that affect fisheries habitat suitability and designated warm-water and cold-water fisheries beneficial uses requires that the entire model run results be used -- all time series and all output nodes. The current analysis just looks at averaged data at a few specific compliance points. The actual impacts to beneficial uses that the environmental document must evaluate and disclose occur across the entire area that the models address, not just some sample nodes that may not be representative of what would actually occur. The best available science requires that the output (all time series and all output nodes) from the water quality models be integrated into a Geographic Information System (GIS) and analyzed to determine the frequency, duration and magnitude of water quality exceedances above fish species tolerances and fisheries beneficial use designations. All of the data to conduct this analysis as described is readily available. Fisheries habitat locations and essential fish habitat has been defined by the fisheries</p>	<p>It should be noted that the modeling used in the EIR/EIS must be used in a comparative manner and not to define absolute values. For more information on modeling done the proposed project, please see response to comment 1601-70. Please also see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p> <p>Regarding water quality, please see Master Response 14 and Chapter 8 of the Final EIR/EIS. For information on adaptive management and operational criteria, please see Master Response 33 and Master Response 28, respectively.</p>

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		<p>agencies and GIS coverages of those are readily available from the lead agencies. The output node locations of the water quality model need to be entered into the GIS spatial database and the unique identifiers of the node be coded the same as the model output so the databases can be joined. Once the water quality model has been linked to the GIS spatial database, a simple query of will show what locations in the Delta exceed water quality and suitability of water quality for fisheries habitat suitability and fisheries beneficial uses for what periods of the year and by how much. A comprehensive impact analysis that does meet the test of best available science can easily be done using the method described and this type of approach is well documented in other environmental analysis, including DWR's Oroville Relicensing EIR.</p>	
1601	701	<p>Issue:</p> <p>The best available science for water temperature impacts is to convert modeling water temperature output node locations to corresponding Geographic Information System (GIS) segments of the river and assign those segments water temperature values from the model output. The water temperature suitability for any fish species and life stage timing can then be analyzed for the spatial and temporal distribution and overall suitable habitat quantity for each species life stage. DWR used this methodology in their DWR Oroville Licensing Environmental Assessment (EA) and EIR. The Habitat Suitability index methodology can be found at <a href="http://www.water.ca.gov/orovillereicensing/docs/app_ferc_license_2005/Vol_V_App%20G-AQUA2_Aquatics%20Methodology.pdf">http://www.water.ca.gov/orovillereicensing/docs/app_ferc_license_2005/Vol_V_App%20G-AQUA2_Aquatics%20Methodology.pdf</a>, pages 8 - 21 for water temperature fisheries habitat suitability.</p> <p>Comment:</p> <p>DWR set a precedent for the relevant and generally accepted best available science with these documents. This methodology (in its entirety) should be considered the minimum standard for best available generally accepted science for the types of fisheries impact assessments that BDCP is causing or could potentially cause. As lead agency, DWR will need to justify why the methodology was important to evaluate and disclose operational change impacts on habitat suitability for the Oroville Relicensing and how the operational changes of this same (and other) facilities did not warrant this same application of best available science. Choosing arbitrary analytical nodes (individual locations) for long reaches of the rivers for the analysis as BDCP has done is vastly incomplete and unrepresentative of the conditions that would result from the project. The methodology DWR used in the Oroville Relicensing project is representative of the entire river and fully utilizes all of the model output. BDCPs methodology is out of date and uses only a very small portion of the available model output results. The Oroville Relicensing methodology is equally applicable to all of the upstream tributaries from the Delta. In addition to water temperature analyses, these proven and agency accepted analytical approaches are also equally applicable to many other model output driven analyses such as dissolved oxygen, stage elevation/water depth, turbidity, EC, TDS, and other fisheries habitat suitability assessments. This methodology is also equally applicable to other water quality sensitive resources such as water supply (M&amp;I, agriculture) and others.</p>	<p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p> <p>As with most analytical techniques, there are advantages and disadvantages to using the habitat suitability approach used in the Oroville FERC relicensing analyses. We chose to not use this approach, but instead evaluate temperature-related effects during the period of presence of every life stage and in multiple locations where fish are present in the Feather River. This approach is equally valid.</p>
1601	702	<p>Issue:</p> <p>BDCP extension of the period of the Delta Cross Channel Locks closure will cause increased straying of some fish populations.</p>	<p>Under the new alternative, Alternative 4A, there would be no change in the operational criteria of the Delta Cross Channel from that required by the NMFS 2009 OCAP Biological Opinion, RPA Action IV.1 and SWRCB D-1641. Additional analysis is provided in the Biological Assessment submitted in August 2016 (<a href="http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_82">http://cms.capitoltechsolutions.com/ClientData/CaliforniaWaterFix/uploads/FIX_eBlast_BioAssessment_82</a>)</p>

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		<p>Comment:</p> <p>Adult anadromous fish that immigrate during the period that the locks are now closed under the BDCP will not be able to cross back into the Sacramento system without going all the way back down the Mokelumne and back up Georgiana Slough. Sacramento River fish populations that strayed into the central Delta had the opportunity to make it back into the Sacramento River system by using the Delta Cross Channel locks. With the additional period that the locks will be closed under the BDCP, it is unlikely the majority of these fish will find their way back to the Sacramento River system. Given the period of closure under the BDCP, the populations most affected would be the Sacramento, Feather, Yuba, Bear, and American rivers (and all their tributary creeks) steelhead and sturgeon (green and white). Straying caused by this will result in reduction of genetic integrity of the populations and failure to spawn when the fish do not find suitable spawning habitat.</p>	<p>16_Rev.pdf.</p>
1601	703	<p>Issue:</p> <p>BDCP implementation affects reservoir operations, but the EIR/EIS did not consider affects to warmwater fisheries in the reservoirs.</p> <p>Comment:</p> <p>Changes in reservoir operations change the rate of reservoir drawdown during warmwater fisheries reproduction. Increases in the rate of reservoir drawdown during the warmwater fisheries spawning, egg incubation and initial rearing period can adversely affect warmwater fisheries sustainability and recreation resources. Since the BDCP will change reservoir operations and therefore affect warmwater fisheries spawning/egg incubation and initial rearing habitat availability and suitability these environmental effects of the BDCP project have not been evaluated or disclosed. DWR, as State Lead agency on both documents has been inconsistent with their approach to impact analyses. Since the precedent has been set by DWR that these are affects to be expected from reoperations of reservoirs, it is an inconsistent policy for them not to consider these effects on the BDCP project. All affected BDCP affected reservoirs should have included this analyses and impact disclosure.</p>	<p>Warm water species effects were not analyzed in the EIR/EIS because Alternative 4/4A would not affect reservoir operations or drawdown beyond the normal (historic) reservoir operational ranges. Therefore effects on warm water fish species are not anticipated.</p> <p>For information on adaptive management and operational criteria, please see Master Response 33 and 28, respectively.</p> <p>For information on upstream reservoir effects, please see Master Response 25.</p>
1601	704	<p>Issue:</p> <p>BDCP implementation affects reservoir operations, but the EIR/EIS did not consider affects to coldwater fisheries in the reservoirs.</p> <p>Comment:</p> <p>Changes in reservoir operations change to coldwater pool volume and dissolved oxygen (DO) volume that are suitable for coldwater fisheries habitat. The Oroville Facilities Relicensing Environmental Assessment (EA) considered reservoir fluctuation changes on suitable coldwater fisheries habitat with the following methodology. Suitable coldwater fisheries habitat exists only where water temperature requirements are met and where Dissolved Oxygen concentrations habitat requirements are met (6.5 mg/l). The volume of water represented by depths that met both criteria proposed project was compared to the no action to determine if there were significant effects on reservoir coldwater fisheries from the implementation of the proposed project. Since the BDCP will change reservoir operations and therefore affect coldwater fisheries habitat availability and suitability these environmental effects of the BDCP project have not been evaluated or disclosed. DWR, as</p>	<p>The evaluation did consider coldwater reservoir fish species for each alternative. This information can be found in Impact AQUA-217 for each alternative. Please see Chapter 11 of the Final EIR/EIS.</p> <p>Please also see response to comment 1601-703 for more information.</p>

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		<p>State Lead agency on both documents has been inconsistent with their approach to impact analyses. Since the precedent has been set by DWR that these are affects to be expected from reoperations of reservoirs, it is an inconsistent policy for them not to consider these effects on the BDCP project. All affected BDCP affected reservoirs should have included this analyses and impact disclosure.</p>	
1601	705	<p>Issue:</p> <p>BDCP implementation affects reservoir operations, but the EIR/EIS did not consider affects to fisheries upstream of the reservoirs.</p> <p>Comment:</p> <p>Changes in reservoir operations change the formation and cutting of upstream tributary sediment wedges at their interface with the fluctuating reservoir levels. Sediment wedge formation and erosion affects coldwater fisheries in the reservoir access to the upstream tributaries for food foraging, thermal refuge and reproduction. Reductions in access to the upstream tributaries for the coldwater fisheries can affect the sustainability of these populations. The Oroville Facilities Relicensing Environmental Assessment (EA) considered reservoir fluctuation changes on coldwater fisheries accessibility to upstream habitat. DWR, as State Lead agency on both documents has been inconsistent with their approach to impact analyses. Since the precedent has been set by DWR that these are affects to be expected from reoperations of reservoirs, it is an inconsistent policy for them not to consider these effects on the BDCP project. All affected BDCP affected reservoirs should have included this analyses and impact disclosure.</p>	<p>Effects to fish species upstream of reservoirs were not analyzed in the EIR/EIS because Alternative 4/4A would not affect reservoir operations or drawdown beyond the normal (historic) reservoir operational ranges. Therefore effects on these fish species is not anticipated.</p> <p>For more information on upstream reservoir effects please see Master Response 25.</p>
1601	706	<p>Issue:</p> <p>Opportunities to improve fisheries conditions did not identify or include cutting off seepage from the Sacramento Deep Water Ship Channel locks in Sacramento which contribute to an attraction flow that causes Sacramento system salmonid straying into the Deep Water Ship Channel.</p> <p>Comment:</p> <p>There is no passage for fish through the locks, so the fish must take a 50 mile round trip if they are lucky enough to find their way back to where they belong. Judging by the amount of sport fishing in the area and some anecdotal fisheries reports from DWR, there is a considerable amount of straying at this location that the project could have addressed and that would have had less environmental impacts than other conservation measures that were included in the BDCP.</p>	<p>The process of developing the proposed BDCP conservation measures is described in Appendix 3.A of the public draft BDCP. This detailed process did not identify the action suggested by the commenters as a potential conservation measure. More information on these conservations measures can also be found in Master Response 5.</p> <p>For information on mitigation and environmental commitments, please see Master Response 22.</p> <p>Please see Master Response 3 and Chapter 2 of the Final EIR/EIS for information on the proposed project’s purpose and need.</p>
1601	707	<p>Issue:</p> <p>Intakes 1 - 3 are on sections of the river that would naturally have the thalweg of the river against the bank at the location selected for the intake.</p> <p>Comment:</p> <p>Juvenile emigrating salmonids follow the thalweg flow of the river when actively emigrating, so the location of those intakes puts the fish population at greater exposure to the fish screens and their associated elevated predation rates than if the intakes were located</p>	<p>A number of considerations were included in the siting of the intakes, as described in Appendix 3.F, Intake Location Analysis, of the Final EIR/EIS. Prime among these was the need to ensure adequate sweeping velocities to meet fish screening criteria, as well as to limit potential sedimentation issues.</p>

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		outside of the thalweg of the river.	
1601	708	<p>Issue:</p> <p>The fish screen intakes are too close in proximity to each other to allow for adequate fish recuperation prior to exposure to the next screen.</p> <p>Comment:</p> <p>Failure to consider reductions in swimming performance of fish from inadequate rest between screens means that fish impingement on the screens and take will be larger than calculated in the analysis.</p>	Please see response to comment 1601-56.
1601	709	<p>Issue:</p> <p>Reverse tidal flows in the area where the fish screen intakes are located will carry fish upstream repeatedly past the same screens.</p> <p>Comment:</p> <p>Instead of being exposed to however many number of screens are included in the project scenario, emigrating juvenile fish or resident fish could be exposed to the screens multiple times. The analysis showing just a single exposure of a fish to a screen and calculating the level of take from that is clearly under counting the true fish exposure to the screens and therefore the true level of take from the screens.</p>	Please see response to comment 1601-57. Also see response to comment 1601-707 for information on intake location.
1601	710	<p>Issue:</p> <p>The No Action definition did not include the existing Fish Screening Program in the Delta.</p> <p>Comment:</p> <p>Funding to continue and expand the Fish Screening Program was included by the BDCP as an other stressor action. This makes the proposed project comparison to the No Action condition incorrect and results in the BDCP taking too much credit for this other stressor action.</p>	<p>As already noted, the preferred alternative is now Alternative 4A and no longer includes an HCP, so the screening conservation measure is no longer included (i.e., Conservation Measure 21). Expansion of the existing screening program would have produced additional benefits beyond the existing program, although as noted in the effects analysis for the public draft BDCP, the importance of nonproject intakes was assessed to be relatively low compared to other stressors, so the effects of CM21 were not assessed to be large.</p> <p>For more information on conservation measures, please see Master Response 5. For a discussion on other stressors, please see Master Response 23.</p>
1601	711	<p>Issue:</p> <p>Increased nutrient and contaminant loading from BDCP operations in the Delta increases bio-accumulation of contaminants in fish such as Hg, As, Pb, pesticides and pharmaceutical residues.</p> <p>Comment:</p> <p>Increased bio-accumulation of these toxins affects reproductive success, egg embryo mortality and growth rates, fry growth and mortality rates, and fish morphology and sexual development.</p>	The effects of contaminants on fish species is described in Chapter 11 of the FEIR/EIS for each alternative. For information on adaptive management and operational criteria please see Master Response 33 and Master Response 28, respectively.
1601	712	<p>Issue:</p> <p>Reservoir fluctuation impacts were not included in analytical scope.</p>	As presented in Sections 5.1.2.2 and 5.2.1.2 of Chapter 5, Water Supply, and Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions in the Draft EIR/EIS, DWR operates the Oroville Complex in accordance with both the current annual FERC relicensing negotiated settlement agreement criteria and

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		<p>Comment:</p> <p>The proposed project operations change in timing and the rate of spring releases from the Oroville reservoir will result in an increase in the rate of the drawdown of the reservoir during the black bass spawning, nest construction, egg laying and egg incubation period. The DWR Oroville Facilities Relicensing impact analyses on reservoir populations of black bass from reservoir drawdown timing and rates provides an excellent example of the type and level of detail of analysis of reservoir stage changes from operations that should have been conducted in the BDCP EIR/EIS. The BDCP knew its proposed operations changed the timing and magnitude of reservoir releases and that there would be impacts but the EIR/EIS failed to identify, characterize, evaluate, quantify or disclose these impacts. The EIR/EIS should be revised to include these impact analyses and should be recirculated for public comment.</p>	<p>appropriate provisions of the California Department of Fish and Wildlife 1983 Operating Agreement.</p> <p>For more information please see response to comments 1601-703 and 1601-704.</p>
1601	713	<p>Issue:</p> <p>The minimum dissolved oxygen (DO) objectives in the Stockton Deep Water Ship Channel (DWSC) are 5 mg/l from December through August and 6 mg/l from September through November (to protect adult migration of Chinook salmon). (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP should have utilized this impact analytical threshold in its analyses. This project covers the same geographic area as the SDIP, has many similar effects on the environment, and the environmental analysis is being conducted by many of the same agencies, i.e. DWR, Reclamation, California Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS). Why then did those agencies depart from their previous significance criteria for the BDCP evaluation? The BDCP EIR/EIS failed to provide any rational or justification for the agencies departure from their previous analytical approach on this previous similar and accepted project. The impact analysis must be redone including this significance criteria so it is consistent with other similar agency environmental documents.</p>	<p>Development of significance criteria is considered for each EIR based upon the level of detail in the alternatives and quantitative and qualitative analytical tools. The basis for determination of significance is presented in the “Determination of Effects” section in each of the resource chapters (see the Final EIR/EIS).</p> <p>An RDEIR/SDEIS was developed and circulated in 2015, which included 3 new Alternatives including the new preferred alternative, 4A. The evaluation of the effects of Alternative 4A are included in the RDEIR/SDEIS, including the evaluation of dissolved oxygen in relation to Basin Plan objectives (see Impact WQ-9 in Section 4.3.4 of the RDEIR/SDEIS). Please also see response to comment 1601-70 for information on the assessment of dissolved oxygen.</p> <p>For more information on water quality, please see Master Response 14 and Chapter 8 of the Final EIR/EIS.</p>
1601	714	<p>Issue:</p> <p>All of the intakes are located at sections of the river either at or in close proximity to bends in the river.</p> <p>Comment:</p> <p>The proposed intake locations near bends in the river are hydraulically complex with lack of uniform velocities vertically through the water column and horizontally across the river cross section. These near river bend proposed intake location water velocities are particularly complex and dynamic during approaching tidal slack flows and reverse flows as the positive flow thalweg will cease and then form in different locations in the cross section of the river under reverse flows. As an example of the complexity of intake location, bends in the river, thalweg, and flow velocities; intake #1 just upstream of Scribner Bend is on the outside of a curve where the thalweg will be located during normal downstream flows. The intake extends downstream to just upstream of where Scribner Bend starts. Scribner Bend is a sharp bend in the river and the thalweg switches sides of the river about the mid-point of where the proposed screens would be located. Sweeping velocities might be adequate at</p>	<p>The decision to issue ITPs will be made by NMFS, FWS, and DFW based on the analyses provided in the BA and 2081 permit application. Take occurring during construction or as a result of operations of the proposed facilities will need to be within the limits outlined in the BiOp and ITP. The actual screen design will be coordinated with NMFS, FWS, and DFW to maximize fish benefits and will be based in part, on the series of studies identified by the Fish Facilities Technical Team (FFTT). The FFTT was a multi-agency collaborative group that identified the uncertainties and associated studies needed to ensure a state-of-the-art design.</p> <p>The positive-barrier fish screens for the proposed north Delta intakes would be designed to established protection standards for salmonids and delta smelt, and would comply with CDFW, NMFS, and USFWS fish screening criteria. Appendix 3F of the Public Draft EIR/S provides details on the development of intakes and fish screening technology, as well as the Conceptual Engineering Reports (CERs). It is proposed that monitoring and research would be conducted to inform the fish screen design, construction, and operation in order to maximize their effectiveness. Dual operations provides for flexibility that will better protect the fish based on real time data.</p> <p>Please also see response to comment 1601-55 and Appendix 3F of the Final EIR/EIS.</p>

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		<p>the upstream end of the screen, but not meet sweeping criteria in the mid- or downstream sections of the screen. The downstream-most end of the intake screen experiences near bank reverse flow circulation under positive flow conditions as a result of sharpness of the river curve and the strength of the thalweg switching sides of the river. We do not need published literature citations to validate these flow phenomenons in this location as the thalweg is readily visible under most conditions and fishing at that location with a bobber will demonstrate the reverse flow circulation described. Since the intakes are supposed to be operated to maintain a minimum sweeping velocity, the complex, dynamic, and un-uniform flow velocities make it uncertain that the facilities will uniformly comply with maintaining criteria sweeping velocities during operations. Site bathymetry and 2D modeling of water velocities under different flow, tidal and diversion operations were inadequate to reflect the range of conditions the BDCP proposes to operate under. Site-specific bathymetry and modeling should be done for each of the proposed intake locations and analyses and diversion operating rules developed and tested to ensure that fish screen criteria sweeping velocities are met. Until this level of analysis of the proposed facilities is conducted, the BDCP EIR/EIS document is incomplete and deficient in the analysis of project-level impacts and therefore should not be issued construction- or environmental-related permits (e.g. incidental take permits (ITPs)).</p>	
1601	715	<p>Issue:</p> <p>Aquatic habitat restoration plan level of detail is insufficient to allow any meaningful analysis of environmental effects or understanding of interactions of these actions with the CVP/SWP operations.</p> <p>Comment:</p> <p>The BDCP does not describe or disclose the proposed aquatic habitat characteristics in a level of detail sufficient to support the evaluation of the nature and magnitude of impacts from these actions. The BDCP description of these actions does not disclose water depth, substrate, in-situ and mobilized contaminants, channel complexity, turbidity, food base, hydraulic characteristics of tidal interchange, time requirements for habitat functionality to develop after implementation (habitats are not immediately functional and channel and vegetation equilibrium will not be reached for years or even decades), and hydraulic complexity development. Without these specific descriptions of the proposed aquatic habitat restorations, there cannot be an appropriate evaluation of methylization of Hg, turbidity, dissolved oxygen (DO), concentration of salts and other water quality constituents from evaporation and transpiration, habitat type and quality, contribution to species conservation, and other water quality impacts. The BDCP description of the proposed aquatic habitat restorations and their analysis of them are deficient and are insufficient to support issuance of incidental take permits. The BDCP should provide adequate level of detail such that an appropriate environmental analysis of these proposed aquatic habitat restorations could be evaluated, characterized, quantified and disclosed. Once that is done then avoidance, minimization and mitigation measures can be proposed by the BDCP for the significant impacts from these proposed actions.</p>	<p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action (i.e., Alternative 4A, California WaterFix), except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action</p> <p>For more information regarding project versus program level planning please see Master Response 2.</p> <p>For more information regarding impacts to water quality and its associated mitigation measures please see Chapter8 of the FEIR/EIS. Also see Master Response 14, Water Quality,</p> <p>Potential impacts to fish and aquatic resources are discussed in Chapter 11 of the Final EIR/EIS.</p>
1601	716	<p>Issue:</p> <p>WQ-1: Effects on ammonia concentrations resulting from facilities operations and maintenance (CM1)</p>	<p>As previously indicated, the preferred alternative is now Alternative 4A and no longer includes an HCP. Impact WQ-1 within Chapter 8, Water Quality, of the Final EIR/EIS addresses the potential for ammonia to increase at the Delta assessment locations. As identified in the assessment, the Sacramento Regional Wastewater Treatment Plant is undergoing upgrades that include nitrification processes that will reduce</p>

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		<p>Comment:</p> <p>The impact call of "Less-Than-Significant" is incorrect. The No Action and BDCP Proposed Project south Delta operations continue to draw higher than background levels of ammonia concentrations from the Sacramento Regional Waste Water Treatment Plant discharges across the Delta, exposing a larger area of the Delta to elevated ammonia concentrations than would occur without the project. The disruption to the food chain in the Delta and its effects on listed fish species from elevated ammonia concentrations is a significant impact.</p>	<p>ammonia concentrations in the discharge. Thus, relative to Existing Conditions, with the project alternatives ammonia concentrations at Delta assessment locations will be lower.</p> <p>For more information on water quality, please see Master Response 14.</p>
1601	717	<p>Issue:</p> <p>WQ-14: Effects on mercury concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action is incorrect. CM2-22 do not exist in the No Action, therefore there would be No Impact/No Effect. A Proposed Project that has this severity of an impact on water quality, especially compared to the No Impact/No Effect of the No Action, should not be approved or implemented.</p>	<p>Please see Table ES-8, Summary of BDCP EIR/EIS Impacts and Mitigation Measures, in the Executive Summary of the Final EIR/EIS. Also see Chapter 8 and Master Response 14 on water quality. In particular, please see section 8.3.2 of Chapter 8, Determination of Effects.</p>
1601	718	<p>Issue:</p> <p>WQ-19: Effects on pathogens resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduce the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	<p>The potential for harmful algal blooms is addressed in Chapter 8, Water Quality, of the Final EIR/EIS via assessment of Microcystis within Impacts WQ-32 and WQ-33. Please also see response to comment 1601-410.</p> <p>Please see Table ES-8, Summary of BDCP EIR/EIS Impacts and Mitigation Measures, in the Executive Summary of the Final EIR/EIS regarding impact determinations. Also see Chapter 8 and Master Response 14 on water quality.</p>
1601	719	<p>Issue:</p>	<p>Please see response to Comment 1601-718.</p>

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		<p>WQ-20: Effects on pathogens resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	
1601	720	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>Harm to, harassment of, or destruction of individuals of any species listed as endangered, threatened, or rare under federal or California law. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP should have used this same exact significance criteria to be consistent with previous similar environmental documents and previously established process, policy and procedures.</p>	<p>Development of significance criteria is considered for each EIR based upon the level of detail in the alternatives and quantitative and qualitative analytical tools. The basis for determination of significance is presented in the "Determination of Effects" section in each of the resource chapters (see the Final EIR/EIS).</p> <p>For information on permitting please see Master Response 45. For information on compliance with the Endangered Species Act, please see Master Response 29.</p>
1601	721	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>Have substantial adverse effect, either directly or through habitat modifications, on any species identified as endangered, rare, or threatened; or identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>The BDCP intake and tunnel headworks facility pumps are loud. These pumps are less than a</p>	<p>The impacts of noise from the construction and operation of the water conveyance facilities is analyzed in Chapter 12 of the Final EIR/EIS providing a quantitative analysis of expected noise impacts on sandhill crane and a qualitative analysis of potential noise impacts on other avian species. For more information on Sandhill crane, please see Master Response 17.</p>

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		<p>mile from Stone Lakes National Wildlife Refuge. The areas of these facilities are also habitat for Greater Sandhill Cranes. The value and productivity of these habitats and at the refuge will be significantly diminished by the noise disruption of the project construction and operations. The BDCP EIR/EIS did not take into account these impacts with respect to the Migratory Bird Treaty Act (MBTA) 16 U.S.C. 703-712.</p>	
1601	722	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>Reduce the area of habitat value or critical habitat areas designated under Federal Endangered Species Act (FESA). (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>The BDCP did not use this commonly applied significance criteria. This significance criteria must be added to the EIR/EIS analysis in order for the document to conform with previous agency policies and procedures for evaluating the environmental impacts of these similar and precedent setting projects.</p>	Please see response to comment 1601-720.
1601	723	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The BDCP proposes to restore and conserve "grassland; vernal pool complex; alkali seasonal wetland complex; managed seasonal wetland; nontidal perennial emergent wetland and nontidal perennial aquatic; and cultivated lands."</p> <p>Comment:</p> <p>There is no "purpose" identified in the EIR/EIS for the project to include these types of habitats in the restoration plans. The CVP/SWP projects do not affect these habitats with their operations and therefore there is no "need" to get a take permit for these species. Any effect on these habitat types would be from the conveyance construction or from conversion to aquatic habitat types should be avoided and minimized to the extent possible and mitigated for their impacts (which does not require an incidental take permit (ITP)). Unnecessary inclusion of these habitat types in the restoration plans only increases the impacts of the project. There should be at least some of the alternatives considered in the EIR/EIS that do not include these habitat types so that the impacts for including an aspect of the project in the scope that does not address an identified need or purpose can be quantified and isolated.</p>	<p>Chapter 12 of the EIR/EIS identifies these natural communities in the document because they fall within the Plan Area and would be directly and indirectly impacted by the construction of the water conveyance facility in addition to being affected by other conservation measures. Therefore, those natural communities within the Plan Area are an essential component of any HCP alternative. Please note that the preferred alternative, 4A, does not include an HCP.</p> <p>The Lead Agencies will make the final decisions regarding the selection of an alternative (and therefore, an operational scenario) for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see response to comment 1601-18 for more information on incidental take permits.</p> <p>Regarding alternatives development, please see Master Response 4. For information on mitigation, please see Master Response 22.</p> <p>Regarding the project's purpose and need please see Master Response 3.</p>
1601	724	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The Purpose and Need and the operations of the CVP/SWP do not support the inclusion of terrestrial species in the scope of the BDCP.</p> <p>Comment:</p> <p>Terrestrial species are not directly affected by the operations of the CVP/SWP other than</p>	<p>The rationale for the covered species proposed in the 2013 public draft BDCP is described in Chapter 1, Section 1.4.3 of the Draft BDCP document. One key criteria in the selection of the covered species was whether the proposed conservation measures would impact the species. The terrestrial species proposed as covered species were selected because they had the potential to be adversely affected by either the construction or operation of the water conveyance facility, or both. The Biological Opinion for the continued operation of the State Water Project and Central Valley Project in fact do include several terrestrial species.</p> <p>Please also see Master Response 17 regarding the biological impacts of the proposed project. The Alternative 4A includes considerably less habitat restoration than the HCP alternatives.</p>

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		<p>habitat alteration from the ongoing operations in the CVP/SWP service area. In the administrative draft EIS/EIR, none of the needs for the project identify terrestrial species or terrestrial habitat issues. Potential BDCP construction footprint habitat losses for terrestrial species of the BDCP are addressed through project mitigations so inclusion of terrestrial species for continued operations of the CVP/SWP is not necessary to get the aquatic species incidental take permits the state needs to operate the SWP. Reclamation is proposing to publicly condemn tens of thousands of acres of lands for terrestrial species conservation for the CVP project that does not affect terrestrial species and for a BDCP project Reclamation does not need incidental take permits for. Since the CVP has no requirement in the Operations Criteria and Plan (OCAP) Biological Opinions (BOs) Reasonable and Prudent Alternatives (RPAs) regarding these terrestrial species and because Reclamation does not need incidental take permits to operate the CVP, these terrestrial habitat private land condemnations are a discretionary action. The original proposal from the BDCP was that habitat restoration would only occur on private lands from willing sellers because the federal agencies are not authorized to condemn private lands for discretionary actions. The terrestrial species should be dropped from the covered species list in the ... [Comment not completed]</p>	<p>Please also see Chapter 12 of the Final EIR/EIS for more information. Please also see response to comment 1601-18 regarding incidental take permits.</p>
1601	725	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The BDCP impact summary indicates that many of the No Action Alternative impacts on terrestrial species are No Impact.</p> <p>Comment:</p> <p>There are just a few of the 187 terrestrial biological resource impacts for the No Action Alternative that are "Less-Than-Significant" or "Significant" prior to mitigation. The BDCP did not include any mitigations for the No Action Alternative even though it is seeking permit coverage for the unpermitted operations of the CVP and SWP and their ongoing impacts and maintenance activities based on this EIR/EIS. Conversely, the Alternative 4 Proposed Project has many significant impacts on terrestrial species prior to mitigation. These are all reduced to Less-Than-Significant and Not Adverse after mitigation. If the No Action had included mitigations, these impacts would have also been reduced to these same or lesser levels after mitigation. The incorrect omission of mitigations for the No Action has clearly biased the impact analysis comparison between the No Action and the alternatives. Remember that Alternative 4 Proposed Project impacts are in addition to the No Action impacts. The much higher number of impacts to terrestrial species in the Proposed Project Alternative 4 prior to mitigation show that the project negatively affects terrestrial species. This demonstrates that the terrestrial species should not be included in the scope of the Habitat Conservation Plan (HCP) as the CVP/SWP operations do not affect them.</p>	<p>NEPA and the CEQ guidelines provides guidance about presenting mitigation measures for environmental effects of the No Action Alternative. Because this alternative by definition does not include a proposed action mitigation measures for on-going projects plans, programs or conditions assumed in the No Action Alternative are normally addressed in a separate environmental document. Should the No Action Alternative be selected, any of the applicable mitigation measures, environmental commitments or AMMs may also be applicable to this alternative. The comparison of action alternatives to the No Action Alternative for NEPA analyses compares the No Action Alternative and action alternatives before mitigation measures are applied in determining whether adverse effects would occur.</p>
1601	726	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The BDCP plan materially conflicts with other habitat conservation plans (HCPs) that are in various planning and implementation phases in the same locations/areas and same terrestrial species that BDCP proposes.</p>	<p>The Draft EIR/EIS addresses conflicts with HCPs/NCCPs in Impact BIO-187 and Impact BIO-192 (please see chapter 12 of the Draft EIR/EIS and Chapter 12 of the Final EIR/EIS).</p> <p>For more information on habitat restoration and the proposed project please see response to comment 1601-4.</p>

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		<p>Comment:</p> <p>The BDCP is proposing to restore many of the same lands that are currently part of HCPs being developed by the Delta counties: Sacramento, San Joaquin, Yolo, Contra Costa and Solano. The BDCP's plan is in direct and significant conflict with these other local and regional plans. These other HCPs were initiated first, are more developed/further along the approval process, have more specific plans (not just the nebulous and programmatic undefined future to be defined later proposals of the BDCP) and are closer in timing to implementation and contribution to the conservation of these species. The BDCP is disrupting the efforts and plans of these other HCPs to protect and conserve the many of the same terrestrial species as the BDCP proposed covered species. Because of this BDCP direct conflict with the other plans, the BDCP is actually reducing the overall near- and mid-term conservation of these species. This conflict with other HCPs and the resulting reduction in conservation for the BDCP proposed covered species was not adequately discussed or disclosed in the BDCP EIR/EIS. This significant direct impact to habitat that would have otherwise been created and implemented by these other HCPs was not identified, quantified, characterized, or disclosed in the BDCP EIR/EIS. These significant impacts from the BDCP proposed project have not had measures implemented to avoid, minimize or mitigate them and therefore the current BDCP EIR/EIS is incomplete and deficient. The BDCP EIR/EIS document should be revised to provide a detailed accounting of the locations, quantity and types of habitat restoration conflict with existing and in-progress local and regional plans and policies. This revision would be a material change that would require the BDCP recirculate the EIR/EIS for an additional round of public comment. The BDCP can avoid this conflict by dropping the terrestrial species from the proposed covered species.</p> <p>The Purpose and Need statement does not provide any justification for including the terrestrial species anyway. If the BDCP does not drop the terrestrial species from the covered species list, in order to minimize this significant impact on the other pre-existing HCPs, the BDCP Proposed Project needs to include a plan/commitment not to implement restorations on any of the areas/locations previously identified by the other HCPs. Given the conflict between the BDCP and the plans of other pre-existing HCPs, there is also a reasonable doubt of sufficient remaining suitable lands for proposed BDCP conversion to specific species habitat restoration. As an example, once San Joaquin, Sacramento and Yolo and Solano counties have implemented their planned habitat conservation for Giant Garter Snake (GGS), there will be little suitable habitat available for the 3:1 habitat loss mitigation and habitat restoration as a contribution to conservation for the BDCP to implement. This scarcity of suitable GGS habitat to conserve and/or restore is illustrative of the conflict of the BDCP with the other pre-existing conservation plans and also calls into question the ability of the BDCP to fulfill its habitat conservation goals in the future. The limitations on available habitat to convert in competition with the other HCPs demonstrates the level of uncertainty of the BDCP achieving conservation goals and therefore the BDCP cannot be awarded incidental take permits with this level of uncertainty.</p>	
1601	727	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>At no time should the project be allowed to degrade or reduce the amount or quality of</p>	<p>Chapter 12 of the Draft EIR/EIS does evaluate habitat loss in two separate time periods, near-term (0 to 10 years) and late long-term (15-50 years). The Draft EIR/EIS also took into consideration the commitment to phase protection and restoration to keep pace with losses as they occur such that conservation actions are initiated prior to impacts occurring and evaluated their schedule for implementation against the habitat</p>

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		<p>habitat or reduce species populations in the course of the implementation of the project.</p> <p>Comment:</p> <p>The pace of the amount of habitat lost to conveyance construction occurs at a much faster pace than the restoration and functional development of habitat restoration Conservation Measures (CMs). The level of detail provided in the EIR/EIS does not even allow a detailed accounting of habitat loss by type (species) by year or an accounting of the type and quantity by year of fully functioning habitat restoration or mitigation, so a detailed analysis to quantify this shortfall is not even currently possible. Degradation of habitat conditions have led to the listing of the species that the BDCP proposes to cover. Since the purpose of the Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) is to conserve and protect the covered species, the project should not be allowed to result in a net negative quantity and quality of habitat for the listed/covered species at any point in time during the BDCP project.</p>	<p>losses over these time periods. The Draft EIR/EIS also analyzed whether there were sufficient conservation actions to offset the quantity and quality of habitats being affected. Please note that the preferred alternative, 4A, does not include an HCP.</p> <p>The Alternative 4A implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Alternative 4A would result in no significant and unavoidable impacts to aquatic or terrestrial biological resources. Please refer to Chapter 11, Fish and Aquatic Resources, and Chapter 12, Terrestrial Biological Resources, of the Final EIR/EIS for more detail.</p> <p>For information on project level versus program level analysis, please see Master response 2.</p>
1601	728	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The schedule and pace of early project implementation of habitat restoration is not adequate in magnitude to mitigate for the land disturbance from the initiation of the construction of the project (let alone contribute to conservation).</p> <p>Comment:</p> <p>Mitigation must be completed prior to land disturbance in order for the endangered species conditions not to additionally degrade before they are theoretically improved by the project. Endangered species that according to the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) Operations Criteria and Plan (OCAP) Biological Opinions (BOs) are on the verge of jeopardy should not be exposed by the project to further habitat degradation prior to habitat improvements. NMFS and FWS are not justified in issuing incidental take permits (ITPs) until such time in the implementation of the project that it has at least achieved a positive net effect on endangered species habitat and that at no time during the implementation of the project are endangered species habitat conditions and populations allowed to be reduced by the project.</p>	<p>As described in the 2013 BDCP, Chapter 3, the conservation strategy was designed to account for the time lag expected between impacts and mitigation. The NCCP Act requires that the BDCP maintain rough proportionality between impacts and conservation at all times. This means, for example, that if 10% of the impacts occur, 10% of the conservation must also occur. Chapter 6 of the 2013 BDCP describes the process by which rough proportionality will be measured and tracked to ensure compliance. Conservation requirements go beyond mitigation, so this means that in most cases, land acquisition and restoration will stay ahead of impacts. Regardless, the amount and types of conservation measures proposed were designed to offset the time lag that may occur between impacts and offsets. Chapter 5 of the 2013 BDCP explains how the conservation strategy provides a net benefit for all of the covered species.</p> <p>.Please also see Master Response 17 regarding aspects of the biological impacts of the new proposed project.</p> <p>Please also see response to comment 1601-727 and response to comment 1601-18.</p>
1601	729	<p>Document Section: Chapter 12 - Terrestrial - Conservation Measures</p> <p>Issue:</p> <p>The BDCP will not fulfill their commitment to "restore 19,150 acres of tidal natural communities by year 10 of the project" (CM4).</p> <p>Comment:</p> <p>The EIR/EIS says that habitat restorations that occur after the near-term will be analyzed at a programmatic level of detail and will be subject to more detailed analysis in subsequent environmental document(s). No specific timeframe for these subsequent environmental documents is provided in the EIR/EIS. CM4 lacks detailed designs (necessary for surface water flood channel capacity analysis and flood risk assessment, aesthetics); footprint of disturbance (necessary for terrestrial species, fish stranding and agricultural impacts);</p>	<p>For a description of implementation of CM4 please see Appendix 11F in the FEIR/EIS.. Please see Master Response 2 regarding project- versus program-level analysis. Additional, project-level environmental review will be completed as necessary prior to implementation of specific conservation measures other than CM1. For additional discussion regarding the conservation measures that may require additional environmental review, see Appendix 31A, BDCP Later CM Activity Environmental Checklist.</p> <p>Information on environmental commitments can be found in Appendix 3B of the Final EIR/EIS.</p>

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		operational plans (necessary for operations modeling, water supply impacts, water quality impacts, agricultural impacts); Maintenance plans (vegetation management and dredging impacts on water quality and fisheries habitat); water rights (evaporation, transpiration and groundwater recharge consumption) have not been secured or the process to secure them defined and analyzed (necessary for water rights impacts); the change in beneficial uses of water of those water rights has not been identified or evaluated (necessary for water rights and water supply impacts); equipment used (e.g. earthmoving, dredging, etc.) and estimated hours of operations (necessary for air quality impacts); etc. With all of this necessary project level detail to satisfy the impact analyses missing from the public draft EIR/EIS, the detailed description of CM4 will either need to be revised after this draft to provide sufficient level of detail or these CMs will need to be addressed in a subsequent environmental document. If the level of detail in the CM4 descriptions is enhanced, then this will be a material change in the content of the document and impacts disclosed and therefore the document should be recirculated for public comment. If CM4 is not be addressed at a project level of detail until a subsequent environmental document, the BDCP should disclose the timeline for those documents. CM4 is committed to "restoring 19,150 acres within the first 10 years of implementation".	
1601	730	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The Biological Goals and Objectives are not specific enough to support the use of adaptive management.</p> <p>Comment:</p> <p>This problem of lack of specific measurable goals and triggers for adaptive management actions equally apply to the incomplete project description for terrestrial species. This deficiency must be rectified.</p>	Please see response to comment 1601-11 and 1601-693.
1601	731	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The project is implementing a number of conservation measures simultaneously that are intended to benefit the same species that the project proposes to adaptively manage.</p> <p>Comment:</p> <p>Even if the project could measure the biological performance of these measures, how does it propose to determine which of the conservation measures are working and which ones have failed and are not contributing to conservation and recovery?</p>	Each conservation measure has associated monitoring that allows effectiveness to be assessed together with adaptive management to allow adjustments should these be necessary. Note that Alternative 4A does not have conservation measures that would be tracked in this way. For more information please see response to comment 1601-13.
1601	732	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The tunnel spoil disposal area on Andrus Island disrupts the main Reclamation District drainage and irrigation supply ditch.</p>	Please see response to comment 1601-59. For information on mitigation please see Master Response 22. Information on environmental commitments can be found in Appendix 3B of the Final EIR/EIS.

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		<p>Comment:</p> <p>These ditches are also Giant Garter Snake (GGS) habitat. The BDCP did not quantify the number of acres of lost and degraded habitat from the tunnel spoils, nor did the document address avoidance, minimization and mitigation measures for these impacts.</p>	
1601	733	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The BDCP analysis of terrestrial species impacts from the conveyance (CM1) determined that CM1 does not reduce take of species or restore habitat.</p> <p>Issue:</p> <p>Because the conveyance does not result in any contribution to conservation for terrestrial species, it cannot be classified as a conservation measure. The conveyance is the objective of the project proponents. They want to build a conveyance. It is not a conservation measure and it should not be misrepresented to the public as one. This misrepresentation of the conveyance as a conservation measure is just one more example of the biased assessment of environmental affects in the EIR/EIS document and the consistent positive bias predecisional attitude the lead agencies have had for the project throughout the environmental review process.</p>	<p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p> <p>Please see Master Response 5 related to treatment of CM1.</p>
1601	734	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>The BDCP is taking double credit for habitat restorations.</p> <p>Comment:</p> <p>Some of the conservation areas that the BDCP is taking credit for in contribution to the conservation of the species in the Habitat Conservation Plan (HCP) are either existing obligations of the project or are already in the planning process under other HCPs, i.e. same lands are proposed for Giant Garter Snake (GGS) conservation by both the BDCP HCP and the San Joaquin HCP. Double counting of habitat restoration contributions to conservation that are already existing obligations must be removed from the calculations of habitat created in the proposed project that would be above and beyond the habitat that will be created under the no action condition. Furthermore, the BDCP must remove from their accounting of contributions to conservation areas that are already designated to be restored by other projects, e.g. San Joaquin County HCP. Habitat can only be restored once, and the double counting that the BDCP is doing is dishonest. The agencies must not accept this corrupted accounting of contributions to conservation and unless, after the accounting flaws are fixed, their is a legitimate, substantial and reliable contribution to conservation, the resource agencies should not approve the plan nor should they issue any incidental take permits or any other construction-related permits.</p>	<p>Please see response to comment 1601-36. For information on habitat restoration and the proposed project please see response to comment 1601-4.</p> <p>Information on environmental commitments can be found in Appendix 3B of the Final EIR/EIS. Also see Master Response 22 for information on mitigation. Regarding permitting, please see Master Response 45. Incidental take permits are discussed in response to comment 1601-18.</p>
1601	735	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p>	<p>The preferred alternative (Alternative 4a) was revised to move the intermediate forebay to Glanville Tract which would minimize the effects of sandhill cranes in the vicinity of the Stone Lakes National Wildlife Refuge. In addition, the intermediate forebay is not expected to have an O&amp;M center, only a small office, and there would be regular maintenance of the facility. Lighting would be available but there would not be</p>

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		<p>Security lighting at the intakes and tunnel headworks facility will confuse greater sandhill cranes that are found in high population concentrations at the immediately adjacent to the east Stone Lakes National Wildlife Refuge.</p> <p>Comment:</p> <p>With the increase in fog from the intermediate forebay reducing visibility and the new hazard of the power lines installed for the intake and tunnel headwork pumps and facilities in combination with the navigational hazard of the security lighting, an increase in the take of this species should have been anticipated by the project.</p>	<p>permanent lighting on the structure all of the time. There would also be a 6'-high berm around the retention basin, which would be expected to further minimize potential indirect effects on sandhill cranes.</p> <p>Alternative 4A also substantially reduced the length of permanent and temporary transmission lines as compared to the Draft BDCP, substantially reducing the likelihood of crane collisions. Under Alternative 4A, no permanent transmission lines would be constructed within the greater sandhill crane winter use area. The Alternative 4A transmission line alignment within the vicinity of Stone Lakes National Wildlife Refuge would be limited to two segments of temporary transmission lines: a temporary 11-mile segment extending north and south between Intake 2 and the intermediate forebay, and a temporary 9-mile segment extending east and west between the intermediate forebay and the SMUD/WAPA substation. The potential impacts of the construction of these temporary transmission lines has been analyzed in the EIR/EIS under Impact BIO-70: Effects on Greater Sandhill Crane Associated with Electrical Transmission Facilities. (See chapter 12 of the Final EIR/EIS).</p>
1601	736	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>There is a lack of species-specific toxicity information for birds and lack of exposure information for mammals, reptiles, or amphibians.</p> <p>Comment:</p> <p>The BDCP needed more bird samples collected in the environmental baseline monitoring and the analysis of terrestrial species toxicity analysis must be addressed in greater detail and specificity, especially with regards to contaminants that will change in location, concentration, exposure opportunity, rate of bioaccumulation etc. that the BDCP project impacts. As an example, the reduced turnover rate of water in the south and central Delta from the proposed BDCP operations will result in an increase in the concentration of selenium contribution from the San Joaquin. The current toxicity of selenium in terrestrial species was inadequately sampled and characterized by the BDCP and the analysis done of the impacts of the increased selenium concentrations on the terrestrial species was inadequate. The BDCP must collect a more complete baseline of all contaminants and do a much more thorough analysis of the impacts of these contaminants from the BDCP proposed project and alternatives.</p>	<p>The potential for selenium effects was presented for different guilds of birds in different geographic areas to provide a range of potential effects on avian species for the programmatic analysis provided in the EIR/EIS. Species-specific and geographically specific baseline information would be collected as part of AMM27 Selenium Management (Draft BDCP Appendix 3.C, Avoidance and Minimization Measures for Alternatives 1A-1C, and 9 and Appendix 3.K of the FEIR/FEIS for Alternatives 4 and 4a).</p>
1601	737	<p>Document Section: Chapter 12 - Terrestrial</p> <p>Issue:</p> <p>Late afternoon sun in the winter will cast a shadow from the surge towers that will reach the National Wildlife Refuge and degrade the quality of habitat.</p> <p>Comment:</p> <p>This impact can be reduced by using larger diameter shorter surge towers and by relocating them farther away from the refuge and mitigated by replacing habitat that is degraded by the tower shadows.</p>	<p>As described in Chapter 3, Description of the Alternatives, in the Partially Recirculated Draft EIR/Supplemental Draft EIS, Alternatives 4, 4A, 2D, and 5A were modified to eliminate the need for the surge towers.</p>
1601	738	<p>Document Section: Chapter 12 - Terrestrial</p>	<p>Operation of the project is expected to conform to local standards, through Mitigation Measure NOI-3 (in Chapter 23 of the Final EIR/EIS): Design and Construct Intake Facilities and Other Pump Facilities Such That Operational Noise Does Not Exceed 50 dBA (One-Hour Leq) during Daytime Hours (7:00 A.M. to 10:00 P.M.)</p>

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		<p>Issue:</p> <p>Noise from the intake pumps and tunnel headworks will reach the National Wildlife Refuge and degrade the quality of habitat.</p> <p>Comment:</p> <p>This impact can be reduced by noise suppression of the pumps, by relocating them farther away from the refuge and mitigated by replacing habitat that is degraded by the BDCP facility noise.</p>	<p>or 45 dBA (One-Hour Leq) during Nighttime Hours (10:00 P.M. to 7:00 A.M.) or the Applicable Local Noise Standard (Whichever Is Less) at Nearby Noise Sensitive Land Uses. For more information on environmental commitments please see Appendix 3B of the Final EIR/EIS.</p>
1601	739	<p>Issue:</p> <p>WQ-5: Effects on bromide concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The "Significant Unavoidable" and "Adverse" increase in bromide after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Bromide is an important water quality constituent for drinking water and represents a well documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	<p>See Response to Comment 244.</p>
1601	740	<p>Issue:</p> <p>WQ-14: Effects on mercury concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action is incorrect. CM2-22 do not exist in the No Action, therefore there would be No Impact/No Effect. A Proposed Project that has this severity of an impact on water quality, especially compared to the No Impact/No Effect of the No Action, should not be implemented.</p>	<p>Please response to comment 717.</p>
1601	741	<p>Issue:</p> <p>WQ-19: Effects on pathogens resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms</p>	<p>Please see response to comment 1601-718.</p>

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		<p>(<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause an increase in nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	
1601	742	<p>Issue:</p> <p>WQ-20: Effects on pathogens resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduce the rate of turnover of water in the Delta and reduce assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause an increase in nutrient concentrations and water temperatures, which will result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	<p>While the "issue" portion of this comment is regarding pathogens, the content of the comment is regarding algal blooms, which is addressed in response to comment 1601-718.</p>
1601	743	<p>Document Section: Reusable Tunnel Material Testing Report - Section 3.1.3</p> <p>Issue:</p> <p>The water permeability of the polymer treated samples is much lower than the untreated samples.</p>	<p>The analyses in the EIR/EIS assume that reusable tunnel material (RTM) would result in a permanent effect at the locations identified for RTM disposal because the amount and timing of reuse is currently unknown. The RTM testing Report was developed to give an initial indication of the potential chemical characteristics of treated RTM. Appendix 3B, of the Final EIR/EIS describes how RTM would be stored, tested and treated and disposed of, if necessary, as an environmental commitment for the proposed project. The measures in this environmental commitment combined with the SWPPP and erosion and sediment plan would reduce the effects of RTM on adjacent soil, agriculture, habitat, groundwater, erosion and drainage.</p>

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		<p>Comment:</p> <p>The water infiltration rate of the treated tunnel muck is much lower than the untreated materials. The analysis should also have included a comparison to the infiltration rates of the soils that would be covered by the tunnel muck disposal to determine the impacts to soil suitability for agriculture, habitat, groundwater recharge, surface erosion, cumulative drainage, and surface water drainage quantity and quality. The BDCP EIR/EIS failed to conduct these assessments on the impacts of the infiltration rates of the tunnel muck disposal.</p>	
1601	744	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Conflict with any applicable habitat conservation plan or natural community conservation plan. (Monterey Agreement, California Bay-Delta Authority (CALFED), and Oroville Federal Energy Regulatory Commission (FERC) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP conflicts with County Habitat Conservation Plans (HCPs): San Joaquin, Sacramento, Contra Costa, Solano, Yolo. The HCPs are for the most part, further along in their planning process, approval process and implementation than the BDCP. The BDCP should be deferring to these other more developed HCPs whenever there is a potential conflict between proposed land restoration locations. The BDCP not only did not evaluate the conflicts from identifying the same lands for restoration as these other plans, they did not evaluate the impacts of the HCPs competing for the same lands (increased land costs), did not evaluate the interactions between adjacent and interrelated habitat restoration areas, and did not evaluate the cumulative effects of all of the land conversions from all the HCPs. The BDCP EIR/EIS document must address these deficiencies before the document could be considered useful or complete as an agency decision support document. Until these deficiencies are addressed, U.S. Fish and Wildlife Service (FWS) and California Department of Fish and Wildlife (CDFW) should not rely upon this document for decision making regarding issuance of incidental take permits.</p>	Please see response to comment 726.
1601	745	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <ul style="list-style-type: none"> <li>- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect. (Monterey Agreement, California Bay-Delta Authority (CALFED) and Oroville Federal Energy Regulatory Commission (FERC) Sig Criteria)</li> <li>- Conflict with city or county general plan designations or zoning. (CALFED Sig Criteria)</li> </ul> <p>Comment:</p> <p>Conflicts with County General Plans: San Joaquin, Sacramento, Contra Costa, Solano, Yolo. BDCP conflicts with local and regional land trusts, zoning, and mitigation banks.</p>	Please see Master Response 11, Applicability of City and County General Plans.

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1601	746	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Change of the type or intensity of land uses resulting in incompatibility with existing surrounding land uses or incompatibility with the regional character. (Yuba Accord Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities are a significant change in land use intensity from rural agriculture to heavy industry. Habitat restorations are incompatible with adjacent farming practices and will require new spray buffers which impairs current land viability for agriculture.</p>	<p>This text has been revised in the Final EIR/EIS. Because the Notice of Preparation for this project was released in 2009, that timeframe remains the appropriate CEQA baseline for Existing Conditions. While certain updates have been made in the RDEIR/SDEIS, most updates were made only when those updates would affect a significance conclusion. Therefore, because the Yuba Accord was not drafted by this project's baseline, it will not be included in the Final EIR/EIS. For more information on environmental baselines, please see Master Response 1.</p>
1601	747	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Williamson Act - 51220.5. Legislative finding; "compatible uses." The Legislature finds and declares that agricultural operations are often hindered or impaired by uses which increase the density of the permanent or temporary human population of the agricultural area. For this reason, cities and counties shall determine the types of uses to be deemed "compatible uses" in a manner which recognizes that a permanent or temporary population increase often hinders or impairs agricultural operations.</p> <p>Comment:</p> <p>The State's condemnation of the properties usurps the city and county role in determining what compatible uses are under the Williamson Act.</p>	<p>As described in Chapter 16, Socioeconomics, of the Final EIR/EIS, under Impact ECON-2 for Alternative 4A (the preferred alternative), construction of conveyance facilities would require an estimated peak of 2,427 workers in year 3 of the assumed 14-year construction period. It is anticipated that many of these new jobs would be filled from within the existing five-county labor force. It is anticipated that the existing housing unit availability would be able to accommodate workers from outside the region. This impact is considered less than significant because it concludes that the proposed project would not substantially increase the demand for housing within the five-county region. Therefore, it would also be reasonable to assume that for land use purposes, the proposed project would not substantially increase the density of the permanent or temporary human population.</p>
1601	748	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Williamson Act - 51238.1. Compatible uses. (a) Uses approved on contracted lands shall be consistent with all of the following principles of compatibility: (1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. (2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.</p> <p>Comment:</p> <p>BDCP tunnel muck disposal will affect adjacent farmlands with dust that will affect the quality and quantity of yields and therefore the economic viability of a property. A specific example of this is the BDCP proposed tunnel muck disposal site on Andrus Island adjacent to Wilson Farms cherry and pear orchards and adjacent to their fruit packing house. Dust from the tunnel muck disposal will create quality problems on the fruit and be an health and</p>	<p>As described in Chapter 13 of the EIR/EIS, RTM areas are considered permanent surface impacts for the purposes of impact analysis. However, as described in Appendix 3B, Environmental Commitments, it is anticipated that the RTM would be removed from these areas and reused, as appropriate, as bulking material for levee maintenance, as fill material for habitat restoration projects, or other beneficial means of reuse identified for the material. Following removal of material, stockpiled topsoil at RTM storage areas would be reapplied, and disturbed areas will be returned as near as feasible to preconstruction conditions by carefully grading to re-establish surface conditions and reconstructing features such as irrigation and drainage facilities.</p> <p>For more information on Reusable Tunnel Material please see Master Response 12.</p> <p>Under the alternatives, including preferred alternative (Alternative 4A), indirect effects on land use may also arise through incompatibilities with land subject to Williamson Act contracts or in Farmland Security Zones. If the construction and operation of water conveyance facilities under the alternatives results in contract nonrenewal, cancellation, or otherwise removes land within an agricultural preserve from a Williamson Act contract, the county overseeing the preserve may decide to manage the preserve differently; for instance, the county could modify the rules governing compatible uses on remaining land within the preserve. However, this effect is speculative and its magnitude or geographical incidence cannot be evaluated with enough certainty. Chapter 14, Agricultural Resources, discusses the potential for direct conflicts with land subject to Williamson Act contracts or in Farmland Security Zones.</p>

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		<p>safety issue for the packing house workers. New forebays and habitat restorations are incompatible with adjacent farming practices and will require new spray buffers which impairs current land viability for agriculture. The BDCP changes in land use are incompatible with the adjacent land uses.</p>	
1601	749	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Williamson Act - 51256.3. Agricultural conservation easement; Sacramento-San Joaquin Delta. For the purposes of facilitating long-term agricultural land conservation in the Sacramento-San Joaquin Delta, an agricultural conservation easement located within the primary or secondary zone of the Delta, as defined in Sections 29728 and 29731 of the Public Resources Code, may be related to contract rescissions in any other portion of the secondary zone without respect to county boundary limitations contained in an agricultural conservation easement agreement pursuant to Section 51256.</p> <p>Comment:</p> <p>The BDCP cannot mitigate rescinding of WA contracted lands in the primary or secondary Delta with new Williamson Act (WA) contracted lands without balancing the quantity of contract rescission by the County.</p>	<p>As described for Alternative 4A and the other alternatives in Impact LU-1 in Chapter 13 of the Final EIR/EIS, indirect effects on land use may also arise through incompatibilities with land subject to Williamson Act contracts or in Farmland Security Zones. If the construction and operation of water conveyance facilities under the alternatives results in contract nonrenewal, cancellation, or otherwise removes land within an agricultural preserve from a Williamson Act contract, the county overseeing the preserve may decide to manage the preserve differently; for instance, the county could modify the rules governing compatible uses on remaining land within the preserve. However, this effect is speculative and its magnitude or geographical incidence cannot be evaluated with enough certainty. Chapter 14, Agricultural Resources, discusses the potential for direct conflicts with land subject to Williamson Act contracts or in Farmland Security Zones.</p>
1601	750	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Williamson Act - 51290. State or local public improvements within preserve.</p> <p>(a) It is the policy of the state to avoid, whenever practicable, the location of any federal, state, or local public improvements and any improvements of public utilities, and the acquisition of land therefore, in agricultural preserves.</p> <p>(b) It is further the policy of the state that whenever it is necessary to locate such an improvement within an agricultural preserve, the improvement shall, whenever practicable, be located upon land other than land under a contract pursuant to this chapter.</p> <p>(c) It is further the policy of the state that any agency or entity proposing to locate such an improvement shall, in considering the relative costs of parcels of land and the development of improvements, give consideration to the value to the public, as indicated in Article 2 (commencing with Section 51220), of land, and particularly prime agricultural land, within an agricultural preserve.</p> <p>Comment:</p> <p>The BDCP conveyance alignment route selection and habitat restoration locations were biased to take lands under a Williamson Act (WA) contract in order to acquire lands that are lower cost because they are in an agricultural preserve. 58% of the land in the statutory Delta is under WA contract. As proof of the BDCP targeting of Williamson Act lands, of the lands condemned for the conveyance almost all of it is under Williamson Act contract. If the project was not targeting WA lands to acquire lands cheaper, then the WA condemned lands should be at 58% or less. The BDCP needs to revise their conveyance route and habitat</p>	<p>The project proponents did not target Williamson Act lands for the conveyance alignment. Please refer to Section 3.2 of Chapter 3, Description of Alternatives, in the Final EIR/EIS and Master Response 4 regarding the process of selecting alternatives. Please also see response to comment 1601-748, 1601-749, and 1601-751 for more information.</p>

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		restoration sites so that it conforms with the WA provisions for the state to avoid and minimize impacts to WA lands. Unless the revised BDCP proposal results in less than 58% of the condemned lands being enrolled in the WA, then the BDCP will have failed to conform to this WA rule. The BDCP should provide justification for why it is currently clearly inconsistent with this WA rule.	
1601	751	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Williamson Act - 51292. Conditions under which public improvement may not be located within preserve. No public agency or person shall locate a public improvement within an agricultural preserve unless the following findings are made:</p> <p>(a) The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve.</p> <p>(b) If the land is agricultural land covered under a contract pursuant to this chapter for any public improvement, that there is no other land within or outside the preserve on which it is reasonably feasible to locate the public improvement.</p> <p>Comment:</p> <p>The BDCP has not provided any supporting documentation as to why there is no reasonably feasible alternative to locating the project on Williamson Act (WA) contracted lands.</p>	<p>The new preferred alternative, 4A, has been optimized to result in fewer impacts than previous alternatives. Additionally, as described in Chapter 14, Agricultural Resources, the project proponents have incorporated Mitigation Measure AG-1: "Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones" to lessen impacts related to loss of any Williamson Act contracts.</p>
1601	752	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>The programmatic level analysis of the habitat restoration (non-location specific) does not disclose what the impacts will be on Williamson Act (WA) contract lands.</p> <p>Comment:</p> <p>If the restoration zones are any indication, the habitat restorations would occur almost exclusively on WA contracted lands. This is obviously targeting by the BDCP to condemn WA lands to acquire lands more cheaply.</p>	<p>The analysis for CMs 2-21 was completed at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis, in the Draft BDCP document. Also, the RDEIR/SDEIS, released in 2015, introduced a new preferred alternative, 4A, which does not include a HCP or conservation measures. This alternative implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Therefore, the restoration projects to which the commenter is referring would not apply to Alternative 4A. Please refer to Chapter 3 of the Final EIR/EIS, Description of Alternatives for more information and response to comment 1601-4.</p> <p>For information on project level v. program level analysis please see Master Response 2. Please also see response to comment 1601-749 and 1601-750.</p>
1601	753	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>BDCP taking of portions of parcels may result in the remaining portions of the parcels not qualifying for the Williamson Act (WA) minimum parcel size requirements.</p> <p>Comment:</p> <p>Loss of the tax-protected status of the remaining parcels would be an on-going impact of the BDCP on the landowner that must be avoided, minimized and mitigated. Avoidance can be done by careful parcel selection. This impact can be minimized by not condemning portions of parcels that leave uneconomic and non-WA qualifying parcels. Mitigation would be through purchase of uneconomic and non-WA qualifying parcels and/or ongoing</p>	<p>Please refer to Chapter 14, Agricultural Resources of the Final EIR/EIS which describes measures to reduce these impacts, particularly Mitigation Measure AG-1, Develop an ALSP to preserve agricultural productivity and mitigate for loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones.</p>

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		compensation to the landowner and county for the impact to the WA status.	
1601	754	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Farmland Security Zone (FSZ) is a higher level of conservation than a standard WA contract. The FSZ preserve must support at least 100 contiguous acres of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance. FSZ land cannot be annexed into a city, or a special district that provides non-agricultural services, or for use as a public school. In return, FSZ contracts offer landowners greater property tax reduction than under a 10-year Williamson Act contract.</p> <p>Comment:</p> <p>The BDCP analysis failed to calculate what proportion of condemned lands were FSZ and to disclose the impacts of conversion of this land conservation type.</p>	Please see response to comment 1601-753.
1601	755	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>Uniform Appraisal Standards for Federal Land Acquisitions - B-11. Partial Acquisitions. When the United States acquires only part of a unitary holding, federal law requires that compensation be made not only for the property interest acquired, but also for the diminution, if any, in the value of the remainder directly caused by the acquisition and/or by the use to which the part acquired will be put.</p> <p>Comment:</p> <p>BDCP taking of parcels and portions of parcels may result in land ownership fragmentation. Fragmentation of land ownership disrupts land use, reduces land utility, reduces access, and creates uneconomically sized parcels for continued use as agricultural production land. Land fragmentation and the related impacts described above are impacts and ongoing impacts the project that have to be fully mitigated.</p>	<p>Please note that as described in Chapter 16, Socioeconomics, of the Final EIR/EIS, under the California Constitution, public agencies may use eminent domain to acquire private property, but they must pay “just compensation” to the owner. Just compensation includes: (1) the fair market value of the real property and its improvements; and (2) any diminution in value of the remaining property when property taken is part of a larger parcel.</p> <p>Mitigation Measures Ag-1, 1a, 1b, and 1c, as described in Chapter 14, Agriculture, would be implemented to reduce impacts to agriculture and protected farmlands. Mitigation would include design measures so as to optimize contiguous parcels of agricultural land of a size sufficient to support their efficient use for continued agricultural production. Also, where choices are possible among or between particular parcels or lands that are available for a project, project proponents should look at the characteristics of the different parcels or lands to determine whether one choice would be better from an agricultural resource perspective.</p> <p>For more information on mitigation please see Master Response 22. Agricultural impact mitigation is discussed in Master Response 18.</p>
1601	756	<p>Document Section: Chapter 13 - Land Use</p> <p>Issue:</p> <p>The BDCP did not provide sufficient justification for the proposed conveyance facilities locations.</p> <p>Comment:</p> <p>Facilities location rationale and supporting documentation must provide rationale for why a facility that is condemning private lands must be cited in one location over another -- this documentation and rationale has not been adequately done for the intake citing or canals/pipelines. Even a cursory review of the BDCP proposed north Delta intake locations shows that historic buildings (e.g. Rosebud Mansion) and recreation areas (Merritt Landing) are directly affected by intake locations that could easily be shifted to avoid these impacts. Without sufficient justification for the location of the facilities and their lack of investigated</p>	<p>The removal of a substantial number of existing permanent structures as a result of constructing the water conveyance facility would be considered a direct, adverse socioeconomic effect of this alternative under NEPA. When required, DWR would provide compensation to property owners for losses due to implementation of the alternative, which would reduce the severity of economic effects related to this physical impact, but would not reduce the severity of the physical impact itself. Project conflicts with existing public structures are addressed in Chapter 20, Public Services and Utilities, of the Final EIR/EIS; potential adverse effects on the environment related to the potential release of hazardous materials contained in structures to be demolished are addressed in Chapter 24, Hazards and Hazardous Materials; and potential adverse effects on traditional cultural properties are addressed in Chapter 18, Cultural Resources.</p> <p>The new preferred alternative, 4A, has been optimized to result in fewer impacts than previous alternatives. Wherever feasible, the project proponents have included mitigation and environmental commitments to lessen impacts. Unfortunately, a project that would result in zero land use conflicts is not possible.</p> <p>For more information on cultural resources assessment, please see Master response 20. For information on</p>

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		alternatives to avoid and minimize impacts, the BDCP project should not be granted public condemnation of private properties.	recreation please see Chapter 15 of the Final EIR/EIS. Also see Appendix 3F of the Final EIR/EIS for intake location analysis.
1601	757	Document Section: Chapter 13 - Land Use  Issue:  BDCP's announcement of the project footprint for potential land condemnation has already reduced the marketability and price of that land.  Comment:  The BDCP caused reduction in land values results in reduction in tax revenues for local and regional governments and authorities. Land appraisals are required for determining the value for compensation for land condemnation. Land transaction values are a part of the valuation process. The BDCP threat of condemnation has already impacted land transaction values, so transaction values need to be adjusted to reflect this BDCP impacted value in order to achieve "fair compensation".	When required, DWR would provide compensation to property owners for economic losses due to implementation of the alternative. For more information please see Chapter 13, Land Use, of the final EIR/EIS.
1601	758	Document Section: Chapter 13 - Land Use  Issue:  FISH AND GAME CODE SECTION 1348. (a) ...the department shall not acquire any property pursuant to this subdivision by eminent domain proceedings except that property as may be necessary to provide access roads or rights-of-way to areas to be used for fishing the coastal waters of the Pacific Ocean, and then only if the board of supervisors of the affected county has agreed by resolution to those proceedings for each parcel of land...  Comment:  Fish and Game (CA Fish and Wildlife) is a responsible agency for the BDCP and should be the State co-lead agency on the Natural Community Conservation Plan (NCCP). Fish and Game is not authorized to condemn property for the purposes of habitat restoration.	Please note that the new preferred alternative, 4A, would not include an HCP and would therefore include much less acreage for restoration areas.  Since the proposed project is a water conveyance project, the property may be acquired for purposes of water and water rights (as described in the full text of this code, below):  (a) The board shall authorize the acquisition of real property, rights in real property, water, or water rights as may be necessary to carry out the purposes of this chapter. The board may authorize acquisition by the department, but the department shall not acquire any property pursuant to this subdivision by eminent domain proceedings except that property as may be necessary to provide access roads or rights-of-way to areas to be used for fishing the coastal waters of the Pacific Ocean, and then only if the board of supervisors of the affected county has agreed by resolution to those proceedings for each parcel of land, and has further agreed by resolution to maintain the road or right-of-way. The board may authorize acquisition by the State Public Works Board, which may affect acquisitions pursuant to the Property Acquisition Law, Part 11 (commencing with Section 15850) of Division 3 of Title 2 of the Government Code.  For information on agency roles and responsibilities please see chapter 1 of the Final EIR/EIS.
1601	759	Document Section: Chapter 14 - Agriculture  Issue:  Convert a substantial amount of important farmland to nonagricultural use, or impair the agricultural productivity of important agricultural land. (South Delta Improvements Program (SDIP) Sig Criteria)  Comment:  The BDCP facilities and habitat restorations convert approximately 20% of the agricultural lands in the statutory Delta. Converting 20% of ag lands in a community is devastating to the local economy, jobs, tax base, school system, and sense of place.	The extent of habitat restoration for the preferred alternative (4A) is considerably less than the previously proposed BDCP, resulting in less change to land use in the statutory Delta.  Socioeconomic effects, including impacts on agricultural employment, are described in Chapter 16, Socioeconomics, in the EIR/EIS. Also see Master Response 18. Agricultural Impact Mitigation.  Please see Master Response 24 regarding Delta as place.

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1601	760	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>The EIR/EIS failed to adequately address the impact that the BDCP would cause agricultural land to be converted from annual to permanent crops; substantial permanent reduction in agricultural acreage in a region or permanent conversion of any lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under Farmland Mapping and Monitoring Program (FMMP) or Prime Farmland under the Williamson Act. (Yuba Accord Sig Criteria)</p> <p>Comment:</p> <p>The BDCP EIR/EIS discloses that annual crops in the CVP/SWP are being converted to permanent crop plantings and that the conversion to permanent crops reduces water contractors' management flexibility during drought conditions under the No Action. The reliability of a minimum water supply to sustain a permanent crop is a commonly understood criteria for a grower's decision to convert from an annual crop to permanent crop. "Shifting to a relatively higher ratio of permanent crop plantings to annual crop plantings means that when irrigation water supplies are limited, much of the pressure to cut back on irrigation water use focuses: First -- on reductions in annual crop plantings and increases in fallowed ground" (<a href="http://cnas.ucr.edu/drought-symposium/presentations/Agronomy-3-CA.pdf">http://cnas.ucr.edu/drought-symposium/presentations/Agronomy-3-CA.pdf</a>). The reduction in the variation in water deliveries that result from the implementation of the BDCP EIR/EIS proposed project will result in a reduction in the frequency and duration of water shortage conditions undeniably would affect grower decision making regarding the rate of annual crop conversion to permanent crops. It may not be possible to quantify the increase in the rate of the conversion of farmland to permanent crops, but that is not an excuse for the BDCP to identify and evaluate the types and relative magnitude of these impacts from the BDCP project.</p>	<p>Please see Master Response 3 regarding the project's purpose and need. Also see Chapter 2 of the Final EIR/EIS.</p> <p>One of the State Water Resources Control Board's (State Water Board's) charges is to ensure that the State's water is put to the best possible use and that this use is in the best interest of the California public. This charge is reflected in part by the designation of beneficial uses established through the State Water Board's planning process. These beneficial uses are identified in each Water Quality Control Plan (Basin Plan) issued by the State Water Board.</p> <p>The Lead Agencies have no power to impose requirements on individual water users such as not applying water to permanent crops. However, DWR and Reclamation have contracts with various entities, some of which sell water to water retailers, who have individual policies and programs to motivate ratepayers to conserve water. Different districts have the right to take different approaches depending on their individual circumstances.</p> <p>For more information on beneficial uses and public trust please see Master Response 34 and Master Response 13, respectively. Please also see response to comment 1601-759.</p>
1601	761	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>There would be a significant impact on agricultural resources if the alternatives would: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as designated in the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. (Monterey Agreement, Oroville, California Bay-Delta Authority (CALFED) Sig Criteria); substantial permanent reduction in agricultural acreage in a region or permanent conversion of any lands categorized as Prime Farmland, Farmland of Statewide Importance, or Unique Farmland under Farmland Mapping and Monitoring Program (FMMP) or Prime Farmland under the Williamson Act. (Yuba Accord Sig Criteria)</p> <p>Comment:</p> <p>The facilities construction footprint, staging areas, and habitat restorations will all result in permanent conversion of Prime Unique and Important Farmland. Farmland can also be converted by changing land productivity such that it is no longer suitable for agricultural production (lack of water supply, unsuitable water supply quality, lack of alternative water</p>	<p>Temporary, short-term, and permanent conversion of Important Farmland is discussed under Impact AG-1 and AG-3 in Chapter 14 of the Final EIR/EIS. Mitigation Measure AG-1 would be available to lessen the severity of the potential effects described under these two impacts. See Master Response 18 for more information regarding agricultural impact mitigation. Also see Master Response 24, Delta as a Place.</p>

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		<p>supply, uneconomic cost of water supply, soil salt accumulation, or shallow water table depths unsuitable for crop production that results in permanent land retirement). Farmland can also be converted from these designations if the land no longer meets the criteria for the designations. As an example, if irrigation water is no longer available or drainage no longer adequate as a result of the project, the project has converted Prime Farmland to non-prime status as irrigation and adequate drainage is a requirement for the Prime Farmland designation. The BDCP has failed to identify, evaluate and disclose these types of agricultural land conversion impacts. The BDCP can avoid and minimize this land conversion impact utilizing to the fullest extent possible the following measures. Facilities and habitat restoration should be conducted only on public lands. Restore all existing degraded habitat as a priority before converting agricultural land. If public lands are not available for restoration efforts, focus restoration efforts on acquiring lands from willing sellers where at least part of the reason to sell is an economic hardship (for example, lands that flood frequently or where levees are too expensive to maintain). When habitat restoration must be conducted on private lands, select lower productivity farmland for conversion into habitat restoration. Parcels of land selected for tidal or inter-tidal habitat restoration should focus on points of land on islands where the ratio of levee miles to acres farmed is high to reduce levee maintenance costs to local landowners and reduce flooding risks. This measure will reduce the amount of change to agricultural productivity and reduce the amount of farmland converted to non-agricultural land uses. The BDCP has failed to demonstrate even a reasonable effort at avoiding and minimizing farmland conversion to non-agricultural use.</p>	
1601	762	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Conflict with existing zoning for agricultural use, or a Williamson Act contract. (Monterey Agreement, Oroville, and California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The construction footprint, staging areas, and habitat restorations will all result in conversion of over 100,000 acres of Williamson Act contracted lands. The conveyance alignment and habitat restoration locations were designed to take lands under a Williamson Act contract in order to acquire rights-of-way for the BDCP based primarily for the lower cost of acquiring land in an agricultural preserve. BDCP needs to demonstrate there is no other lands outside the Williamson Act preserve on which it is reasonably feasible to locate the public improvement.</p>	<p>The project will comply with the notice requirements of the Williamson Act, but, per California Government Code section 51293, subsections (d), (e), (h) and (j), which pertain, acquisitions of interests in real property subject to a Williamson Act are exceptions from the findings requirement of Government Code section 51292. Please also see response to comment 1601-751.</p>
1601	763	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Adverse effects on agricultural operations from adjacent land uses (for example, creation of no-spray zones adjacent to new habitat, siltation from levee construction, or other incompatible uses). (Oroville, Monterey Agreement and California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>New open water from BDCP facilities, e.g. intake settling ponds, intermediate forebay, south</p>	<p>Please see response to comment 1601-4 regarding habitat restoration under the preferred alternative (Alternative 4A) relative to the previously proposed BDCP. Pesticide, herbicide, and fertilizer usage is regulated by the U.S. Environmental Protection Agency (EPA) and the California Department of Pesticide Regulation (CDPR) to ensure pesticide use does not degrade environmental resources and to protect public health. Regulatory agencies and enforcing regulations are discussed in Chapter 14, Section 14.2, Regulatory Setting, of the Draft EIR/EIS and the Final EIR/EIS. The BDCP is not expected to affect the application of pesticides, herbicides, and fertilizers as part of typical farming practices when applied in compliance with federal and state regulations.</p>

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		Delta forebay and aquatic habitat and riparian habitat restorations will impose new no-spray zones around them which constrains agricultural operations. Agrichemical application methods will also be constrained by new BDCP created obstacles for crop dusters from new power lines, surge towers and conveyance and habitat restoration levees.	
1601	764	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>An increase in groundwater pumping that would cause or exacerbate overdraft of a basin, which in turn leads to a conversion of farmlands to non-agricultural uses. (Oroville and California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Dewatering of groundwater during BDCP construction will depress localized groundwater tables and may dewater agricultural groundwater wells. The BDCP can mitigate this impact by providing affected growers with alternative water supplies and/or deepening current wells and paying for the additional energy costs for pumping. Utilization of groundwater as an alternative/supplemental water supply due to continued variations in CVP/SWP water deliveries occurring in the Proposed Project will result in continued, and in some cases, new areas of land subsidence. Land subsidence can affect some agricultural resources such as surface and groundwater drainage and flow capacities of drainage and water supply conveyances. Reductions in surface drainage and disruptions of drainage and water supply infrastructure could result in a reduction in productivity of some agricultural lands. Under areas in the CVP/SWP service area where farmland is only marginally suitable under the current Affected Environment conditions could result in farmland becoming unsuitable for agricultural production (resulting in permanent land retirement) under the Proposed Project alternative. The BDCP can avoid these significant impacts if the contracted water delivery amounts are adjusted to a level that can be reliably delivered under all water year types and hydrologic conditions. By reducing the amount of water commitment to a level that can always be delivered, the growers will adapt their operations to that level of water and will discontinue the use of the groundwater as an alternative because, according to regional water master plans, the use of the groundwater on any prolonged (8 years in a row or more) is not economically sustainable.</p>	<p>The proposed project would not permanently adversely affect local water supplies. Dewatering would temporarily lower groundwater levels in the vicinity of the dewatering sites. While groundwater levels could be temporarily lowered in localized areas during the dewatering phases of construction, groundwater would return to pre-pumping levels over the course of several months following the dewatering phase.</p> <p>Mitigation has been proposed to maintain water supplies in areas affected by construction dewatering (see Mitigation Measure GW-1 in Chapter 7 of the Final EIR/EIS). Additionally, project proponents would relocate and/or replace wells, pipelines, power lines, drainage systems, and other infrastructure that are needed for ongoing agricultural uses and would be adversely affected by project construction or operation. For additional information regarding proposed agricultural mitigation, please see Master Response 18.</p> <p>Impacts related to interference with agricultural drainage due to construction and operation of conveyance facilities and restoration areas are described in Chapter 7, Groundwater, of the Final EIR/EIS (Impact GW-4 and Impact GW-5). The potential for groundwater level-induced land subsidence is discussed under Impact GW-8.</p> <p>Appendix 5B, Responses to Reduced South of Delta Water Supplies, describes water management options that could be undertaken in response to reduced exports from the Delta. These options include wastewater recycling and reuse, increased water conservation, water transfers, construction of new local reservoirs that could retain Southern California rainfall during wet years, and desalination.</p> <p>State Water Contractors currently and traditionally have received variable water supplies under their contracts with DWR due to variations in hydrology and regulatory constraints and are accustomed to responding accordingly. Under standard state water contracts, the risk of shortfalls in exports is borne by the contractors rather than DWR. As a result of this variability, many Southern California water districts have complex water management strategies that include numerous options to supplement SWP surface water supplies. These water districts are in the best position to determine the appropriate response to reduced imports from the Delta.</p>
1601	765	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Inconsistency with agricultural objectives of local, regional, and state plans. (Oroville and California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>This impact significance criteria should have been used by the BDCP to have a consistent implementation of policy set in preceding similar projects.</p>	<p>Effects related to incompatibilities with local agricultural policies and land use designations are discussed in Chapter 13, Land Use (Impacts LU-1 and LU-4) of the Final EIR/EIS.</p> <p>Please see Master Response 11, Applicability of City and County General Plans.</p> <p>This EIR/EIS, in assessing whether particular categories of environmental effects are adverse (NEPA) or significant (CEQA), considers relevant local land use regulations that are adopted for the purpose of avoiding or mitigating an environmental impact. Project compatibility and potential effects on planned future land uses were assessed by reviewing land use designations, goals, and policies described in Section 13.2 of Chapter 13 of the Final EIR/EIS, Regulatory Setting.</p>
1601	766	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p>	<p>Please see response to comment 1601- 765.</p>

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		<p>Conflicts with applicable environmental plans or policies adopted by agencies with jurisdiction over the project. (Oroville and CALFED Sig Criteria)</p> <p>Comment:</p> <p>BDCP is inconsistent with county general plans for their Habitat Conservation Plans (HCPs) and ag land conservation zones. The BDCP can avoid and minimize this significant impact by not converting lands to habitat restoration that are already identified for conservation in local conservation planning efforts.</p>	
1601	767	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Criteria used to evaluate the adverse effects of the Program on Agricultural Economics are listed below. The following results of Program actions are considered adverse effects: Permanent or long-term reduction in acres of irrigated land in a region; A change in water quality that would reduce crop yields; or Changes in costs or revenues that change the economics of farming to an extent that land use, water use, or employment could be affected. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>BDCP project caused changes in water quality, water surface elevations and groundwater elevations in the Delta change agricultural productivity and revenues. These BDCP caused impacts include reduction in the suitability of water supply quality; reduction in reliability of water supplies from intake dewatering, reduction in viability of alternative groundwater supplies; soil salt accumulation from reduce irrigation water quality; increases in the magnitude, duration or frequency of land inundation from the Yolo Bypass habitat restoration flows; and/or shallow water table depths that impact suitability for crop production from seepage from facilities and habitat restorations. These BDCP impacts that can affect agricultural productivity and revenues occur singly and in combination which results in additive magnitude of effects. The BDCP EIR/EIS has failed to identify, evaluate or disclose these affects or to address the combinations of these affects and their impacts on the productivity and revenue of each of the crops and areas in the Delta.</p>	<p>Economic effects are primarily described in Chapter 16, Socioeconomics, EIR/EIS. For each alternative, effects on agricultural economics are provided, which include estimates of direct, indirect, and induced effects (i.e., using multipliers). Impacts are reported in terms of changes in employment, labor income, and production value related to the agricultural sector.</p> <p>Impact AG-2 and Impact AG-4 describe impacts related to agricultural productivity in the context of changes in groundwater elevation, changes in the salinity of irrigation water, and disruptions to agricultural infrastructure (e.g., drainage). The following mitigation measures would help reduce the severity of such impacts. (Please see Chapter 14 of the Final EIR/EIS.)</p> <p>Mitigation Measure AG-1: Develop an Agricultural Lands Stewardship Plan (ALSP) to Maintain Agricultural Productivity and Mitigate for Loss of Important Farmland and Land Subject to Williamson Act Contracts or in Farmland Security Zones (Chapter 14 of the Final EIR/EIS.)</p> <p>Mitigation Measure GW-1: Maintain Water Supplies in Areas Affected by Construction Dewatering (Chapter 7 of the Final EIR/EIS.)</p> <p>Mitigation Measure GW-5: Agricultural Lands Seepage Minimization (Chapter 7 of the Final EIR/EIS.)</p> <p>Mitigation Measure WQ-11: Avoid, Minimize, or Offset, as Feasible, Reduced Water Quality Conditions (Chapter 8 of the Final EIR/EIS.)</p> <p>These mitigation measures will reduce the severity of these impacts by implementing activities such as siting project footprints to encourage continued agricultural production; monitoring changes in groundwater levels during construction; offsetting water supply losses attributable to construction dewatering activities; monitoring seepage effects; relocating or replacing agricultural infrastructure in support of continued agricultural activities; identifying, evaluating, developing, and implementing feasible phased actions to reduce EC levels; engaging counties, owners/operators, and other stakeholders in developing optional agricultural stewardship approaches; and/or preserving agricultural land through off-site easements or other agricultural land conservation interests.</p> <p>For more information on Agricultural Impacts Mitigation please see Master Response 18. Please also see Master Response 24, Delta as a Place. Regarding water quality, please see Master Response 14.</p>
1601	768	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Agricultural objectives for electrical conductivity (EC), ranging from 450 micro-Siemens per centimeter (<math>\mu\text{S}/\text{cm}</math>) to 2,200 <math>\mu\text{S}/\text{cm}</math>, are applicable at Jersey Point and Emmaton from April through August 15. Both locations have 30-day moving average EC objectives of 1,000</p>	<p>It would not be feasible to analyze potential water quality effects individually for all agricultural diversions in the Delta. The analysis focused on the water quality objectives that have been developed for the Delta; please see Master Response 14 for issues relating to water quality and Chapter 8 of the Final EIR/EIS. Please also see response to comment 1601-767 regarding mitigation of water quality effects.</p>

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		<p>µS/cm. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Since agricultural irrigation beneficial use occurs at each of the 1,400 plus agricultural diversions in the Delta, irrigation water quality compliance for agricultural water supply uses must be evaluated at all of the agricultural diversions in the Delta. This type of analysis that addresses each of the locations of the beneficial use is readily implementable with data and tools that the BDCP analysis already utilizes. Reduced water quality in the Delta resulting from the BDCP project (e.g. increased salinity) will result in an increase in Delta water use requirements (increased irrigation water, increased irrigation leaching component requirement) and reduce yields and crop revenue. Changes in water supply salinity (ECw) and salt accumulation result in crop type changes or suitability of land for agricultural production. The BDCP can avoid these significant impacts by not degrading Delta water quality and minimize it by paying growers to upgrade irrigation systems in the Delta to increase water use efficiency and salinity management efficiency. The BDCP EIR/EIS can analyze the change in water quality that results from the project by utilizing DSM2 model output of water quality (salinity) at each DSM2 analytical node and comparing the readings to the adjacent agricultural diversion locations during the irrigation season. Using this method, the BDCP can evaluate the magnitude, duration and frequency of water quality exceedances of irrigation water quality standards for each diversion and for water quality tolerances of the agricultural crops that are grown at those diversions. Crops have different salinity tolerances at different crop growth stages, so this aspect must be incorporated into the analysis as well. Only utilizing a comprehensive analytical approach as just described will meet the test of utilization of best available science and adequate disclosure of project impacts.</p>	
1601	769	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Although increases in groundwater levels are typically considered to be beneficial, increases that cause water logging of agricultural crop lands would be considered an adverse impact under some conditions. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>BDCP conveyance, habitat restoration, tunnel muck disposal and intake sediment disposal footprint disrupts agricultural drainage which will result in increased water tables. Seepage of water from the BDCP forebays and habitat restorations will increase local water tables. When water tables encroach into the crop root zone, salts are wicked up into the root zone and oxygen exchange for the roots is reduced. Either of these conditions on a seasonal basis will reduce crop production and if the elevated water table exposure to increased water tables is prolonged then the crop may die. BDCP can minimize the significant impact of elevated water tables on agricultural production by designing intertidal and sub-tidal habitat restorations to not seep into or raise local groundwater tables such that they affect adjacent property agricultural suitability or productivity. This can be done using geotechnical linings to prevent seepage and with groundwater interception ditches with sump pumps. These facilities to avoid and minimize groundwater table affects from the project would need to be maintained by the BDCP in perpetuity. These avoidance and minimization measures will reduce the amount of farmland converted to non-agriculture land uses and will reduce the</p>	<p>As already noted in response to comment 1601-764, the proposed project would not significantly impact local water supplies. While groundwater levels could be temporarily lowered in localized areas during the dewatering phases of construction, groundwater would return to pre-pumping levels over the course of several months following the dewatering phase. Mitigation has been proposed to maintain water supplies in areas affected by construction dewatering. Additionally, the lead agencies would relocate and/or replace wells, pipelines, power lines, drainage systems, and other infrastructure that are needed for ongoing agricultural uses and would be adversely affected by project construction or operation. For additional information regarding proposed agricultural mitigation, please see Master Response 18.</p> <p>Construction of the proposed project's facilities will occur in a manner specifically designed to avoid adverse effects on groundwater. As described in Appendix 3C, Table 3C-7, of the 2013 Public Draft EIR/EIS, ponds to store reusable tunnel materials and spoils material would be designed with the invert at least 5 feet above seasonally high groundwater and impervious liners along the invert and interior slopes of the ponds to avoid contamination. The tunneling operation would use biodegradable polymers that would be combined with the excavated soil to allow conveyance of the soil slurry, or reusable tunnel material. The polymers would decompose over time.</p> <p>In some locations within the State, groundwater is regulated through judicial review related to adjudication proceedings in the court system. Many counties and regional agencies, or groups of agencies, have adopted groundwater management plans and/or ordinances. Governor Brown recently signed into law three bills that address groundwater management in California. These bills direct local agencies to develop groundwater management plans and allows the state to monitor and intervene if local agencies fail to do so.</p> <p>For more information regarding groundwater impacts and their associated mitigation of the proposed</p>

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		<p>amount of change to agricultural productivity. In areas that water table depth is affected to a degree that makes land unsuitable for the crops currently grown at that location or would be subject to reduced productivity due to elevated water tables, BDCP can provide supplemental groundwater drainage such as drain tile, drainage intercepts, sump pumps, etc.</p>	<p>project please see Section 4.3.3 Groundwater of Section 4 in the RDEIR/SDIES. Updated information on groundwater effects of water conveyance alternatives can be found in Appendix A Chapter 7 of the RDEIR/SDIES.</p> <p>Please see response to comment 1601-764 for more information.</p>
1601	770	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Agricultural impacts resulting from changes in water temperature (Yuba Accord Sig Criteria)</p> <p>Comment:</p> <p>Increases in releases from CVP/SWP dams (Shasta, Oroville, Folsom and New Melones) for larger spring and summer releases to increase Delta outflows included in Alternative 4 will result in a reduction of water temperatures at agricultural diversions downstream of these facilities on the Sacramento, Feather, American and Stanislaus rivers. As a specific example of this type of impact that the BDCP EIR/EIS failed to address, increased releases from the Lake Oroville facilities will reduce the residence time of water in the Thermalito Afterbay prior to agricultural diversion therefore reducing the water temperatures at the agricultural irrigation diversions. As identified in the DWR Oroville Relicensing environmental documents and studies, irrigation water temperatures below 65°F can reduce rice crop yields. Increases in the frequency and duration of irrigation water temperatures below 65°F result in reduced yields in rice production in portions of the service area supplied from the Thermalito Afterbay and downstream of the facilities on the Feather River. The potential increase in magnitude and duration of cold water effects from the Oroville facilities on rice yields that are anticipated from the increased spring and summer releases in Alternative 4 could be mitigated by Reclamation joining California Department of Water Resources in compensating growers for the rice yield losses that occur due to project operations. DWR compensates the irrigation districts that are affected by the water temperatures of their Oroville Facilities releases with cash payments for the value of yield loss. DWR payments to the affected irrigation districts have been over \$1 million per year for these impacts. Similar losses could occur at Truckee-Carson Irrigation District (TCID) and Glenn-Colusa Irrigation District (GCID) from CVP reoperations of Shasta and for other crops and other irrigation districts for the other CVP/SWP facilities. The BDCP fails to identify, evaluate or disclose these type of impacts or to identify or incorporate any measures to avoid, minimize or mitigate these affects. BDCP can avoid or minimize these impacts by managing water temperatures of releases to maintain suitability at agricultural diversions. The BDCP can mitigate any remaining impact utilizing the same process as DWR utilized in compensating growers for cold water-related yield loss from their Oroville Facilities operations.</p>	<p>Please see response to comment 1601- 771 and 1601-774 regarding water temperature impacts. Operation of BDCP would not affect the Truckee-Carson Irrigation District. Please also see Master Response 18, Agricultural Impact Mitigation.</p>
1601	771	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>A change in water quality that would reduce crop yields. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>Water temperature suitability for agricultural irrigation is an important water quality</p>	<p>The primary changes of temperature would occur upstream of the Delta due to changes in reservoir storage and releases, and the beneficial uses most sensitive to temperature changes are aquatic life. Thus, temperature changes are analyzed with respect to impacts on fisheries in Chapter 11. Effects of the alternatives on temperature in the Delta relative to the No Action alternative were not considered in the water quality chapter because, as stated in the USFWS (2008:194) OCAP BiOp: "The [state and federal] water projects have little if any ability to affect water temperatures in the Estuary (Kimmerer 2004). Estuarine and Delta water temperatures are driven by air temperature. Water temperatures at Freeport can be cooled up to about 3°C by high Sacramento River flows, but only by very high river flows that cannot be sustained by the projects. Note also that the cooling effect of the Sacramento River is not visible in data</p>

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		<p>component that the BDCP did not evaluate. BDCP caused impacts of water salinity (ECw) and boron in Delta irrigation water supplies have not been adequately addressed in the EIS/EIR. Complex and dynamic temporal and spatial distribution of a gradient of water quality constituent concentrations that affect agricultural productivity, suitability and designated agricultural irrigation beneficial uses of the water requires that the entire model run results be used -- all time series and all output nodes. The current analysis just looks at averaged data at a few specific compliance points. The actual impacts to beneficial uses that the environmental document must evaluate and disclose occur at each and every agricultural diversion in the Delta. The best available science requires that the output (all time series and all output nodes) from the water quality models be integrated into a Geographic Information System (GIS) and analyzed to determine the frequency, duration and magnitude of water quality exceedances above crop tolerances for crops that are grown in the area serviced by each agricultural surface water diversion. All of the data to conduct this analysis as described is readily available. The agricultural surface water diversion location database exists and is readily available in California Data Exchange Center (CDEC). The output node locations of the water quality model need to be entered into the GIS spatial database and the unique identifiers of the node are coded the same as the model output so the databases can be joined. Once the water quality model has been linked to the GIS spatial database, a simple set of database queries will show what locations in the Delta exceed water quality and suitability of water quality for agricultural beneficial uses for what periods of the year, for which crops and by how the criteria were exceeded by. A comprehensive impact analysis that does meet the test of best available science can easily be done using the method described and this type of approach is well documented in other environmental analysis, including DWR's Oroville Relicensing EIR.</p>	<p>from the west Delta at Antioch (Kimmerer 2004) so the area of influence is limited." Since Delta water temperatures are driven by air temperature, climate change (as included in the No Action Alternative and all action alternatives) that increases air temperatures relative to Existing Conditions would be expected to increase water temperatures in the Delta as well. Effects of climate change on air and Delta water temperatures are discussed in Appendix 29C, Climate Change and the Effects of Reservoir Operations on Water Temperatures in the Study Area. In general, waters of the Delta would be expected to warm less than 5 degrees F. For more information on climate change please see Master Response 19. For more information on beneficial uses of water please see Master Response 34.</p> <p>Regarding assessment of EC and boron, these constituents are fully assessed in Chapter 8 of the Final EIR/EIS, in Impacts WQ-2 and WQ-3 for boron and Impacts WQ-11 and WQ-12 for EC. Regarding the EC assessment, the locations chosen for the assessment are consistent with the EC objectives compliance locations in the Bay-Delta Water Quality Control Plan. For boron, the assessment locations were chosen such that the assessment of changes under the alternatives relative to baselines would be representative of changes in various portions of the Delta as a whole. There are many locations in the Delta that would not have identical water quality to the chosen locations for assessment. However, assessment was done on a comparative basis to identify the degree and direction in which concentrations would change in different regions of the Delta (i.e., alternatives as compared to baselines). Given the purposes of the assessment, the effects of the project at the locations assessed are considered representative of the effects of the project in various portions of the Delta as a whole.</p> <p>For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>
1601	772	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Changes in costs or revenues that change the economics of farming to an extent that land use, water use, or employment could be affected. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>Reduced water quality in the Delta resulting from the BDCP project (e.g. increased electrical conductivity (EC) and boron) will result in an increase in Delta water use requirements (e.g. increased irrigation frequency, increased irrigation leaching component), increased pumping and irrigation costs, reduced crop yields, reduced crop quality, and reduced crop revenue. The BDCP can avoid this significant impact by not degrading Delta water quality and minimize impacts by paying growers to upgrade irrigation systems in the Delta to increase water use efficiency and salinity management efficiency. It is not just the Delta farmers that will be economically affected by the BDCP. Westlands Water District has estimated that the cost of water through the conveyance will cost the CVP water contractors between \$238 and \$337/acre-feet (AF) of water supply under various conveyance cost and outflow operating rule scenarios. This cost for water clearly exceeds what is economically viable for all but the highest value agricultural crops. Orchards and vineyards and vegetable crop production are not or are only marginally economic at these BDCP caused water costs. Row crops and forage crops such as corn, cotton, dry beans and alfalfa are not even close to economic to grow at these water costs. Row and forage crops make up the majority of irrigated acres farmed in the Westlands Water District, so they are obviously planning that the project will significantly change their land use, either in changes in crops grown, urban</p>	<p>The impacts on beneficial uses of water within the Delta were evaluated in detail in EIR/EIS Chapter 8 Water Quality; Impact WQ-11 addresses electrical conductivity (EC) levels in the detail that would occur in the Delta. The impact discussion concludes that EC criteria levels could be exceeded but also proposes mitigation (MM WQ-11: Avoid or Minimize Reduced Water Quality Conditions and MM WQ-11e Adaptively Manage Diversions at the North and South Delta Intakes to Reduce or Eliminate Water Quality Degradation in Western Delta) that would reduce this impact to a less than significant level. The impact of water quality on agriculture is addressed in Chapter 14 Agricultural Resources at Impact AG-2: Other Effects on Agriculture as a Result of Constructing and Operating the Proposed Water Conveyance Facility. Impact AG-2 is linked to Impact WQ-11 and adopts the mitigation proposed to address exceedances of EC criteria. The Mitigation Monitoring and Reporting Plan provides additional detail on the water quality mitigation measures. Please also see response to comment 1601-771 regarding assessment of EC and Boron.</p> <p>The construction of the water delivery facilities is estimated to cost \$14.9 billion, an amount that would be paid for by the state and federal water contractors who rely on Delta exports. The range of costs for water vary widely among contractors south of the Delta. Costs depend on the source of water, transport facilities, energy requirements, among other factors. For the agricultural customers of the CVP, prices range from \$100 per acre-foot to more than \$400 per acre-foot. The Metropolitan Water District of Southern California, which buys water from the SWP, estimates that the cost of the proposed project would translate into about \$5.00 extra per household, per month in its service area. The final cost of water from the new conveyance facilities would be determined by numerous factors. A number of these significant factors, such as the project yield and allocation of costs, have yet to be determined. Please see Master Response 5 for information regarding funding of the proposed project.</p> <p>Please also see response to comment 1601-767 regarding impacts.</p>

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		<p>and industrial development (growth inducing) or in fallowed acres. This impact of the project was not disclosed in the EIR/EIS. Another BDCP caused impact on agricultural economics is that the planned habitat restoration increases weed pressure on adjacent and downstream farmland by producing weed seeds which are transferred from the habitat by wind and water. This increased weed pressure from the BDCP habitat restorations increases weed control costs and causes crop yield losses. The BDCP can minimize this significant impact to agricultural productivity and operational viability by maintaining their habitat restorations free of exotic and invasive weed species as well as controlling wind and water transport of weed seeds by managing drainage, ground cover and wind breaks. The BDCP can mitigate the remaining impacts to agriculture by compensating growers for increased weed control costs and weed pressure-related yield losses.</p>	
1601	773	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>The increased water supply cost resulting from the BDCP would degrade current beneficial uses.</p> <p>Comment:</p> <p>Water supply costs estimated by Westlands Water District at \$238 - \$337/acre-feet (AF) is an uneconomic cost for growing most agricultural crops in the Central Valley. The majority of the water supply demand for the CVP/SWP is from the Central Valley water districts for agricultural water use. The majority beneficial water use in these areas, per the Central Valley Regional Water Quality Control Plan, is for agriculture. The BDCP will make the water too expensive for these designated beneficial uses. This increase in water supply costs to a point where the identified beneficial use of the water is no longer economic on a broad scale is a significant impairment of this beneficial use. The State Water Resources Control Board (SWRCB) and Central Valley Regional Water Quality Control Board (CVRWQCB) should not issue 401 permits for the BDCP until this impairment of beneficial use is addressed by the BDCP. The BDCP document did not identify, characterize, quantify or evaluate this impact and the document is therefore deficient. The BDCP did not identify any measures to avoid, minimize or mitigate this impact.</p>	<p>Rates charged to water users by individual water agencies receiving SWP or CVP supplies are based on the independent rate-setting policies of those agencies. Implementation of the proposed project would not affect how agencies distribute water supply costs among their water customers. Also see response to comment 1601-772.</p> <p>Also, please refer Master Response 34, Beneficial use of Water.</p>
1601	774	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Under BDCP proposed operations, the Oroville facilities will reduce spring water temperatures in the Thermalito Afterbay and lower Feather River which will cause a significant additional yield loss impact on rice grown in the Feather River Water Service Area.</p> <p>Comment:</p> <p>The BDCP proposed operations reoperates the Oroville facility to provide additional water releases in the spring. The increased releases in the spring will reduce residence time of water in the Thermalito Afterbay which will reduce the opportunity for water to warm to water temperatures suitable for crop irrigation. Increased flows in the lower Feather River and reduced water temperatures of releases from the Thermalito Afterbay to the river will</p>	<p>As indicated in Chapter 14 Agriculture, the focus of the agriculture impact assessment was on impacts that may occur within the Plan Study Area. The lead agencies believe that attempting to address changes in rice production within the entire Feather River Service Area as a result of changes in water temperatures resulting from Oroville Reservoir releases would be speculative in nature.</p> <p>Please also see response to comment 1601-771 for more information on water temperature.</p>

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		<p>reduce the water temperatures in the lower Feather River at the downstream agricultural diversions (e.g. Sutter Extension and others). Prior to the construction of the Oroville Facilities, DWR entered into an agreement with the senior surface water rights holders on the lower Feather River to ensure their water supply and the suitability of water quality (water temperature) for agricultural irrigation purposes. This agreement is between DWR and the Feather River Service Area (FRSA) water districts (Biggs West Gridley, Richvale, Western Canal and Sutter Extension). In this agreement, DWR is required to "provide water temperatures at the water district diversions that are suitable for agricultural irrigation". Due to low water temperature requirements for salmonids in the lower Feather River, DWR has been in violation of this agreement since early in the operation of the facilities. During the Oroville Federal Energy Regulatory Commission (FERC) Relicensing studies, the yield loss to rice production from the reduced water temperatures from the Oroville Facilities was characterized and quantified (2005 Rice Water Temperature Field Study, DWR, December 2005; Water Temperature Study, RG Mutters, UC Davis Agricultural Extension Service, Jan. 2006.) These studies resulted in a settlement from DWR to the FRSA water districts for damages to crop production Amendment on Agreements of Diversion of Water from the Feather River and Settlement of Issues Related to the Temperature of Water Diversions, DWR April 23, 2008). The reoperation of the Oroville Facilities proposed operations increased spring releases will increase the magnitude, duration and frequency of water temperatures that damage crop production. The BDCP EIR/EIS failed to identify, characterize, quantify or disclose this significant impact of the proposed BDCP project. The BDCP can avoid and minimize this impact by constructing warming basins for the agricultural diversions so that water temperatures of diverted water are suitable for agricultural production.</p>	
1601	775	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta and use of groundwater as a substitute water supply during periods of BDCP degraded surface water quality will poison the soils and crops.</p> <p>Comment:</p> <p>The BDCP EIR/EIS has identified a significant and unavoidable degradation of water quality in the Delta from increased saltwater intrusion from BDCP proposed operations. The BDCP EIR/EIS has failed to adequately evaluate how these significant surface water quality impacts effect groundwater quality. When surface water quality is reduced in the Delta due to BDCP operations, growers will utilize groundwater as a substitution for their BDCP compromised senior surface water rights and diversions. This increased reliance upon groundwater as a substitution water supply during periods of BDCP degraded surface water quality will result in increased groundwater withdrawals and increased hydraulic gradient from the tributary to the groundwater basin. The BDCP caused increase in hydraulic gradient from the tributary to the groundwater will pull water from the BDCP degraded water quality in the tributary into the adjacent groundwater profile. The lower quality (higher electrical conductivity (EC) and boron) water from the tributary will flow in on top of the deeper groundwater with little to no mixing with better quality deeper groundwater. The deeper groundwater quality may not be significantly affected for some time as it approaches the wellhead groundwater cone depression, but it will be degraded over time.</p>	<p>As discussed in Chapter 7, Groundwater, of the Final EIR/EIS, under Impact GW-3, for the preferred alternative (Alternative 4A) no significant groundwater quality impacts are anticipated in most areas of the Delta during the implementation of the water conveyance facility, because changes to regional patterns of groundwater flow are not anticipated. However, degradation of groundwater quality near the Suisun Marsh area is likely, due to the effects of saline water intrusion caused by slightly rising sea levels. Effects due to climate change are provided for informational purposes only and do not lead to mitigation.</p> <p>As discussed in Chapter 7 under Impact GW-7, for the preferred alternative the increased inundation frequency in restoration areas from the Environmental Commitments under Alternative 4A would increase the localized areas exposed to saline and brackish surface water, which would result in increased groundwater salinity beneath such areas. The flooding of large areas with saline or brackish water would result in a significant impact on groundwater quality beneath or adjacent to flooded areas. It would not be possible to completely avoid this effect. However, if water supply wells in the vicinity of these areas are not useable because of water quality issues, Mitigation Measure GW-7 (Provide an Alternate Source of Water) would help reduce the severity of this impact, but not to a less-than-significant level.</p> <p>Also see response to comment 1601-764 regarding effects of changes in groundwater levels on agriculture. For more information on water quality, please see Master Response 14 and Chapter 8 of the Final EIR/EIS.</p>

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		<p>The more immediate affect of the higher EC and boron layer degraded water quality of near surface groundwater will occur nearly immediately. Groundwater tables are near the soil surface and in the crop root zone in most of the Delta in portions if not the entire year. Salts wick up through the soil from shallow groundwater by capillary action with soil particle interstitial spaces. Even though the salts from the tributaries may not reach the wellheads for several years, the near surface migration of salts from the tributary recharge of the BDCP depressed groundwater cone will start affecting the salinity of the root zones of the crops near the edges of the islands in the first season or two. Once salts have been pulled into the shallow groundwater as described above, it will be nearly impossible for the grower to manage the salts. In areas of deeper groundwater (e.g. southern Central Valley), a grower can flush salts down and out of the root zone. In the Delta, because of the shallow groundwater table, irrigations to flush salts out of the root zone will only raise the water table and cause the salts to wick higher into the root zone. The leaching irrigation has nowhere to go so it will only slightly dilute the salts, but again the salts will wick up through the soil. Even a thin layer of degraded groundwater quality that occurs in or near the root zone could make larger portions of the Delta unfarmable in a matter of just a few years. This BDCP impact converts the farmland to a different land use (non-farming) which by CEQA significance criteria is a significant impact. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of reduced shallow groundwater quality in the Delta that would be caused by the BDCP proposed operations. The BDCP can minimize this significant impact by actually complying with the current water quality requirements instead of frequently violating them as the current CVP/SWP operations do. The BDCP can mitigate this impact by providing alternative water supplies to areas of degraded surface water supplies so that the growers do not have to rely upon groundwater as an alternative supply.</p>	
1601	776	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from Reclamation District operations to draining the islands.</p> <p>Comment:</p> <p>This comment builds off of the impacts described in the preceding comment regarding BDCP degradation of surface water quality and the resulting degradation of shallow groundwater quality in the Delta. Many islands in the Delta have land elevations that are at, near or below the water levels of their surrounding tributaries. The only way the islands are maintained from becoming flooded by seepage from the tributaries is to nearly continuously pump water out from the drainage ditches in the Reclamation District back into the tributary. By the Reclamation District pumping the water off of the island or tract, the groundwater levels are maintained to levels that are farmable (3 to 8 foot minimum depending on crop type and season). The amount of shallow groundwater pumping and rate of turnover of shallow groundwater recharge from the tributary is dependent upon several factors. The more porous the levees and soils, the faster the movement of tributary water into the shallow groundwater. The larger the difference between the tributary water elevation and the groundwater height (hydraulic gradient), the faster the movement of tributary water into the shallow groundwater. Even a thin layer of degraded groundwater quality that occurs in or near the root zone could make larger portions of the Delta</p>	<p>Please see response to comment 1601-775 and 1601-777. For information on agricultural impact mitigation please see Master Response 18.</p>

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		<p>unfarmable in a matter of just a few years.</p> <p>This BDCP impact of surface water quality degradation that causes shallow groundwater quality degradation will result in a conversion of farmland to a different land use (non-farming) which according to CEQA guidance significance criteria is a significant impact. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. This minimization measure would need to be complemented by the BDCP also providing an alternative surface water supply of non-degraded quality for the farmers to use as an alternate water supply. These suggested avoidance and minimization measures are practical, feasible, well tested and accepted and are small in scale in comparison to the scope and cost of the overall BDCP proposal.</p>	
1601	777	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Increased saltwater intrusion into the Delta from the BDCP operations will increase groundwater salinity in large portions of the Delta from drain tile operations on the islands.</p> <p>Comment:</p> <p>This comment builds off of the impacts described in the preceding two comments regarding BDCP degradation of surface water quality and the resulting degradation of shallow groundwater quality in the Delta. Due to the shallow groundwater tables in the Delta, many open ground fields and most permanent crop plantings utilize drain tile to maintain groundwater levels and keep groundwater moving to protect their crops and the productivity of the soils. Most permanent crop plantings are adjacent to the levees due to their higher elevation, better drainage and better soils. This means that the drain tiles that are under most of permanent crops planted in the Delta are right next to the tributaries. Drain tiles are typically installed at 6 to 10 feet deep, depending on soil type, crop type, groundwater table elevations and topography (drainage). The drain tile function is to reduce the groundwater table elevations, creating a localized groundwater table depression to protect the soil and crops from groundwater elevations that are too shallow. The groundwater collected from the drain tile is transported via drainage pipes to the lower elevation drainage ditches that are located near the center of the islands and tracts. This necessary drain tile function creates the same increased hydraulic gradient from the island groundwater table from the surrounding tributaries as described in the preceding two comments on use of groundwater substitution water supplies and the resulting groundwater cone of depression and the Reclamation District pumping of drainage ditches to maintain groundwater table elevations. The impacts from the degraded groundwater quality from the BDCP operations will occur even more quickly with drain tile operation interactions than the impacts to shallow groundwater quality described in the two preceding comments. Degraded surface water quality from the BDCP operations will be pulled into the shallow groundwater table where the drain tiles are functioning in the same manner as described in the previous two comments. The drain tiles will collect this</p>	<p>Impacts GW-3 and GW-7 in Chapter 7, Groundwater, of the Final EIR/EIS identify, evaluate, quantify and disclose the significant impacts of degraded shallow groundwater quality in the Delta. The analysis finds that for Alternative 4A, there would be no impact to groundwater quality from construction of the water conveyance facilities. Because Environmental Commitments under Alternative 4A would require increased inundation frequency in restoration areas, there would be a significant impact on groundwater quality as a result of implementing Environmental Commitments 3, 4, 6-12, 15 and 16.</p> <p>Water conveyance facility construction and operation could create a significant impact on agriculture by converting substantial amounts of Important Farmland to other uses through changes to groundwater elevation in localized areas and disruption of drainage and irrigation facilities, as discussed under Impact AG-2 and AG-4.</p> <p>Mitigation Measures AG-1, GW-1, GW-5, and WQ-11 will reduce the severity of these impacts by implementing activities such as siting project footprints to encourage continued agricultural production; monitoring changes in groundwater levels during construction; offsetting water supply losses attributable to construction dewatering activities; monitoring seepage effects; relocating or replacing agricultural infrastructure in support of continued agricultural activities; identifying, evaluating, developing, and implementing feasible phased actions to reduce EC levels; engaging counties, owners/operators, and other stakeholders in developing optional agricultural stewardship approaches; and/or preserving agricultural land through off-site easements or other agricultural land conservation interests. See Master Response 18 for more information regarding agricultural impact mitigation. Please also see response to comments 1601-775 and 1601-776.</p>

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		<p>degraded quality groundwater and drain the water to the main drainage ditches. These drainage ditches are also water supply ditches that are pumped out of to irrigate other fields. These central drains/water supply ditches is how water supply is delivered to most fields that are in the interior of the islands and tracts. Through the function of the drain tile and drainage of those systems into the water supply ditches in the middle of the islands and tracts, the degraded shallow groundwater from BDCP operations have now been translated back into additional impacts to water quality of surface water supplies for the interior fields. As mentioned previously, because of the proximity of the drain tiles to the tributaries and the function of the drain tile to translocate the drainage water to the main ditches, this mode of impact could occur very quickly, e.g. the first year of degraded surface water quality from the BDCP operations. The scope of this impact is not small either.</p> <p>Most of the islands and tracts, with the exception of some of the most interior Delta and lowest elevation islands, are ringed by permanent crop plantings at their outside edges. Cumulatively, these represent several hundred miles of tributary length that have drain tiles installed adjacent to them. The BDCP failed to identify, evaluate, quantify or disclose the significant impacts of degraded shallow groundwater quality in the Delta and the translation of that shallow groundwater quality degradation into a subsequent degradation of additional surface water supply water quality that would be caused by the BDCP proposed operations. The BDCP can avoid this significant impact to groundwater quality by adopting operations that do not degrade the surface water quality. The BDCP can minimize this significant impact to groundwater quality by building toe drains at the base of the levees surrounding the affected islands and providing for and maintaining drainage operations that intercept and prevent the movement of degraded surface water quality into the island's groundwater. The BDCP can further minimize this significant impact by providing for and maintaining sump pumps for the tail water coming out of the drain tile systems. The sump pump would discharge the drain tile water back into the tributary rather than letting the degraded shallow groundwater contaminating the surface water supplies at the main drain/water supply ditches. The use of sump pumps on drain tile systems is a common practice in the southern central valley as the topographic gradients are not sufficient to allow drain tile function without the sump pumps. Because the use of sump pumps on drain tile systems is common practice in the CVP/SWP service areas, the BDCP cannot claim that there are no feasible, practicable measures to avoid, minimize or mitigate this significant impact of the BDCP proposed operations.</p>	
1601	778	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>BDCP will dewater groundwater around intake, tunnel headworks and tunnel access construction sites which will collapse water bearing strata in the soil.</p> <p>Comment:</p> <p>Once clay soil water bearing strata are collapsed, they do not recover their structure, water holding capacity or their previous soil volume. This collapse results in a permanent subsidence of the ground surface, which can damage structures and levees, alter drainage patterns and groundwater depth. Inadequate drainage from subsidence and elevated water tables alter the suitability of soil for agriculture and its productivity. Land subsidence can affect some agricultural resources such as surface and groundwater drainage and flow capacities of drainage and water supply conveyances. Reductions in surface drainage and</p>	<p>Impacts of constructing the water conveyance facilities on groundwater were addressed in EIR/EIS Chapter 7 Groundwater at Impact GW-1: During Construction, Deplete Groundwater Supplies or Interfere with Groundwater Recharge, Alter Local Groundwater Levels or Reduce the Production Capacity of Preexisting Nearby Wells and Impact GW-3: Degrade Groundwater Quality during Construction and Operation of Conveyance Facilities. As discussed in Impact GW-1 and Impact GW-2, adverse impacts on groundwater levels and movement would be avoided by the requirement to include construction slurry cutoff walls around construction sites that require dewatering. This action would avoid secondary impacts on soils located adjacent to a construction site by minimizing groundwater migration and the soil-related impact mechanisms noted in the comment. The direct impacts on soils as a result of constructing the water conveyance facilities was addressed in Chapter 10 Soils of the EIR/EIS.</p> <p>Potential impacts to agricultural irrigation and drainage infrastructure were addressed in Chapter 14 Agriculture at Impact AG-2: Other Effects on Agriculture as a Result of Constructing and Operating the Proposed Water Conveyance Facility. This impact discussion recognizes that construction of the water conveyance facilities could adversely affect agricultural infrastructure and proposes mitigation that would</p>

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		<p>disruptions of drainage and water supply infrastructure result in a reduction in productivity of agricultural lands. This alteration of drainage and productivity will cause a reclassification of a prime productivity soil to a lower rating which is a significant impact of the project. Changes of soil ratings at the construction dewatering sites was not identified, evaluated or disclosed in the BDCP EIR/EIS document. The BDCP needs to mitigated these impacts by fixing any disruptions or reductions in capacity to agricultural drainage and water supply systems. Subsided ground can be mitigated by raising subsided areas by imported soils and land leveling.</p>	<p>reduce the impact.</p>
1601	779	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>The tunnel spoil disposal area on Andrus Island disrupts the main Reclamation District drainage and irrigation supply ditch.</p> <p>Comment:</p> <p>Erosion from tunnel muck disposal areas will add additional siltation load to the agricultural drainages and result in increased frequency of required dredging. The BDCP can avoid this impact by not citing tunnel muck disposal areas near ag drainage, by designing erosion catchments surrounding the tunnel muck disposal areas and by paying the Reclamation districts for the increased frequency of ditch dredging. The tunnel spoil disposal area on Andrus Island is adjacent to Wilson Farms pear and cherry packing houses and orchards. Dust from the tunnel spoils will cause quality problems with the fruit and become a human health issue from dust particulate exposure at those facilities. Other tunnel muck disposal sites will affect agricultural production adjacent to them resulting in reduced yields and quality. Contamination from tunnel muck erosion into the agricultural drains may cause drain water quality to be degraded which could result in potential discharge or treatment requirements. The BDCP can minimize this impact by treating the drain water in areas surrounding the tunnel muck disposal sites to meet State Water Resources Control Board (SWRCB) water quality discharge requirements.</p>	<p>Please note that Alternative 4A does not include a RTM storage site on Andrus Island. Please see response to comment 1601-59 for more information.</p> <p>While additives used to facilitate tunneling will be nontoxic and biodegradable, it is possible that some quantity of RTM will be deemed unsuitable for reuse. In such instances, the material will be disposed of at a site approved for disposal of such material. In the case of RTM, such requirements are anticipated to apply to less than 1% of the total volume of excavated material. Additional risk assessment studies would need to be done if RTM were to be considered for use where people would be in contact with the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate, or as leachate in surface or drinking water). RTM and associated decant liquid would be chemically characterized prior to reuse or discharge. Environmental commitments have been incorporated into project alternatives that describe the conditions for reuse of RTM to avoid and reduce potential environmental effects (see Appendix 3B of the Final EIR/EIS, Environmental Commitments, Section 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material.) Please also see Master Response 12, Reusable Tunnel Material.</p>
1601	780	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>BDCP executive summary of mitigation actions -- "Deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, reduce the production capacity of preexisting nearby wells, or interfere with agricultural drainage as a result of implementing CM2-CM22"</p> <p>Comment:</p> <p>Mitigation GW-5: Agricultural lands seepage minimization - The BDCP EIR/EIS determined that the remaining impacts after mitigation is significant and unavoidable. In reality, the entirety of the impact can be mitigated with sufficient effort, so the BDCP is just trying to avoid spending money to fix the problems that the project created.</p>	<p>CEQA does not require analysis of every imaginable mitigation measure; its concern is with feasible means of reducing environmental effects. Feasible means "capable of being accomplished in a successful manner within a reasonable period of time, taking in account economic, environmental, legal, social, and technological factors." (CEQA Section 21061.1) The analysis finds that in most instances, the lead agencies will be able to fully mitigate these impacts to a less-than-significant level, but is aware that in a few select cases, this may be infeasible.</p> <p>Please see Master Response 10, Significant and Unavoidable Impacts, for more information.</p>
1601	781	<p>Document Section: Chapter 14 - Agriculture</p>	<p>Please see Master Response 18 regarding why grazing and enclosed agriculture lands were not included as lands to be mitigated. Please also see response to comment 1601-4 for information on habitat restoration.</p>

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		<p>Issue:</p> <p>Habitat restorations in the Yolo Bypass, Cache Slough Complex, central Delta, and eastern Delta result in loss of winter cattle grazing range.</p> <p>Comment:</p> <p>Loss of grazing opportunities in the Delta will effect High Sierra summer grazing operations and affect the local economies in these other geographic areas. The BDCP analysis failed to identify, evaluate or disclose this impact.</p>	
1601	782	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>The BDCP project footprint (facilities and habitat restorations) removes high Storie Index lands in the Delta.</p> <p>Comment:</p> <p>The BDCP destroys highly productive land in the Delta so that lower productivity lands in the CVP/SWP service area south of the Delta which are lower Storie index ratings than the Delta can be irrigated. The BDCP analysis failed to provide an analysis of how many acres of each Storie Index class were destroyed and how many were sustained as a result of the project. The BDCP needs to utilize California Agricultural Land Evaluation and Site Assessment (LESA) Model, the USDA Land Capability Classification, and the Storie Index to quantify BDCP impacts to agricultural lands. The use of these models and analytical approaches is well established and accepted.</p>	<p>The impact assessment provides an accurate estimate of the potential impacts to agricultural lands within the study area. The assessment was based, in part, on the Important Farmland classification as identified by the California Department of Conservation. Farmland classifications designated by the California Department of Conservation must meet physical and chemical parameters as designated by the USDA Natural Resources Conservation Service. The lead agencies believe the use of the classifications as designated by the California Department of Conservation is an accurate input in determining the impacts on farmland resulting from constructing the proposed project. The lead agencies believe the methods used to assess impacts to farmland provide an accurate estimate of those impacts and the analysis did not need to be supplemented with other assessment tools such as the California LESA model. It should also be noted that impacts on farmland are minimized under Alternative 4A. Please see Master Response 18 regarding agricultural impact mitigation.</p>
1601	783	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>New open water areas from the BDCP forebays and habitat restorations increases localized humidity.</p> <p>Comment:</p> <p>Increased localized humidity increases the frequency, duration and magnitude of mildew infestations in agricultural crops grown in the vicinity of these new BDCP open water areas. Delta crops grown in proximity to the BDCP open water areas that are particularly susceptible to mildew and will require increase mildew control costs as well as suffer reductions in crop quality and yields. These mildew susceptible crops include: wine grapes, melons, blueberries, cucumbers, squash, pears, apples. Other higher humidity associated agricultural pests and diseases also will increase as a result of the BDCP project. These other higher humidity associated pests and diseases include: Eutypa and botrytis (in grapes), smut (in corn), rusts (most crops), Alternaria (almonds), and many other common production problems. The presence of the BDCP open water features will increase the frequency, magnitude and duration of these humidity-related production problems, increase control costs, and reduce crop quality and yields. BDCP can avoid this significant impact by locating open water features away from crops that are sensitive to higher humidity's, minimize impacts by reducing the size of the open water or by covering the open water and can</p>	<p>Effects on agriculture as a result of changes to microclimates (e.g., increased humidity) introduced by the implementation of restoration would be similar to those described under Impact AG-4 (see Chapter 14 of the Final EIR/EIS). The restoration of large areas of tidal habitat could create a localized climate that would be less supportive of crop yields adjacent to areas chosen for habitat restoration. However, this effect is speculative and its potential severity would depend on site-specific conditions. The same would hold true for the forebays.</p>

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		mitigate the remaining impacts by paying the growers for increased control costs and for lost crop quality and yields.	
1601	784	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>BDCP has proposed installation of fish screens onto unscreened agricultural diversions.</p> <p>Comment:</p> <p>BDCP implemented screens may result in a reduction in diversion capacity, operational constraints on flow conditions in which diversions can occur, increased pumping energy costs, and increased maintenance and associated labor costs. BDCP can minimize some of these impacts through appropriate designs that specifically address these issues. BDCP can mitigate the other impacts by paying for increased costs for power and maintenance in perpetuity rather than the 50-year span of the project. To ensure that funding for this mitigation is available in perpetuity, BDCP needs to fund a trust so that it becomes self-funding through interest payments.</p>	<p>The commenter is referring to Conservation Measure 21 Nonproject Diversions. As described further in Section 3.4.21 Conservation Measure 21 Nonproject Diversions in Chapter 3 of the public draft BDCP, landowners who operate diversions identified by the CM21 technical team as a high priority for remediation (e.g., screening) will be invited to participate in CM21 subject to funding availability; i.e., participation would be voluntary, and would involve monitoring of remediation effectiveness.</p> <p>Please see Master Response 5 for more information on funding.</p>
1601	785	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Historical increases of salt water intrusion in the Delta region allowed the teredo, a saltwater worm, to thrive and destroy piers and ships in Suisun Bay.</p> <p>Comment:</p> <p>The BDCP EIR/EIS analysis did not evaluate the property destruction that would occur with the increase in range, distribution and population levels of teredo that would result from the reduction in water quality and increased salt water intrusion that would result from the BDCP proposed operations. Many agricultural pumps in the Delta are held up by wooden piers that would be significantly adversely affected in the event that the piers would be eaten by the teredo which would not and does not occur under current or no action conditions. The BDCP EIR/EIS should be revised to identify, characterize, evaluate and disclose this impact of the BDCP project and alternatives.</p>	Please see response to comment 694.
1601	786	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>There are indirect and cumulative impacts to agriculture from BDCP project effects on the supporting infrastructure.</p> <p>Comment:</p> <p>The BDCP project footprint reduces the number of producing agricultural acres in the Delta. Reduced acreage affects agricultural supporting industry costs and viability. Packing houses require a minimum critical mass in terms of local producing acres of a crop. If the number of acres for the crop is reduced in the service proximity of the packing house, the packing operation is no longer economically viable. The same is true for agrichemical distributors,</p>	<p>While there would be a significant and unavoidable impact on agricultural lands, Mitigation Measure AG-1 would reduce these impacts by implementing activities such as siting project footprints to encourage continued agricultural production; relocating or replacing agricultural infrastructure in support of continued agricultural activities; engaging counties, owners/operators, and other stakeholders in developing optional agricultural stewardship approaches; and/or preserving agricultural land through offsite easements or other agricultural land conservation interests. Please also see Master Response 10, Significant and Unavoidable Impacts.</p> <p>Socioeconomic effects, including impacts on agricultural employment, are described in Chapter 16, Socioeconomics, in the EIR/EIS.</p>

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		<p>box suppliers, trucking companies, workers, and other supporting industries. The BDCP analysis fails to identify, evaluate or disclose these other agricultural resource impacts to viability and productivity.</p>	
1601	787	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>The BDCP increases transit costs for agriculture.</p> <p>Comment:</p> <p>BDCP reroutes roads for facilities and habitat restorations which changes to property access and distances traveled. The BDCP needs to analyze the increased travel distance impacts for each affected owner and operator in the Delta and compensate them in perpetuity for these increased costs.</p>	<p>The impacts on local transportation as a result of constructing and operating the water conveyance facilities are addressed in EIR/EIS Chapter 19 Transportation. The assessment addresses changes in level-of-service, damage to roadways, and permanently altering transportation patterns. The lead agencies have proposed mitigation measures to reduce these impacts including implementing site-specific construction traffic management plans, limiting hours impacts, limiting construction activities on deficient roadways, increasing capacity of congested roadway segments, and improving the physical condition of affected roadway segments.</p> <p>The impacts on transportation resulting from implementing CM-2 through CM-22 would be avoided under the Alternative 4A (preferred alternative) because much less land would be restored under this alternative. The lead agencies believe that Alternative 4A in combination with the transportation mitigation identified above would avoid substantial increases in travel times.</p>
1601	788	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Construction staging areas would suffer permanent impairment of soil productivity.</p> <p>Comment:</p> <p>The staging areas will be compacted and loose soil structure (deflocculated). The activities in these areas will be so intense and the damage so severe that the agricultural productivity of the temporary construction and staging areas will never recover. This aspect of the impacts of the BDCP were not identified, evaluated or disclosed. This BDCP significant impact can be minimized by reducing the size of the construction staging areas, and by using these areas for tunnel muck disposal and for intake sediment disposal.</p>	<p>As described in Chapter 14, Agricultural Resources, of the Final EIR/EIS, Mitigation Measure AG-1a (Promote Agricultural Productivity of Important Farmland) would, among other things, minimize disturbance of Important Farmland and continuing agricultural operations during construction by (1) locating construction laydown and staging areas on sites that are fallow, already developed or disturbed, or are to be discontinued for use as agricultural land and (2) using existing roads to access construction areas.</p>
1601	789	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Yolo Bypass is seasonally inundated under current conditions for flood control operations. Current effects from flood control operations agricultural resources are addressed by Flood Easements on the effected agricultural properties. Current flood easements do not cover the activity to flood properties for habitat creation purposes. The current BDCP proposed habitat inundation is not specific enough to allow full analysis of the impacts to agriculture (even though this action is part of the No Action/No Project).</p> <p>Comment:</p> <p>The BDCP does not identify measures to minimize the impact of the Yolo Bypass habitat restoration flows on agriculture, nor does it address how the issue of flooding a property for habitat restoration will be addressed under new easement agreements. The BDCP can minimize Yolo Bypass habitat restoration flow impacts on agriculture by managing floodplain inundation to ramp down flows (and inundated area) to reduce fish stranding and to bring flows to normal (pre-habitat restoration) flow levels by the end of the inundation period. The inundation period as described in the No Action and Alternative 4 is completed</p>	<p>Please note that the preferred alternative is now Alternative 4A, under which substantially fewer acres of habitat would be restored/enhanced relative to Alternative 4, and Yolo Bypass enhancement would not be included in the implementation of this alternative. Please see response to comment 1601-4 for more information on habitat restoration.</p> <p>For information on Flood Management Requirements please see Appendix 6A of the Final EIR/EIS.</p>

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		<p>at the end of April. Ramping down the flows prior to the end of the inundation period will reduce the amount of area affected by inundation and reduce the duration of inundation delays to agricultural production thereby reducing the amount of change to agricultural productivity. The BDCP can design floodplain inundation flows to be sensitive to flow thresholds that inundate large increments of land area. The BDCP can manage flows below flow thresholds that inundate large areas of land prior to the end of March to avoid changes to agricultural productivity in higher flow inundated areas. Floodplain restoration should acknowledge that farmland (especially land that the crop residue is allowed to stand) that is inundated provides high quality salmonid rearing and Sacramento splittail spawning and rearing habitat. Conversion of farmland into permanent fallow is not necessary to achieve the goals of the floodplain restoration. Growers on potentially inundated farmland should be encouraged or compensated (easements for specific cropping practices) to leave crop residue on the fields to enhance the floodplain habitat quality and productivity. This measure should reduce the total amount of farmland converted to non-agricultural land uses. Ground preparation for planting in the Yolo Bypass are initiated as early March and from the time the land is drained from inundation the ground requires about 2 weeks to dry down to a workable condition (depending on weather). The result of the increase in the frequency of inundation to the end of April will result in an increase in the frequency of changes in agricultural operations to adjust to later season land inundation. Adjustments to agricultural operations to address later season land inundation include: prioritization of land preparation to prepare affects lands last or later and changes in crop selection to crops that are planted later in the season (usually less profitable). Seasonal inundation that ends at the end of April as a result of this action, should not affect rice production and yields as rice planted prior to the beginning of June does not typically suffer yield losses associated with planting date. Cattle grazing begins in the Yolo Bypass in late April, so the productivity of inundated pasture land may be reduced from the increased frequency and duration of inundation. The inundated ground will require time to dry out and to grow forage prior to the land being suitable for cattle grazing.</p>	
1601	790	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Yolo Bypass conservation measure diversion operations and inundation were not defined sufficiently such that they could be incorporated in modeling and the surface water impact analyses.</p> <p>Comment:</p> <p>The BDCP lack of definition of Yolo Bypass conservation flow rules for how much, when and under what conditions supplemental inundating flows would be released by the BDCP into the bypass to not provide detail to include in modeling (water supply, surface water and water quality impacts) or in land use impact analysis (agriculture and recreation). Yolo Bypass operations were not defined sufficient to include in CALSIM modeling assumptions and CALSIM II has an inadequate analytical output temporal resolution to be of sufficient detail to evaluate the impacts of Yolo Bypass diversion flows. Timing, duration and magnitude of BDCP Yolo Bypass inundation flows are required in order for impacts on agriculture need to be defined enough to evaluate the magnitude, frequency, duration and geographic extent of impacts. Until the BDCP provides the detailed operating rules for the Yolo Bypass conservation measure inundation operations, the BDCP EIR/EIS impact analysis</p>	<p>Please see response to comment 1601-789. For information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS.</p>

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		will remain incomplete and deficient with undisclosed impacts.	
1601	791	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>The BDCP includes 8,000 acres of tidal habitat restoration. This tidal habitat restoration is assumed to be created from the conversion of agricultural lands into habitat.</p> <p>Comment:</p> <p>This would be considered a permanent retirement of 8,000 acres of current agricultural lands unless the restoration occurs in total or in part on public lands which are not currently in agricultural production or utilized for grazing.</p>	<p>Because locations have not been selected for many of these habitat restoration and enhancement activities, the precise extent of this effect is unknown. However, based on the large proportion of land in the Conservation Zones designated as Important Farmland and/or subject to Williamson Act contracts or in Farmland Security Zones, it is anticipated that areas of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones would be directly converted to habitat purposes under the alternatives, resulting in an adverse effect on the environment (although this would be substantially less under Alternative 4A compared to the HCP alternatives). Mitigation Measure AG-1 will reduce the severity of these impacts by implementing activities such as siting features to encourage continued agricultural production; relocating or replacing agricultural infrastructure in support of continued agricultural activities; engaging counties, owners/operators, and other stakeholders in developing optional agricultural stewardship approaches; and/or preserving agricultural land through offsite easements or other agricultural land conservation interests.</p> <p>Please also see response to comment 1601-789.</p>
1601	792	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>The BDCP fails to identify, evaluate or disclose the on-going direct, indirect and cumulative affects of continuation of operation of the CVP/SWP on salt accumulation in soils in the CVP/SWP service area.</p> <p>Comment:</p> <p>The continuation of salt accumulation in soils in the No Action alternative is anticipated to reduce the productivity of some farmlands that are specifically vulnerable to salt accumulation (poorly drained and/or low infiltration rate soils). This salt accumulation would occur primarily in the CVP/SWP service areas that are supplied by diversions from the Sacramento -- San Joaquin Delta and in areas that exhibit salt accumulation under the current Affected Environment. In some cases where salt accumulation is acute under the current Affected Environment, continued salt accumulation that would occur in the No Action could result in farmland becoming unsuitable for agricultural production and result in permanent retirement of that farmland.</p>	<p>As discussed under the No Action Alternative impact analysis in Chapter 14, Agricultural Resources, Section 14.3.5.1, of the Final EIR/EIS, the potential cumulative effects of the No Action Alternative on agriculture due to changes in salinity were evaluated by comparing the No Action water quality analysis for salinity to those for Existing Conditions. Relative to Existing Conditions, the No Action Alternative would result in a fewer number of days when Bay-Delta WQCP compliance locations in the western, interior, and southern Delta would exceed EC objectives or be out of compliance with the EC objectives, with the exception of the Sacramento River at Emmatton. Complete discussion of salinity under the No Action Alternative is included in Chapter 8, Water Quality.</p>
1601	793	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Continuation of operations of the CVP/SWP and continuing variability of water supplies will result in continued use and overdraft of groundwater resources as an alternative/supplemental water supply for agriculture.</p> <p>Comment:</p> <p>Continued use of groundwater (which is almost always a lower water quality than surface water quality) as an alternative or supplemental water supply will result in the continuation of accumulation of salts in soils. The continuation of salt accumulation in soils will reduce the productivity of some farmlands that are specifically vulnerable to salt accumulation (poorly drained and/or low infiltration rate soils). This salt accumulation would occur</p>	<p>The BDCP does not propose any changes to groundwater management. A reduction in deliveries to Export Service Areas could result in increased groundwater pumping, as described in Section 30.3.4.1 of Chapter 30, Growth Inducement and Other Indirect Effects, EIR/EIS. However, there are many factors that would influence the response of agricultural water agencies and individual farmers to reductions in deliveries from the Delta, including the availability of other surface supplies.</p> <p>For information on soil impacts please see Chapter 10 of the Final EIR/EIS. Please also see Chapter 8 of the Final EIR/EIS and Master 14 14 for a discussion of water quality. Regarding Agricultural impact mitigation please see Chapter 14 of the Final EIR/EIS and Master Response 18.</p> <p>Please see Master Response 3 and Chapter 2 of the Final EIR/EIS for information on the proposed project's purpose and need.</p> <p>Also see response to comment 1601-764 and 1601-769. Additionally, groundwater impacts are discussed in</p>

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		<p>primarily in the CVP/SWP service areas that are supplied by diversions from the Sacramento -- San Joaquin Delta and in areas that exhibit salt accumulation under the current Affected Environment. In some cases where salt accumulation is acute under the current Affected Environment, continued salt accumulation will result in farmland becoming unsuitable for agricultural production and result in permanent retirement of that farmland.</p>	<p>Chapter 7 of the Final EIR/EIS.</p>
1601	794	<p>Document Section: Chapter 14 - Agriculture</p> <p>Issue:</p> <p>Continuation of operations of the CVP/SWP will result in a continued overdraft of groundwater in the CVP/SWP service areas.</p> <p>Comment:</p> <p>Utilization of groundwater as an alternative/supplemental water supply due to continued variations in CVP/SWP water deliveries occurring in the Proposed Project will result in continued, and in some cases, new areas of land subsidence. Land subsidence can affect some agricultural resources such as surface and groundwater drainage and flow capacities of drainage and water supply conveyances. Reductions in surface drainage and disruptions of drainage and water supply infrastructure could result in a reduction in productivity of some agricultural lands. Under areas in the CVP/SWP service area where farmland is only marginally suitable under the current Affected Environment conditions could result in farmland becoming unsuitable for agricultural production (resulting in permanent land retirement) under the Proposed Project alternative. The BDCP can avoid these significant impacts if the contracted water delivery amounts are adjusted to a level that can be reliably delivered under all water year types and hydrologic conditions. By reducing the amount of water commitment to a level that can always be delivered, the growers will adapt their operations to that level of water and will discontinue the use of the groundwater as an alternative because, according to regional water master plans, the use of the groundwater on any prolonged (8 years in a row or more) is not economically sustainable.</p>	<p>Please see response to comment 1601-764, 769, and 793.</p>
1601	795	<p>Issue:</p> <p>GW-2: During operations, deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, or reduce the production capacity of preexisting nearby wells.</p> <p>Comment:</p> <p>The BDCP forebays will raise water tables in properties adjacent to them. Water tables that are elevated into the root zones of the crops creates water logging, a reduction in soil oxygen exchange, adds service load to drain tile systems and wicks salts into the root zone. If water tables are raised into the root zone of crops for more than a few weeks during the dormant season or for any duration any other time of year, the permanent crop will no longer be viable in that location. If salt wicking from the raised water table increases soil Electrical Conductivity (EC) sufficiently, yield losses will occur. If EC values are raised to a higher level, certain salt sensitive crops will no longer be viable to grow on that land. If EC values are raised to an even higher level, the land may not be suitable to grow any crop and is therefore effectively converted from agricultural production to non-agricultural land uses which is a significant impact. Water table increase impacts from BDCP aquatic and wetland</p>	<p>Please see response to comment 1601-329,</p>

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		<p>habitat restorations can be avoided, minimized and mitigated by: using geotechnical fabrics on habitat levees to reduce seepage to adjacent properties, using slurry walls in levees to prevent and reduce groundwater migration, use of toe drains outside of habitat restoration levees and install shallow groundwater wells in areas with increased water tables. The toe drains and shallow groundwater wells would need to be pumped out to draw down the water tables on the affected lands.</p>	
1601	796	<p>Issue:</p> <p>GW-6: Deplete groundwater supplies or interfere with groundwater recharge, alter local groundwater levels, reduce the production capacity of preexisting nearby wells, or interfere with agricultural drainage as a result of implementing CM2-CM22</p> <p>Comment:</p> <p>The BDCP aquatic and wetland habitat restorations will raise water tables in properties adjacent to them. Water tables that are elevated into the root zones of the crops creates water logging, a reduction in soil oxygen exchange, adds service load to drain tile systems and wicks salts into the root zone. If water tables are raised into the root zone of crops for more than a few weeks during the dormant season or for any duration any other time of year, the permanent crop will not longer be viable in that location. If salt wicking from the raised water table increases soil Electrical Conductivity (EC) sufficiently, yield losses will occur. If EC values are raised to a higher level, certain salt sensitive crops will no longer be viable to grow on that land. If EC values are raised to an even higher level, the land may not be suitable to grow any crop and is therefore effectively converted from agricultural production to non-agricultural land uses which is a significant impact. Water table increase impacts from BDCP aquatic and wetland habitat restorations can be avoided, minimized and mitigated by: using geotechnical fabrics on habitat levees to reduce seepage to adjacent properties, using slurry walls in levees to prevent and reduce groundwater migration, use of toe drains outside of habitat restoration levees and install shallow groundwater wells in areas with increased water tables. The toe drains and shallow groundwater wells would need to be pumped out to draw down the water tables on the affected lands.</p>	Please see response to comment 1601-333.
1601	797	<p>Issue:</p> <p>WQ-3: Effects on boron concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action are incorrect. CM1 does not exist in the No Action, therefore there would be No Impact. Any increase in Boron concentration is significant to the suitability of water supply for agricultural irrigation beneficial uses. This impact should be changed to significant.</p>	While there would be no new conveyance facility project under the No Action Alternative, there would still be some water quality effect of the planned actions under the No Action Alternative relative to Existing Conditions. It is the difference between conditions under the No Action Alternative from Existing Conditions that is the basis of the CEQA impact calls.
1601	798	<p>Issue:</p> <p>WQ-4: Effects on boron concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action are incorrect. CM2-22 do not exist in the No</p>	No impact analysis of boron for CM2–CM21 (Impact WQ-4) was conducted for the No Action Alternative, because these conservation measures are not components of No Action. An increase of any amount of boron does not necessarily translate to an adverse effect on beneficial uses. The increase has to be of a magnitude and geographic extent resulting in adverse effects to beneficial uses. For the project alternatives, long-term average boron concentrations would be less than the agricultural threshold of 500 µg/L at all but two Delta assessment locations. And the locations at which concentrations would sometimes be above this

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		Action, therefore there would be No Impact. Any increase in Boron concentration is significant to the suitability of water supply for agricultural irrigation beneficial uses. This impact should be changed to significant.	threshold, the increases would not rise to the level of adversely affecting beneficial uses, as noted in the assessment of each alternative.  Please see Chapter 8, Water Quality, of the Final EIR/EIS and Master Response 14 for more information. Regarding beneficial use of water, please see Master Response 34.
1601	799	Issue:  WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CM1)  Comment:  The "Significant Unavoidable" and "Adverse" increase in chloride after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Chloride is an important water quality constituent for irrigation water. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.	Alternative 4A was concluded to have a less than significant impact on chloride concentration; see analysis under Impact WQ-7 in Chapter 8 of the Final EIR/EIS.  For more information on water quality also see Master Response 14. Please also see Master Response 10, Significant and Unavoidable Impacts.
1601	800	Issue:  WQ-11: Effects on electrical conductivity concentrations resulting from facilities operations and maintenance (CM1)  Comment:  The No Action operations are required to comply with Delta water quality standards that protect water quality and beneficial uses. These water quality standards include limits on electrical conductivity (EC) that are designed to protect sensitive resources from EC impacts. The No Action significant impact determination is correct as the current CVP/SWP operations routinely exceed these standards, see Affect Environment. The No Action would continue to violate these water quality protections and therefore the significant impact call by the BDCP EIR/EIS is warranted. The Proposed Project impacts are even worse than the No Action. Since the current and No Action CVP/SWP operations are in violation of water quality requirements and the Proposed Project results in a degradation of that condition, the project should not be awarded any permits as the project is in violation of the law. Any increase in EC concentration from the Proposed Project is significant to the suitability of water supply for agricultural irrigation beneficial uses.	The impact to electrical conductivity identified in this comment is for Alternative 4 of the BDCP. As shown by the impact assessment in Chapter 8, Water Quality, Alternative 4A would have a less than significant impact on assessed constituents, except for electrical conductivity (EC). The impact to EC would be less than significant with implementation of the proposed mitigation.  For more information on water quality, please see Master Response 14.
1601	801	Issue:  WQ-12: Effects on electrical conductivity (EC) concentrations resulting from implementation of CM2-CM22  Comment:  The BDCP EIR/EIS impact calls on the No Action and Proposed Project are incorrect. CM2-22 do not exist in the No Action, therefore there would be No Impact/No Effect. Evaporation from the aquatic habitat restorations will result in a concentration of the EC levels, so this should be a significant impact. Any increase in EC concentrations is an unacceptable degradation of the beneficial uses of water in the Delta. EC is an important water quality	No impact analysis of EC for CM2–CM21 was conducted for the No Action Alternative, because these are not components of No Action. Please see response to comment 1601-247 regarding evaporation effects and significance of increases in constituent concentrations.

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		constituent for irrigation water and results in reduced yields, increase accumulation of salts in the soil, increased water use (for leaching irrigation component), soils that are unsuitable for production of salt sensitive crops and ultimately with continued accumulation of salts a soil that is unsuitable for any kind of agricultural production. Any increase in EC concentration from the Proposed Project is significant to the suitability of water supply for agricultural irrigation beneficial uses.	
1601	802	<p>Issue:</p> <p>WQ-21: Effects on pesticide concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. TMDL) exceedances. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations, it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated.</p>	See responses to Comment 1601-412 regarding pesticides.
1601	803	<p>Issue:</p> <p>WQ-22: Effects on pesticide concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) exceedances. The aquatic habitat restorations create additional area and opportunity for pesticide spray drift to get into the water. The evaporation from the aquatic habitat restorations will further increase the pesticide concentrations. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations, it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	<p>Please see Chapter 8, Water Quality, of the Final EIR/EIS. Mitigation Measure WQ-22 is available to partially reduce this impact of pesticides on water quality; however, no feasible mitigation is available that would reduce it to a level that would be less than significant. This impact is therefore considered significant and unavoidable.</p> <p>For information on significant and unavoidable impacts please see Master Response 10.</p>
1601	804	<p>Issue:</p> <p>WQ-23: Effects on phosphorus concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p>	Please see response to Comment 414.

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		<p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) phosphorus exceedances. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations, it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	
1601	805	<p>Issue:</p> <p>WQ-24: Effects on phosphorus concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) phosphorus exceedances. The evaporation from the aquatic habitat restorations will further increase the phosphorus concentrations. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations, it will be the local farmers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see response to comment 1601-415.
1601	806	<p>Issue:</p> <p>WQ-25: Effects on selenium concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) exceedances for selenium. Since these water quality parameters are already frequently in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations, it will be the upstream farmers that discharge selenium in their ag drain water. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated.</p>	Please see response to comment 416.
1601	807	<p>Issue:</p>	Please see response to comment 417.

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		<p>WQ-26: Effects on selenium concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) selenium exceedances. The evaporation from the aquatic habitat restorations will further increase the selenium concentrations. Since these water quality parameters are already in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations, it will be the upstream farmers that discharge selenium in their ag drain water. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated. A project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	
1601	808	<p>Issue:</p> <p>WQ-27: Effects on trace metal concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The Proposed Project reduction in refreshment rate of water in the Delta will reduce the assimilative capacity (per BDCP EIR/EIS water quality chapter conclusions). The reduced assimilative capacity will result in an increase in the magnitude, duration, frequency and geographic extent of water quality requirement (e.g. Total Maximum Daily Load (TMDL)) exceedances for trace metals. Since these water quality parameters are already frequently in violation, the contribution of the Proposed Project operations will exacerbate these conditions. It is not the BDCP that will be fined and have further operational constraints placed upon them for these water quality violations, it will be the upstream farmers and M&amp;I dischargers. The BDCP Proposed Project contribution to this problem is significant and adverse and therefore must be mitigated.</p>	Please see response to comment 418.
1601	809	<p>Issue:</p> <p>WQ-28: Effects on trace metal concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>CM2-22 do not exist in the No Action, therefore there would be No Impact/No Effect. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse.</p>	No impact analysis of trace metals for CM2–CM21 was conducted for the No Action Alternative, because these are not components of No Action. Please see Chapter 8 of the Final EIR/EIS for more information on impact WQ-28 under the various alternatives. Please also see section 8.3.2, Determination of Effects.
1601	810	<p>Document Section: Reusable Tunnel Material Testing Report - section 2.3.1</p> <p>Issue:</p> <p>Environmental testing did not include all of the relevant compounds that should have been</p>	Please refer to response to comment 743, above. Please refer to Appendix 3B, Environmental Commitments, AMMS, and CMs. Please also see Master Response 12, Reusable Tunnel Material.

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		<p>tested for.</p> <p>Comment:</p> <p>As an example, the tests had a category for "soluble metals". This is such a broad category as to be useless in a meaningful environmental analysis of agricultural impacts. Metal concentrations in soils can be toxic to plants and soil microbes. The amount of metal that can create impacts varies by the metal type and the form of the metal. This soluble metals testing category is not useful to determine the potential impacts of the tunnel muck disposal on the agricultural land productivity or suitability. The samples should have been tested for a broad panel that encompassed boron, chromium, lead, zinc, iron, and others so that the impacts of tunnel muck disposal could be evaluated. Testing panels should have also included other compounds such as salts so those impacts could have been evaluated and disclosed. The testing of the samples should be redone to include these other important constituents and the EIR/EIS revised to evaluate, quantify, disclose and mitigate for the impacts associated with the chemical constituent impacts of the tunnel muck materials proposed by the BDCP.</p>	
1601	811	<p>Document Section: Reusable Tunnel Material Testing Report - section 3.1.3</p> <p>Issue:</p> <p>The water permeability of the polymer treated samples is much lower than the untreated samples.</p> <p>Comment:</p> <p>The water infiltration rate of the treated tunnel muck is much lower than the untreated materials. The analysis should also have included a comparison to the infiltration rates of the soils that would be covered by the tunnel muck disposal to determine the impacts to soil suitability for agriculture, habitat, groundwater recharge, surface erosion, cumulative drainage, and surface water drainage quantity and quality. The BDCP EIR/EIS failed to conduct these assessments on the impacts of the infiltration rates of the tunnel muck disposal.</p>	<p>The Reusable Tunnel Material Testing Report has not been revised because its purpose was to provide preliminary information relevant to the EIR/EIS analyses to determine its likely chemical composition. While additives used to facilitate tunneling will be nontoxic and biodegradable, it is possible that some quantity of RTM will be deemed unsuitable for reuse. In such instances, the material will be disposed of at a site approved for disposal of such material. In the case of RTM, such requirements are anticipated to apply to less than 1% of the total volume of excavated material. Additional risk assessment studies would need to be done if RTM were to be considered for use where people would be in contact with the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate, or as leachate in surface or drinking water). RTM and associated decant liquid would be chemically characterized prior to reuse or discharge. Environmental commitments have been incorporated into project alternatives that describe the conditions for reuse of RTM to avoid and reduce potential environmental effects (see Appendix 3B, Environmental Commitments, Section 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material.) Please see Master Response 12 related to RTM.</p>
1601	812	<p>Document Section: Reusable Tunnel Material Testing Report - page 3-8</p> <p>Issue:</p> <p>"To expedite drying and reduce soil plasticity, high-calcium quicklime could be added, as demonstrated by the laboratory test results in Table 3-2. However, because the addition of quicklime elevates pH values, lime-treated soil should be kept away from areas where plant growth is desirable."</p> <p>Comment:</p> <p>The BDCP EIR/EIS failed to identify, characterize, evaluate, quantify or disclose this impact to agricultural lands productivity. Most plant species cultivated for agriculture in the Delta require soils pH that are between 6 to 8. Any pHs resulting from the project outside of this range will result in either crops that will wither and die or have severe nutrient availability issues which will reduce yields. Altered pH soils will favor colonization of exotic and invasive plant species which increases weed pressure on adjacent agricultural properties and</p>	<p>The RTM sites would not have effects on adjacent agricultural land productivity because the RTM disposal and reuse environmental commitment identified in Appendix 3B of the Final EIR/EIS would be implemented to reduce these types of effects. Please also refer to response to comment 1601-743 and response to comment 1601-811.</p>

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		develops non-native habitat/species colonization characteristics. The BDCP EIR/EIS needs to be revised to evaluate, quantify, minimize and mitigate this significant impact in tunnel muck disposal areas.	
1601	813	<p>Document Section: Reusable Tunnel Material Testing Report - page 3-23</p> <p>Issue:</p> <p>"A comparison between the planting suitability test results on baseline and conditioned soil samples are presented"</p> <p>Comment:</p> <p>The impact assessment methodology is flawed as the NEPA and CEQA basis for comparison should be against the soil properties that currently exist (would exist in the future without the project), not against the untreated tunnel muck material as the report has done. The soil properties of the locations the BDCP has proposed for tunnel muck disposal should be used as the basis of comparison to the BDCP proposed tunnel muck treated materials. The EIR/EIS analysis should be revised to include this correct comparison to meet the requirements of NEPA and CEQA.</p>	No change to the EIR/EIS analysis have been made The suggested change in method would not reasonably change the impact analyses related to RTM storage and disposal. Please refer to response to comments 1601-743, 811 and 812 regarding RTM.
1601	814	<p>Document Section: Reusable Tunnel Material Testing Report - page 3-24</p> <p>Issue:</p> <p>"The safety of human or animal consumption of agricultural crops grown in the conditioned soil was outside the scope of this study and Agriculture would be required to evaluate this issue further."</p> <p>Comment:</p> <p>This report identifies that the analysis is incomplete. The BDCP EIR/EIS does not even include the analysis in the report, so the EIR/EIS is even more incomplete and therefore deficient. The EIR/EIS should be revised to include the information that the report identifies as being required in order to be complete and warrant consideration of issuance of permits.</p>	Please see response to comments 1601-743, 811 and 812, above. For information on permitting, please see Master Response 45.
1601	815	<p>Document Section: Reusable Tunnel Material Testing Report - page 263</p> <p>Issue:</p> <p>Nitrate/Nitrite Sample Holding Time: "Samples were out of prescribed holding time upon resolution of discrepancies and were received without thermal preservation. The samples were analyzed upon client advice to proceed with the analysis."</p> <p>Comment:</p> <p>The report admits the samples were mishandled and did not comply with proper procedures and that the samples were processed and results used anyway. It is nice they disclosed this profound defect in the report in an appendix on page 263. There was no mention of this severe limitation in the usefulness of the results in the data presentation and analysis in the main report. In short, none of the sample handling protocols were followed and none of these results should be relied upon for any purpose. This whole report falls woefully short of</p>	Please see response to comments 1601-743, 811 and 812, above.

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		"best available", let alone "good" or even "proficient" science.	
1601	816	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Changes in fresh water flows in rivers and the Delta during the recreational season. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Operation of the Delta Cross Channel locks will block recreational boating in the Delta. Temporary barriers and fish behavioral modification devices proposed in BDCP other stressors conservation measures create a boating and contact recreation hazard.</p>	<p>Please note, nonphysical fish barriers associated with the preferred alternative, 4A, or the other non-HCP alternatives, 2D or 5A, are limited to the Georgiana Slough divergence from the Sacramento River.</p> <p>For most of the HCP alternatives and the non-HCP alternatives, the fish barriers proposed for CM 16 or Environmental Commitment 16 are nonphysical fish barriers (BioAcoustic Fish Fences [BAFFs]) at the junction of channels with low survival of outmigrating juvenile salmonids to deter fish from entering these channels. In addition to these BAFF system evaluations of what may be considered true nonphysical barriers, studies are also underway to determine the effectiveness of a floating fish guidance structure. This structure uses steel panels suspended from floats to change water currents so that fish are guided towards the center of the river (away from other channel entrances), but does not substantially change the amount of water entering the channels. For the HCP alternatives, BAFF structures may be appropriate at the Georgiana Slough, Head of Old River, and Delta Cross Channel sites, while floating structures may be suitable at the Turner Cut and Columbia Cut sites; this would require additional study. Installation of these barriers would not block boating access but would restrict the channels by extending into the channel by up to approximately 200 feet. Nonphysical barriers of the BAFF type would be removed and stored offsite while not in operation, but floating fish guidance structures do not require removal and could be left in place. This would cause impacts to boaters in these channels. They would not, however, prohibit or block recreational boating completely. Mitigation Measure TRANS-1a (please see Chapter 19 of the Final EIR/EIS) would be available to reduce impacts, but due to a potentially permanent duration, impacts would remain significant and unavoidable. For more information on environmental commitments, AMMs, and CMs please see Appendix 3B of the Final EIR/EIS.</p> <p>For Alternative 9, the fish screen and modified gate without boat passage at the Delta Cross Channel would eliminate boat access between the Delta Cross Channel and the Sacramento River because modifications would lack provisions for boat passage. This is described as a significant and unavoidable impact. For more information on recreation please see Chapter 15 of the Final EIR/EIS. Please also see response to comment 1601-817 for more information on recreational impacts and mitigation.</p>
1601	817	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Changes of river temperature that reduce recreational swimming, tubing, canoeing, kayaking, and rafting. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Reoperation of upstream of Delta tributaries will result in some water temperature and flow changes that can be hazards to swimming and boating safety.</p>	<p>The proposed project may impact recreational opportunities, including impacts on hunting, fishing, swimming, and boating. Mitigation is proposed to reduce these impacts; however some impacts may remain significant due to the long-term nature of the temporary construction related impacts. Please see Chapter 15, Recreation, for more detail on the impacts of the proposed project on recreational opportunities and the proposed mitigation.</p> <p>To compensate for the loss of access as a result of constructing the river intakes, the proponents will work with the California Department of Parks and Recreation to help insure the elements of the proposed project would not conflict with the elements proposed in DPR's Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh (California Department of Parks and Recreation 2011d) that would enhance bicycle and foot access to the Delta. This would include the helping to fund or construct elements of the American Discovery Trail and the potential conversion of the abandoned Southern Pacific Railroad rail line that formerly connected Sacramento to Walnut Grove.</p> <p>Please note, Alternative 4A is not anticipated to result in significant changes in water temperature; see, for example upstream temperature modeling results presented in Appendix 11D of the Final EIR/EIS, Sacramento River Water Quality Model and Reclamation Temperature Model Results Utilized in the Fish Analysis. For more information on recreation please see Chapter 15 of the Final EIR/EIS.</p>
1601	818	Document Section: Chapter 15 - Recreation	Construction of the intakes and related water conveyance facilities would result in permanent and long-term (i.e., lasting over 2 years) impacts on well-established recreational opportunities and experiences in the

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		<p>Issue:</p> <p>Temporary restriction of recreation activities due to construction. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>There will be large no boating, fishing, and swimming zones around the intake facilities as they are constructed. Their will be a permanent smaller permanent loss of these activities near these facilities during the entire project period (50 years).</p>	<p>study area, including boating, fishing and swimming, because of access, noise, and visual setting disruptions that could result in loss of public use. Mitigation measures would be available to reduce impacts related to construction to a less-than-significant level. Additionally, the intake areas would not affect the entire Delta, but would result in localized impacts. Other areas of the Delta would still be open to such activities. Please also see response to comments 1601-816 and 1601-817 for more information on recreational impacts and mitigation. Also see response to comment 1601-824.</p>
1601	819	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Conversion of recreation facilities to other uses. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Intake #3 will cause backwater effects that alter the inundation of the boat launch and park at Merritt Landing. This increased frequency, magnitude and duration of inundation that forces the park closure results in an adverse change in the use of these recreation facilities.</p>	<p>As described in Chapter 6, Surface Water, of the Final EIR/EIS, the preferred alternative, Alternative 4A, would not result in adverse impacts on flow conditions in the Sacramento River at Bend Bridge or in the Sacramento River near Freeport Bridge as compared to the conditions without the project (see Impact SW-2). Therefore it is not anticipated that altered flow or inundation of the boat launch at Merritt Landing would occur. See also response to comment 1601-823 for more information related to intake #3. Please also see response to comments 1601-816 and 1601-817 for more information on recreational impacts and mitigation.</p>
1601	820	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Changes in aesthetic conditions that could affect visitor appreciation of an area. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP intake and tunnel headworks facility pump operations are loud. Sound carries farther and louder over water and bounces back and forth between the levees. Intake noise will disrupt contact and non-contact recreation activities on the Sacramento River for miles adjacent to the facilities. This impact can be minimized and avoided by a design of the intake pumping plants so they are protected by levees to get them out of the flood plain rather than the current BDCP design of having them on raised platforms.</p>	<p>Please note that the new preferred alternative, 4A, includes pumping plants only near Clifton Court Forebay. The intakes will not include pumping plants. Mitigation measures would be implemented to reduce noise as much as possible during construction. These include:</p> <p>Mitigation Measure NOI-1a: Employ Noise-Reducing Construction Practices during Construction</p> <p>Mitigation Measure NOI-1b: Prior to Construction, Initiate a Complaint/Response Tracking Program</p> <p>Please see Chapter 23 of the Final EIR/EIS for more information on these mitigation measures. Additionally, information on environmental commitments, AMMs, and CMs can be found in Appendix 3B of the Final EIR/EIS.</p>
1601	821	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Changes in fishing or hunting opportunities. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>No fishing and boating zones around intake #3 reduces recreational opportunities at Merritt Island Park and Boat Launch. This impact can easily be minimized by relocating this facility to avoid being adjacent to the park.</p>	<p>The preferred alternative, 4A, has been optimized to reduce as many significant impacts as possible. Unfortunately, while impacts to recreation will still occur, impacts will be localized and would not affect the entire Delta. Impacts to this area (in the vicinity of the Clarksburg Boat Launch) are described under Impact REC-2. Even with mitigation (e.g., Mitigation Measure REC-2), this impact remains adverse/significant and unavoidable. Please also see response to comments 1601-816 and 1601-817 for more information on recreational impacts and mitigation.</p>

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1601	822	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>BDCP CVP/SWP operational changes impact reservoir drawdown which were not included in BDCP analysis.</p> <p>Comment:</p> <p>The BDCP also failed to identify and evaluate the visual and aesthetic impacts of operational changes in the rate and timing of reservoir drawdowns. Increased rate of reservoir drawdowns will result in earlier and more frequent dewatering of boat ramps.</p>	<p>As discussed in Impact REC-6 for Alternative 4A (see Chapter 15 of the Final EIR/EIS) impacts would be less than significant with mitigation. For Existing Conditions (CEQA Baseline) compared to Alternative 4A ELT (2025), recreation thresholds would be exceeded more frequently at Trinity, Shasta, Oroville, Folsom, and San Luis Reservoirs relative to Existing Conditions. These changes represent a greater than 10% increase in the frequency the recreation thresholds are exceeded under Operational Scenario H3 and H4 at Trinity, Shasta, Oroville, Folsom, and San Luis Reservoirs, compared to Existing Conditions.</p> <p>For Existing Conditions compared to 4A LLT (2060), Operational Scenarios H3 and H4 recreation thresholds would be exceeded more frequently at Trinity, Shasta, Oroville, Folsom, New Melones, and San Luis Reservoirs relative to Existing Conditions. These changes represent a greater than 10% increase in the frequency the recreation thresholds are exceeded under Operational Scenario H3 at Trinity, Shasta, Oroville, Folsom, and San Luis Reservoirs and under Operational Scenario H4 at Trinity, Shasta, Oroville, Folsom, New Melones, and San Luis Reservoirs.</p> <p>However, as discussed in Section 15.3.1 in Chapter 15 of the Final EIR/EIS, Methods for Analysis, these changes in SWP/CVP reservoir elevations are primarily attributable to change in demand and other external factors such as sea level rise and climate change. It is not possible to specifically define the exact extent of the changes due to implementation of the action alternative using these model simulation results. For more information on modeling please see Master Response 30 and Appendix 5A of the Final EIR/EIS. Information on climate change can be found in Master Response 19.</p> <p>The comparison of Alternative 4A to the No Action Alternative (ELT) condition most closely represents changes in reservoir elevations that may occur as a result of operation of Alternative 4A because both conditions external factors such as change in demand and sea level rise and climate change (see Appendix 5A, BDCP EIR/EIS Modeling Technical Appendix).</p> <p>Alternative 4A Operational Scenarios H3 and H4 would result in changes in the frequency with which the end-of-September reservoir levels at Trinity, Shasta, Oroville, Folsom, New Melones, and San Luis Reservoirs would fall below levels identified as important water-dependent recreation thresholds.</p> <p>Mitigation Measure REC-6 "Provide a Temporary Alternative Boat Launch to Ensure Access to San Luis Reservoir" would reduce this impact to less than significant.</p> <p>For information on aesthetics and visual resources please see Chapter 17 of the Final EIR/EIS.</p>
1601	823	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Backwater effects of intake #3 encroachment on the Sacramento River cross section would increase the frequency, magnitude and duration of flooding of the Merritt Island Park and Boat Launch.</p> <p>Comment:</p> <p>This redirected flow impact reduces recreational opportunities in the area.</p>	<p>As described in Impact TRANS-13 in Chapter 19, Transportation, of the Final EIR/EIS, the minimal changes in surface water elevation anticipated near the intakes, even assuming a maximum lowering of 0.7 foot, would not likely expose any currently unexposed natural or man-made features that would affect or impede navigation and there would be no new snags or obstructions that would impede navigation, or therefore impede recreation. For more information on recreation please see Chapter 15 of the Final EIR/EIS.</p>
1601	824	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p>	<p>These impacts are described under Impact REC-3 in Chapter 15 of the Final EIR/EIS. The current design of the intakes has them set back into the levees as far as possible. During construction of intakes, boats would be unable to use a portion of the waterway where construction was occurring. However, the river in the vicinity of the intake construction sites would remain open to boat passage at all times. The river is approximately 500–700 feet wide near the proposed intakes, which would leave most of the channel width (approximately</p>

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		<p>BDCP adversely affects recreational boating in the Delta.</p> <p>Comment:</p> <p>Barges and barge loading areas impede and are a hazard for recreational boating. Impacts to recreation boating from intakes can be reduced by setting back intakes into the levees and avoiding adjacency to parks and boat ramps.</p>	<p>380–580 feet) open to boat passage, providing ample room for the boat traffic observed to occur in the area to pass without difficulty and minimizing possible traffic congestion.</p> <p>Use of barges for water facilities construction and construction of the temporary barge unloading facilities may require partial channel closures and use of equipment within the waterways.</p> <p>To ensure boating safety around these structures, temporary in-water construction zone restrictions would be in place around intakes during construction and around barges and barge unloading facilities. These measures would include a speed-restricted zone extending upstream and downstream of river construction areas to reduce wake and maintain a safe work area in the vicinity of the construction activities. Site-specific safety features, including determination of the speed-restriction zone would be developed under the Mitigation Measure TRANS-1a (see Chapter 19 of the Final EIR/EIS) that involves the Lead Agencies developing and implementing site-specific construction traffic management plans, including waterway navigation elements and providing notification of construction activities in waterways. Post-construction, temporary barges would be removed and the ability to navigate rivers and channels would return to previous conditions.</p> <p>Please also see response to comment 1601-818.</p>
1601	825	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Large expanses of open water from subtidal and intertidal habitat restorations create new large waves which are hazards to boating recreation and impediments to navigation.</p> <p>Comment:</p> <p>The BDCP is proposing 65,000 acres of aquatic habitat restoration. This represents over 100 square miles of open water that can generate large waves. As an example of open water area large wave impacts, Franks Tract is a small flooded island just south of the San Joaquin River. Franks Tract is a notorious boating hazard in the Delta for large waves during high wind events (common in the Central Delta) and has been responsible for swamping and damaging many recreational boats. Waves from Franks Tract can impede and even prohibit navigation in the area (including the San Joaquin Deep Water Ship Channel) for any vessel smaller than an ocean going boat. The BDCP proposes aquatic habitat restoration areas of open water that are 20 times the size of Franks Tract. BDCP must avoid and minimize this problem created by their proposed aquatic habitat restorations by providing specific aquatic habitat restoration designs to avoid, minimize and mitigate these significant impacts. These avoidance and minimization measures could include barrier islands to break up open areas and absorb wind and waves. The BDCP should have analyzed this impact and proposed measures to avoid, minimize and mitigate this affect.</p>	<p>Please note that alternative, 4A includes up to 295 acres of tidal natural communities restoration, in comparison to the 65,000 acres of tidal restoration proposed in Alternative, 4. Boating-related recreation opportunities as a result of the conservation measures (for the action alternatives) and the environmental commitments for Alternatives 4A, 2D, and 5A are discussed in Impact REC-10 under each alternative (see Chapter 15 of the Final EIR/EIS). Additionally, as described under Impact SW-8 in Chapter 6, Surface Water, Mitigation Measure SW-8: “Implement Measures to Address Potential Wind Fetch Issues” would be implemented to prevent an increase in potential damage from wind-driven waves across expanded open water areas at habitat restoration locations.</p> <p>Please also see response to comment 1601-4 for more information on habitat restoration.</p>
1601	826	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>Historical increases of salt water intrusion in the Delta region allowed the teredo, a saltwater worm, to thrive and destroy piers and ships in Suisun Bay.</p> <p>Comment:</p>	<p>Please see response to comment 1601-694.</p>

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		<p>The BDCP EIR/EIS analysis did not evaluate the property destruction that would occur with the increase in range, distribution and population levels of teredo that would result from the reduction in water quality and increased salt-water intrusion that would result from the BDCP proposed operations. Many recreational piers in the Delta are held up by wooden piers that would be significantly adversely affected in the event that the piers would be eaten by the teredo which would not and does not occur under current or no action conditions. There are many wooden boats that would also be significantly impacted by the BDCP. The BDCP EIR/EIS should be revised to identify, characterize, evaluate and disclose this impact of the BDCP project and alternatives.</p>	
1601	827	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>WQ-19: Effects on pathogens resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	Please see response to comment 1601-718.
1601	828	<p>Document Section: Chapter 15 - Recreation</p> <p>Issue:</p> <p>WQ-20: Effects on pathogens resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative</p>	Please see response to comment 1601-718.

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		<p>capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	
1601	829	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>If the project necessitates public service expenditures substantially in excess of revenues. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP will reduce tax-based revenues and in some cases increase the level of services needed. As an example, the local Fire and Law Enforcement Departments will have to respond to incidences related to the proposed facilities, e.g. fires, drowning, injuries, break-ins, vandalism, boating and swimming accidents at the intakes, etc. The BDCP increases burden on local services while reducing local tax revenue to support these services.</p>	<p>As discussed under Impact ECON-4, in Chapter 16 of the Final EIR/EIS, DWR would make arrangements to compensate local governments for the loss of property tax or assessment revenue for land used for constructing, locating, operating, or mitigating for new Delta water conveyance facilities. Additionally, as discussed under Impact ECON-1, construction of the water conveyance facilities would be anticipated to result in a net temporary increase of income and employment in the Delta region. This would also create an indirect beneficial effect through increased sales tax revenue for local government entities that rely on sales taxes.</p> <p>For more information on the determination of effects, please see Section 16.3.2 in Chapter 16.</p> <p>For more information about impacts related to the level of public services, please refer to Impacts UT 1, 7 and 8 in Chapter 20, Public Services and Utilities, of the Final EIR/EIS.</p> <p>In regards to recreational safety in the vicinity of the intakes, as part of design of the intakes, the project proponents will ensure that public access to the Sacramento River, including fishing access, will be incorporated into the design of the intakes. The access sites will be placed a reasonable distance from the intake to ensure the safety of recreationists and to compensate for the loss that would occur as a result of constructing the intakes. To maintain a safe work area in the vicinity of the construction activities, site-specific safety features, including determination of the speed-restriction zone, and notification procedures, would be developed under the Mitigation Measure TRANS-1a (See Chapter 19 of the Final EIR/EIS), which involves the project proponents developing and implementing site-specific construction traffic management plans, including waterway navigation elements.</p>
1601	830	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>Impacts were considered significant if construction and/or operation of the project alternatives would result in a substantial disruption of local businesses. (South Delta</p>	<p>The condition the commenter lists is not one of the socioeconomic conditions evaluated for a determination of significance. Please refer to Section 16.3.2, "Determination of Effects" in Chapter 16 of the Final EIR/EIS to view the thresholds. The potential closure of agriculture-dependent businesses is discussed in Impact ECON-3 (see Chapter 16 of the Final EIR/EIS).</p>

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		<p>Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP will condemn thousands of acres of farmland in the Delta. Some businesses will be wiped out completely, others will be fragmented and reduced in size such that they are no longer economically viable. As an example, Greene and Hemly, Inc. a Delta pear and apple grower with cold storage and packing house have direct construction impacts on as many as 5 of their properties in the various BDCP scenarios.</p>	
1601	831	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>Does the potentially affected community include minority or low-income populations? (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Most of the communities affected by the project in the Delta are minority and low income. The project disproportionately affects these minority and low income populations.</p>	<p>The plan area does include minority, low-income, and other environmental justice communities. Potential impacts are discussed in Chapter 28, Environmental Justice, of the Final EIR/EIS.</p>
1601	832	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>Whether the risk or rate of hazard exposure by minority population or low-income population to an environmental hazard exceeds or is likely to exceed the risk or rate to the general population or appropriate comparison group. (California Bay-Delta Authority (CALFED) and South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Minority farm workers will have greatest exposure and risk from mosquito borne West Nile Virus compared to any population segment (greater time exposure outdoors in the immediate vicinity of increased West Nile Virus risk from the project and a population that has less economic resources to pay for insect repellent).</p>	<p>The environmental justice assessment in Chapter 28 of the Final EIR/EIS is limited to effects that have been identified as adverse in other resource chapters, even with mitigation. These effects were then carried forward and reviewed to determine if any of those environmental consequences may disproportionately affect an environmental justice population, per guidance from the EPA Toolkit for Assessing Potential Allegations of Environmental Injustice. Because Impacts PH-1 and 5 (See Chapter 25 of the Final EIR/EIS), which discuss increases in vector-borne diseases as a result of construction and operation of the intakes, solids lagoons, and/or sediment basins associated with the water conveyance facilities or as a result of implementing conservation measures/environmental commitments, have less than significant impact determinations, they were therefore not carried for further discussion in Chapter 28. This method of screening effects is consistent with the CEQ guidance (Council on Environmental Quality 1997:25).</p>
1601	833	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>A substantial effect on income, output, or employment is defined as more than one-half of 1% of the region's baseline level. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP proposes to convert over 10% of the surface area of the statutory Delta from farming to habitat restoration. Few jobs will be created by the habitat restorations, but since the Delta economy is almost exclusively agriculturally based, it is logical that (counting ag supporting industry) 10% of the jobs in the Delta region would be lost as a result of this significant socioeconomic impact. The majority of the population that would be affect by</p>	<p>Jobs lost were not calculated in the manner the commenter describes. Please refer to Section 16.3.1.2, "Delta Regional Employment and Income" in Chapter 16 of the Final EIR/EIS for more information on the methodology of employment statistics. Please also refer to Chapter 28, Environmental Justice, for a description of potential impacts to minority, low-income, and other environmental justice communities.</p>

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		this impact are economically disadvantaged minorities.	
1601	834	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>BDCP converts land use from income producing properties to habitat which affects the local and regional tax base.</p> <p>Comment:</p> <p>BDCP needs to determine changes to tax revenue, local government expenditures, and sales taxes resulting from removing specific lands from county tax rolls resulting from the construction, operation, and mitigation of conveyance facilities and habitat restorations.</p>	<p>As described in Impact ECON-4 and 16, in Chapter 16 of the Final EIR/EIS, DWR would make arrangements to compensate local governments for the loss of property tax or assessment revenue for land used for constructing, locating, operating, or mitigating for new Delta water conveyance facilities. When required, DWR would provide compensation to property owners for economic losses due to implementation of project. Additionally, the Sacramento–San Joaquin Delta Reform Act commits the entities receiving water from the State Water Project and federal Central Valley Project to mitigate for lost property tax and assessment revenue associated with land needed for the construction of new conveyance facilities (Water Code Section 85089).</p>
1601	835	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>The economic impact calls (ECON-1 - ECON-18) in the EIR/EIS do not stand any test of reason or logic.</p> <p>Comment:</p> <p>ECON-1 impact call claims that there is No Impact on temporary regional economics during construction of the conveyance. The CEQA impact call before mitigation is no impact and then the BDCP proposes to mitigate that non-impact and yet the NEPA impact call is adverse. These calls are clearly in conflict. Obviously construction traffic, noise, no-boating zones, housing conflicts or construction workers with availability of housing for migrant farm workers and other Delta population will have an affect on Delta economics during conveyance construction. The CEQA impact calls have no creditability nor do they stand up to even the most cursory examination. ECON-2 CEQA impact call on Alt4 claims no impact on Delta housing during construction of the conveyance. The BDCP must be guaranteeing that none of the construction workers will reside in the Delta during project construction or their impact call is bogus. ECON-3 impact call claims no impact and Adverse/Beneficial on changes in community character. These impact calls are also bogus. According to the BDCP, installing three 5-story tall half-mile long intake facilities that are as noisy as a jet engine and have bright security lighting in a very rural area and scenic highway supposedly has no impact. The NEPA impact call of beneficial is also fallacious as the number of jobs created for maintaining the conveyance will not be nearly as many jobs as have been displaced by the conveyance and the labor skill sets are different, so the people getting the jobs would not be the same people as the ones displaced by the project. There would be a handful of new jobs for people that are outside of the Delta community and thousands of jobs lost by residents from the Delta. This can hardly be considered overall beneficial by anyone's accounting, no matter how biased. ECON-4 are claimed by the BDCP EIR/EIS as no impact even though thousands of acres will no longer be paying local and regional taxes because they have been converted from tax paying and tax revenue generating entities to state and federal properties that do not pay or generate those revenues. ECON-5 the EIR/EIS falsely claims no impact on recreation economics from construction of the conveyance even though there will be no boating zones in recreation areas for barge loading, in- water work and conveyance water crossings. ECON-6 is also falsely claimed as no impact on agricultural</p>	<p>Please refer to Master Response 1 regarding baselines and Section 16.3.1, Methodology for Analysis, in Chapter 16 of the Final EIR/EIS. CEQA and NEPA use different baselines, and therefore sometimes have different impact conclusions. Additionally, CEQA and NEPA also have different criteria for impact conclusions. CEQA only evaluates physical impacts on the environment, so socioeconomic impacts would only be considered significant under CEQA if those impacts would also lead to a physical impact on the environment. The current analysis meets CEQA and NEPA requirements.</p>

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		<p>economics from construction of the conveyance even though thousands of acres will be converted from prime, unique and regionally important farmland into construction staging, construction footprint, forebay, pumping plant and other conveyance facilities. ECON-8, 9, and 10 -- same comments as ECON-2, 3 and 4. ECON-11, same comment as ECON-5. ECON-12, same comment as ECON-6. ECON-13, same comment as ECON-3. ECON-14, same comment as ECON-2. ECON-15, same comment as ECON-3. ECON-16, same comment as ECON-4. ECON-17, same comment as ECON-4. ECON-18, same comment as ECON-6. The BDCP must change these grossly inaccurate and unsupported impact calls.</p>	
1601	836	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>Cost estimates provided by BDCP have proven to be unreliable.</p> <p>Comment:</p> <p>The original contracted cost of the entire environmental planning process was approximately \$10,000,000 and reportedly the environmental review/planning process has cost \$220,000,000 to get to the Public Draft stage. This is a 2200% cost overrun and counting. Assuming the Public Draft is two thirds of the way to completing the process, the total cost overrun should be anticipated to be around 3,330+%. Why should the public rely upon DWR and Reclamation cost estimates for the construction of the tunnels at \$25 billion? The \$25 billion estimate does not include the cost of habitat restoration and mitigation (that includes running mitigation facilities in perpetuity). If the tunnel construction experiences the same cost overruns the environmental planning process is incurring, then the tunnel construction would come in around \$830 billion. Would that construction cost stand a cost/benefit analysis? If the habitat restoration and mitigation components of the costs of the project also experience 3,330+% cost overruns, what reasonable certainty do the permit issuing agencies have that the project will be implemented and produce the magnitude of species benefits that warrant issuance of incidental take permits?</p>	<p>Please see Master Response 5 regarding cost estimates, including an explanation of how the risk of cost overruns has been minimized. These cost estimates do include the cost of habitat restoration needed to mitigate the impacts of the water conveyance construction and operation, and contribute to the recovery of the covered species. Please also see Master Response 5 regarding funding strategy.</p>
1601	837	<p>Document Section: Chapter 16 - Socio-economics</p> <p>Issue:</p> <p>Cost estimates provided by BDCP are incomplete.</p> <p>Comment:</p> <p>Project cost estimates have not included the cost of acquisition of mitigation lands. The cost of mitigation of the footprint of construction and for the impacts of the habitat restoration need to be included. Most significantly, mitigation of the disruption of reclamation district/water district infrastructure from conveyance and habitat restorations has not been included. This mitigation to fix the disrupted reclamation/water district infrastructure is unquantifiable until the reclamation/water districts agree to the mitigation plan design as part of the 404 permit approval process.</p>	<p>The cost of acquiring mitigation land is described in Chapter 8 of the public draft BDCP for Conservation Measure 3 (see page 8-17). The cost of this conservation measure includes all due diligence and land transaction costs, as well as the land purchase price and a contingency to account for price uncertainty. The cost of land needed for habitat restoration is included in the relevant restoration conservation measure (e.g., CM4, CM5, CM6, CM7, CM8, CM9, and CM10) in the same chapter. For a description of the impacts of the proposed water conveyance facility on the infrastructure of local reclamation and water districts, see the 2013 public draft EIR/EIS in Chapter 20, Public Services and Utilities, including Appendix 20A, Details of Public Services and Utilities Supporting the Plan Area.</p> <p>For more information on funding, please see Master Response 5.</p>
1601	838	<p>Document Section: Chapter 16 - Socio-economics</p>	<p>The 2013 public draft BDCP on page 8-51 describes the revenue replacement that would be provided to local agencies from the loss of both property taxes and other local assessments such as those listed by the</p>

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		<p>Issue:</p> <p>Direct tax revenues are not the only local and regional loss of revenue from the conversion of farmlands from the BDCP.</p> <p>Comment:</p> <p>Other local revenue losses from the BDCP include: Williamson Act Subventions, special assessment zones (Reclamation Districts, special assessment debt and obligations (e.g. Mello-Roos Community Facilities Districts), properties with past-due tax liens, and other government services fees (e.g. levee maintenance, mosquito abatement, road maintenance, sanitation, public health, and environmental management).</p>	<p>commenter. Although the proposed project no longer includes BDCP, the proposed project (Alternative 4A) continues to include property tax and other assessment revenue replacement in the cost estimates for any land acquired in fee title.</p>
1601	839	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Result in long-term (that is, persisting for 5 years or more) adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity within 3 miles. The analysis also considered how many viewing sites would be affected. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities mar the visual landscape of the Delta and the facility type and size are completely out of the aesthetic character of the Delta. Construction staging area aesthetic impacts would last longer than 5 years. This impact can be minimized and avoided by a design of the intake pumping plants so they are protected by levees to get them out of the flood plain rather than the current BDCP design of having them on raised platforms. The height of the buildings would be reduced so they would not be as visible and levees would reduce their visibility. Constructing the facilities on the existing ground level behind ring levees would also minimize and avoid noise impacts from the facilities.</p>	<p>Please refer to Chapter 3 of the EIR/EIS, Section 3.6.1.1, North Delta Intakes, and Section 3.6.1.2, Conveyance Facilities-Tunnels. These sections provide the design basis for these project features. The buildings are built to enclose pumping facilities and the berm is there to provide flood protection for those facilities. Along with the berms being constructed in a manner to provide flood protection, they are designed to be at certain elevations to allow for gravity feed for the tunnels.</p> <p>Also, while constructing the buildings at ground level behind the perimeter levee would reduce the visibility of the buildings, it would result in an overall larger visual impact by expanding the project footprint. An expanded project footprint would impact visual resources to a greater degree by requiring more take of private properties, removal of existing vegetation, changes to views from SR 160, and increasing the area affected by the project features. It would also require additional infrastructure, such as access road and utility poles to accommodate relocating building behind the perimeter levee.</p> <p>However, please note Alternative 4A does not propose large-scale buildings at the intakes. It instead proposes smaller-scale storage and electrical buildings that would be located on the elevated ground. The Alternative 4A also has an outlet shaft that would be flush with the finished grade of the area surrounding it and does not have a surge/outlet towers. This alternative is represented in the revised simulations shown in Figures 17-85, 17-86a, and 17-86b (see Chapter 17 of the Final EIR/EIS).</p> <p>Please also see Chapter 17 of the Final EIR/EIS for a discussion of mitigation measures related to aesthetics.</p>
1601	840	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Obstruct or permanently reduce visually important features that are in Variety Classes A and B, and can be viewed from visually sensitive areas. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Hwy 160 is designated a scenic highway and the intakes, settling ponds, tunnel pumping plant, forebays and tunnel access points substantially affect visual resources -- these facilities are greatly outside of the character of their surroundings.</p>	<p>Chapter 17 of the Final EIR/EIS analyzes impacts to visual character under Impact AES-1, scenic vistas under Impact AES-2, and scenic roadways under Impact AES-3 and accounts for impacts to the existing setting that would be seen from local roadways.</p> <p>The analysis addresses how the scenic route would be affected by the proposed project and its alternatives and concludes that there will be significant and unavoidable impacts to the scenic route because of the negative visual effects that would occur. Even if the realignments were not proposed, impacts would still be significant and unavoidable due to the proposed intake facilities that would require tree removal and the introduction of built structures that would negatively affect views from the scenic route. Visual mitigation provides measures to lessen the visual appearance of the proposed project and improve project aesthetics as much as possible but cannot substantially lessen the significant adverse impacts to SR 160 because of the nature of the project, which is why the impacts are significant and unavoidable.</p> <p>For more information on significant and unavoidable impacts please see Master Response 10.</p>
1601	841	Document Section: Chapter 17 - Aesthetics	Please see response to comment 1601-839 and 1601-840.

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		<p>Issue:</p> <p>Substantially damage scenic resources. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities mar the visual landscape of the Delta and the facility type and size are completely out of the aesthetic character of the Delta.</p>	
1601	842	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Substantially degrade the existing visual character or quality of a site and its surroundings; (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities mar the visual landscape of the Delta and the facility type and size are completely out of the aesthetic character of the Delta.</p>	Please see response to comment 1601-839 and 1601-840.
1601	843	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities security lighting will be bright and be visible for miles across the Delta.</p>	<p>Impact AES-4 analyzes light and glare impacts, which first appears in the analysis for Alternative 1A on page 17-76 of the FEIR/S (see Chapter 17). Page 17-77 indicate that DWR will implement WREM No 30a. This measure indicates that “All artificial outdoor lighting is to be limited to safety and security requirements. All lighting is to provide minimum impact on the surrounding environment and is to be shielded to direct the light only towards objects requiring illumination. Lights shall be downcast, cut-off type fixtures with non-glare finishes set at a height that casts low-angle illumination to minimize incidental spillover of light onto adjacent properties, open spaces or backscatter into the nighttime sky. Lights shall provide good color rendering with natural light qualities with the minimum intensity feasible for security, safety and personnel access. All outdoor lighting will be high pressure sodium vapor with individual photocells. Lighting will be designed per the guidelines of the Illuminating Engineering Society (IES). Additionally, all lights shall be consistent with energy conservation and are to be aesthetically pleasing. Lights will have a timed on/off program or will have daylight sensors. Lights will be programmed to be on whether personnel is present or not.” This measure helps to reduce light impacts during operation.</p> <p>WREM No 30a requires coordination and an architectural review process with local agencies. This applies to lighting design.</p> <p>In addition WREM 30a, mitigation measures are provided and detailed on pages 17-78 through 17-79 of the FEIR/S to address light and glare impacts. These include MM AES-4a, Limit Construction to Daylight Hours Within 0.25 Mile of Residents; MM AES-4b, Minimize Fugitive Light from Portable Sources Used for Construction; and MM AES-4c Install Visual Barriers along Access Routes, Where Necessary, to Prevent Light Spill from Truck Headlights toward Residences.</p> <p>Mitigation Measure AES-6b has also been revised to establish that the project use lighting that is of a 3000 Kelvin color temperature or less.</p>
1601	844	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>The EPA’s 404(b)(1) guidelines for Specification of Disposal Sites for Dredged or Fill Materials</p>	Please note that the proposed tunnel muck, referred to as reusable tunnel material (RTM) in the document, disposal would be located on land and would not affect aquatic resources associated with nearby rivers and sloughs. However, the visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to

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		<p>to have significant impact on aesthetic resources if they: Mar the beauty of natural aquatic ecosystems by degrading water quality, creating distracting disposal site, inducing inappropriate development, encouraging unplanned and incompatible human access, or by destroying visual elements that contribute to the compositional harmony or unity, visual distinctiveness, or diversity of an area; Adversely affect the particular features, traits, or characteristics of an aquatic area that make it valuable to property owners; or Degrade water quality, disrupt natural substrate and vegetation characteristics, deny access to or visibility of the resource, or result in changes in odor, air quality, or noise levels, thereby potentially reducing the value of an aquatic area to private property owners. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP proposed tunnel muck disposal sites mar the beauty of natural aquatic ecosystems by degrading water quality, creating distracting disposal site, inducing inappropriate development, encouraging unplanned and incompatible human access, and by destroying visual elements that contribute to the compositional harmony and unity, visual distinctiveness, and diversity of an area; Adversely affect the particular features, traits, or characteristics of an aquatic area that make it valuable to property owners; and Degrade water quality, disrupt natural substrate and vegetation characteristics, deny access to or visibility of the resource, or result in changes in odor, air quality, or noise levels, thereby potentially reducing the value of an aquatic area to private property owners. The BDCP tunnel muck disposal sites meet all of the criteria used in the South Delta Improvement Project to determine significant impacts.</p>	<p>sensitive viewers. This includes impacts to areas affected by RTM placement. Mitigation Measures AES-1a through 1g include design measures to improve project aesthetics. Specifically, Mitigation Measure AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel Material Area Management Plan, addresses improving the aesthetics of RTM placement sites. Even with these proposed measures, impacts to visual resources would remain adverse/significant and unavoidable. This includes impacts associated with RTM placement.</p> <p>Note that as part of the visual analysis that Mitigation Measure AES-6c, Implement a Comprehensive Visual Resources Management Plan for the Delta and Study Area, is proposed. While proposed under Impact AES-6, Substantial Alteration in Existing Visual Quality or Character during Implementation of CM2–CM21 (DEIR/DEIS page 17-85, line 16, through page 17-86, line 2, and RDEIR/SDEIS page 17-86, line 24, through page 17-87, line 22), this visual resources management plan would apply to the Delta, as a whole, once in place and “provide a strategy for the protection of the unique visual landscape of the Delta” (DEIR/DEIS page 17-82, lines 45-46 and RDEIR/SDEIS page 17-83, lines 15-16).</p> <p>As noted above, the RTM would be located on land. As described in Impact WQ-31 (see Chapter 8 of the Final EIR/EIS) regarding construction effects to water quality, BMPs would be implemented to avoid and minimize sediment and contaminant discharges associated with RTM excavation, hauling and dewatering. Through implement of these and other construction-related BMPs, the RTM is not expected result in long-term water quality degradation.</p> <p>For more information on RTM, please see Master Response 12. Please also see Appendix 3B, Environmental Commitments, AMMs, and CMs. Significant and unavoidable impacts are discussed in Master Response 10.</p>
1601	845	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Conflict with adopted visual resource policies. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Highway 160 is designated a California Scenic Highway. The BDCP facilities will significantly impact the scenic nature of the road. With as many as 5 proposed facilities that are each a half mile long distributed over 10 miles of the river, 25% of the length of this scenic highway in this reach will be rerouted off of the current scenic route and obscured by BDCP facilities. With 5 large intake facilities that destroy the rural ambiance, no one could argue that this reach of the scenic highway would be designated scenic after the project is implemented.</p>	Please see response to comment 840.
1601	846	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Substantially reduce the vividness, intactness, or unity of high-quality views. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities mar the visual landscape of the Delta and the facility type and size are</p>	Please see response to comment 1601-839 and 1601-840.

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		completely out of the aesthetic character of the Delta.	
1601	847	Document Section: Chapter 17 - Aesthetics  Issue:  Introduce a substantial source of light and glare into the view shed. (South Delta Improvements Program (SDIP) Sig Criteria)  Comment:  The BDCP facilities security lighting will be bright and be visible for miles across the Delta.	Please see response to comment 843.
1601	848	Document Section: Chapter 17 - Aesthetics  Issue:  Conflict with local guidelines or goals related to visual quality. (South Delta Improvements Program (SDIP) Sig Criteria)  Comment:  The BDCP did not evaluate if the project conflicted with local guidelines on visual quality. Previous similar documents have set the precedent that the BDCP lead agencies can and do evaluate this significance criteria and therefore the BDCP document is inconsistent with previous agency policies and procedures.	Local guidelines on visual quality are provided in Section 17.2, Regulatory Setting, of Chapter 17 the FEIS. Impact AES-7, Compatibility of the Proposed Water Conveyance Facilities and Other Conservation Measures with Federal, State, or Local Plans, Policies, or Regulations Addressing Aesthetics and Visual Resources, analyzes the impacts associated with the project's compatibility with these guidelines. Please also see Master Response 11 regarding the applicability of city and county general plans.
1601	849	Document Section: Chapter 17 - Aesthetics  Issue:  Alter the existing natural view sheds, including changes in natural terrain. (South Delta Improvements Program (SDIP) Sig Criteria)  Comment:  The intake facilities will be the tallest buildings in the Delta and will block views of the river and down the river. This impact can be minimized by building the facilities at the existing ground level behind protective ring levees.	Please see response to comment 839.
1601	850	Document Section: Chapter 17 - Aesthetics  Issue:  Alter the existing visual quality of the region or eliminate visual resources. (South Delta Improvements Program (SDIP) Sig Criteria)  Comment:  The BDCP did not evaluate if the project conflicted with local guidelines on visual quality. Previous similar documents have set the precedent that the BDCP lead agencies can and do evaluate this significance criteria and therefore the BDCP document is inconsistent with	Please see response to comment 848.

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		previous agency policies and procedures.	
1601	851	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Increase light and glare in the project vicinity. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities security lighting will be bright and be visible for miles across the Delta. No other facilities in the Delta have the security lighting that are comparable to even a small fraction of the light pollution that these facilities will be emitting. This impact can be minimized by utilizing security lighting that points down rather than out or up. Air traffic collision-avoidance lights on the towers add to the light impacts and were not discussed or disclosed in the BDCP EIR/EIS document.</p>	<p>Please refer to Impact AES-4 that analyzes light and glare impacts, which first appears in the analysis for Alternative 1A on page 17-76. Page 17-77 indicates that DWR will implement WREM No 30a. This measure states that “All artificial outdoor lighting is to be limited to safety and security requirements. All lighting is to provide minimum impact on the surrounding environment and is to be shielded to direct the light only towards objects requiring illumination. Lights shall be downcast, cut-off type fixtures with non-glare finishes set at a height that casts low-angle illumination to minimize incidental spillover of light onto adjacent properties, open spaces, or backscatter into the nighttime sky. Lights shall provide good color rendering with natural light qualities with the minimum intensity feasible for security, safety, and personnel access. All outdoor lighting will be high pressure sodium vapor with individual photocells. Lighting will be designed per the guidelines of the Illuminating Engineering Society (IES).</p> <p>Additionally, all lights shall be consistent with energy conservation and are to be aesthetically pleasing. Lights will have a timed on/off program or will have daylight sensors. Lights will be programmed to be on whether personnel is present or not.”</p> <p>WREM No 30a requires coordination and an architectural review process with local agencies. This applies to lighting design.</p> <p>However, a new mitigation measure has been added AES-6b, to establish that the project use lighting is of a 3000 Kelvin color temperature or less.</p> <p>Impact AES-6 has been revised to analyze the impacts of air traffic collision-avoidance lights on towers.</p>
1601	852	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Result in backscatter light into the nighttime sky. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The BDCP facilities security lighting will be bright and be visible for miles across the Delta. No other facilities in the Delta have the security lighting that are comparable to even a small fraction of the light pollution that these facilities will be emitting. This impact can be minimized by utilizing security lighting that points down rather than out or up.</p>	<p>Impact AES-4 analyzes light and glare impacts, which first appears in the analysis for Alternative 1A on page 17-76. Page 17-77 indicates that DWR will implement WREM No 30a. This measure indicates that “All artificial outdoor lighting is to be limited to safety and security requirements. All lighting is to provide minimum impact on the surrounding environment and is to be shielded to direct the light only towards objects requiring illumination. Lights shall be downcast, cut-off type fixtures with non-glare finishes set at a height that casts low-angle illumination to minimize incidental spillover of light onto adjacent properties, open spaces or backscatter into the nighttime sky. Lights shall provide good color rendering with natural light qualities with the minimum intensity feasible for security, safety and personnel access. All outdoor lighting will be high pressure sodium vapor with individual photocells. Lighting will be designed per the guidelines of the Illuminating Engineering Society (IES). Additionally, all lights shall be consistent with energy conservation and are to be aesthetically pleasing. Lights will have a timed on/off program or will have daylight sensors. Lights will be programmed to be on whether personnel is present or not.” This measure helps to reduce light impacts during operation.</p> <p>WREM No 30a requires coordination and an architectural review process with local agencies. This applies to lighting design.</p> <p>In addition to the mitigation measures above and WREM 30a, mitigation measures are provided and detailed on pages 17-78 through 17-79 to address light and glare impacts. These include MM AES-4a, Limit Construction to Daylight Hours Within 0.25 Mile of Residents; MM AES-4b, Minimize Fugitive Light from Portable Sources Used for Construction; and MM AES-4c, Install Visual Barriers along Access Routes, Where Necessary, to Prevent Light Spill from Truck Headlights toward Residences.</p> <p>MM AES-6b has also been revised to establish that project use lighting is of a 3,000 Kelvin color temperature or less.</p>

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1601	853	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Result in a deduction of sunlight or introduction of shadows in community areas. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Late afternoon sun in the winter will cast a shadow from the surge towers that will reach the National Wildlife Refuge. This impact can be reduced by using larger diameter shorter surge towers and by relocating them farther away from the refuge.</p>	<p>Alternative 4A, the Preferred Alternative, has an outlet shaft that would be flush with the finished grade of the area surrounding it and does not have a surge/outlet tower that would be seen from or cast a shadow on the National Wildlife Refuge. This alternative is represented in the revised simulations shown in Figures 17-85, 17-86a, and 17-86b.</p> <p>In addition, surge/outlet towers at Intakes 1 and 2 for alternatives using the pipeline/tunnel alignment would require towers that would be approximately 65–70 feet tall. The intermediate forebay would, however, have two 105-foot towers at the pumping plant for the pipeline/tunnel alignment, two 70–80 foot towers for the west alignment, and no towers for the east alignment. Per the March 2010 Conceptual Engineering Report, these towers would be located at the intakes for surge protection because surges can happen in long-distance pressurized conduits when there are sudden pump stops and/or a general power failure that causes a sudden pressure drop propagating and reflecting throughout the interconnected conduits. The pressure is released at the end of the conduit system, which is why the surge towers must remain located at the intakes, where the pressure is released. The towers must be big enough to contain the water and air associated with the pressure release, and their dimensions affect the hydraulics so that a larger and shorter tower is not feasible. Therefore, the surge towers cannot be relocated as the comment suggests.</p> <p>The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. Visual mitigation provides measures to lessen the visual impacts associated with the proposed project and improve project aesthetics, but cannot substantially lessen the significant adverse change in the aesthetics that would result from the project and its alternatives because of the nature of the project, which is why the impacts are significant and unavoidable. This includes impacts associated with the alternatives that have surge towers.</p>
1601	854	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Obstruct or permanently reduce visually important features that are in Variety Classes A (high in vividness, intactness, unity) and B (moderate in vividness, intactness, unity), and can be viewed from visually sensitive areas. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The two 40 diameter surge towers at the tunnel headworks will be 100 feet high and be within one mile of a National Wildlife Refuge and within 3 miles of the refuge Visitors Center. There is no terrain in the area except for levees, so this surge tower will become the most dominant visible feature in the region. The industrial smoke stack appearance of the surge towers could not be in greater conflict with the aesthetics of the National Wildlife Refuge and surrounding farmland scenery.</p>	See response 1601-853.
1601	855	<p>Document Section: Chapter 17 - Aesthetics</p> <p>Issue:</p> <p>Result in long-term (persisting for 2 years or more) adverse visual changes or contrasts to the existing landscape as viewed from areas with high visual sensitivity within 3 miles. (South</p>	See response 1601-853.

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		<p>Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The two 40 diameter surge towers at the tunnel headworks will be 100 feet high and be within one mile of a National Wildlife Refuge and within 3 miles of the refuge Visitors Center. This impact can be reduced by using larger diameter shorter surge towers and by relocating them farther away from the refuge.</p>	
1601	856	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Physical destruction, damage, or alteration of all or part of the property; (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Rosebud Mansion and the Hemly manor house at north end of Randall Island would either be destroyed directly by the footprint of construction of the BDCP facilities (Rosebud) or so severely affected by the change in setting as to be fundamentally compromised.</p>	<p>Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.</p>
1601	857	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Isolation of the property or alteration of the character of the property's setting when that character contributes to the property's qualifications for the National Register of Historic Places (NRHP); (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Intake 3 destroys the historic building, Rosebud Mansion. Intake 5 either takes out or significantly compromises the setting and aesthetic values of the Hemly Victorian manor at the upstream end of Randall Island. With this alteration, this historic building would no longer qualify for the NRHP. These two Delta landmarks are the most prominent, visible and well maintained examples of early Delta heritage and the project takes out both of them. This impact will greatly adversely affect the character of the community. These impacts are clearly not compliant with Section 106 of the National Historic Preservation Act. This impact can be avoided by relocating the intake and tunnel headworks facilities.</p>	<p>Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.</p>
1601	858	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Introduction of visual, audible, or atmospheric elements that are out of character with the property or changes that may alter its setting; (Salton Sea Sig Criteria). Visual and auditory intrusions to a resource's historic setting. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Intake facilities footprints directly affect at least 3 potential historical landmark buildings.</p>	<p>Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.</p>

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		Rosebud Mansion, Hemly manor house at north end of Randall Island, and the Greene house on Merritt Island across river from intakes would either be destroyed directly by the footprint of construction of the BDCP facilities (Rosebud) or so severely affected by the change in setting as to be fundamentally compromised.	
1601	859	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Neglect of a property resulting in its deterioration or destruction (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP did not evaluate if the project conflicted with local guidelines on visual quality. Previous similar documents have set the precedent that the BDCP lead agencies can and do evaluate this significance criteria and therefore the BDCP document is inconsistent with previous agency policies and procedures.</p>	Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.
1601	860	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Transfer, lease, or sale of a property without adequate provisions to protect the property's historic integrity. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP did not evaluate if the project conflicted with local guidelines on visual quality. Previous similar documents have set the precedent that the BDCP lead agencies can and do evaluate this significance criteria and therefore the BDCP document is inconsistent with previous agency policies and procedures.</p>	Please see Master Response 20 (Cultural Resources Assessment). Please also see Master Response 11 regarding the project's compatibility with City and County General Plans.
1601	861	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Cultural resources that have been determined ineligible for inclusion in the National Register of Historic Places (NRHP) could experience adverse effects, but they would not be considered significant unless they were resources regulated by the American Indian Religious Freedom Act or the Native American Graves Protection and Repatriation Act. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>There are native American burial sites at several of the BDCP proposed intake sites and probably at area of the north Forebay/Tunnel headworks facility. This can be avoided by relocating the facilities where there are no burial grounds.</p>	Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.
1601	862	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Section 15064.5 of CEQA states that a project may have a significant effect on the</p>	Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.

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		<p>environment when the project may cause a substantial adverse change in the significance of a historical resource (i.e., resource eligible for the California Register of Historical Resources (CRHR) or a local register of historical resources). A substantial adverse change is defined as the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Rosebud Mansion, the Hemly manor house at north end of Randall Island, and the Greene house on Merritt Island across river from intakes would either be destroyed directly by the footprint of construction of the BDCP facilities (Rosebud) or so severely affected by the change in setting as to be fundamentally compromised.</p>	
1601	863	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Cause a substantial adverse change in the significance of an archaeological resource pursuant to State CEQA Guidelines Section 15064.5. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>There are native American burial sites at several of the BDCP proposed intake sites and probably at area of the north Forebay/Tunnel headworks facility. This can be avoided by relocating the facilities where there are no burial grounds.</p>	Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.
1601	864	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Disturb any human remains, including those interred outside of formal cemeteries. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>There are native American burial sites at several of the BDCP proposed intake sites and probably at area of the north Forebay/Tunnel headworks facility. This can be avoided by relocating the facilities where there are no burial grounds.</p>	Please see Master Response 20 (Cultural Resources Assessment) regarding the adequacy of the analysis for cultural resources.
1601	865	<p>Document Section: Chapter 18 - Cultural</p> <p>Issue:</p> <p>Substantial reservoir elevation or lowering water level fluctuation zone, relative to the basis of comparison, which would result in increased inundation of previously exposed areas or exposure of previously inundated lands, of sufficient frequency to adversely affect sensitive cultural resources, for any given month of the year over the 72-year simulation period. (Yuba Accord and Oroville Sig Criteria)</p> <p>Comment:</p> <p>The reoperation of the CVP/SWP will change the magnitude, duration and frequency of</p>	The specific nature and scale of mitigation to archaeological resources will be based on the types of NRHP- and CRHR-eligible resources identified during future cultural resources studies and consultation with affected tribes and agencies.

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		<p>exposure of archeological resources in the fluctuation zones of the CVP/SWP reservoirs. The BDCP EIR/EIS failed to identify and disclose this impact. This was a substantial issue in the Federal Energy Regulatory Commission (FERC) relicensing of the DWR Oroville Facilities. The BDCP's effects on these resources should be mitigated consistent with those conducted for the DWR FERC relicensing.</p>	
1601	866	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Changes to commercial shipping routes or ports. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The construction of the BDCP intakes impacts river navigation from encroachment into navigable channel from coffer dams and permanently impedes commercial shipping by the intake encroachment on the navigable waterway. Barge loading areas would impede commercial and recreational navigation, increase risk of levee breaches from barge collisions and levee structural integrity disruption, and natural gas wells and pipelines. This impact can be reduced by setting back the levees at the site of intake construction.</p>	<p>Impact TRANS-4, Disruption of Marine Traffic During Construction, and Impact REC-3, Result in Long-Term Reduction of Recreational Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, discuss impacts to commercial and recreational boating. All barge routes and landing sites will be selected to maximize continuous waterway access, and a minimum waterway width greater than 100 feet will be maintained. For all of the alternatives, impacts will be reduced to less than significant by implementation of site-specific construction traffic management plans as discussed in MM TRANS-1A. In general, only 1–2 barge trips per day on average are expected, and this mitigation measure includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways, including use of in-water notifications via buoys, signage, and other means.</p>
1601	867	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system. (Monterey Agreement, Oroville, California Bay-Delta Authority (CALFED), and South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>BDCP construction-related traffic will significantly increase heavy truck traffic and construction staff commuter traffic on Delta roads. This impact can be reduced by having construction staff shuttled into construction sites from staging areas outside of the Delta, e.g. South Sacramento or Elk Grove.</p>	<p>The use of shuttles to transport workers will be included for consideration in development of traffic management plans for managing construction traffic.</p>
1601	868	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways. (Monterey Agreement and Oroville Sig Criteria)</p> <p>Comment:</p> <p>BDCP construction-related traffic will significantly increase heavy truck traffic and construction staff commuter traffic on Delta roads. In the Delta, alternative routes may not be feasible, so local traffic normal service loads could be significantly affected. Heavy truck loads may exceed service capabilities of local bridges, including Freeport, Courtland, Ryer Island, Steamboat, Walnut Grove, Georgiana Slough, Isleton, Rio Vista, Highway 12, Lambert</p>	<p>The Lead Agencies acknowledge your concerns about staying within bridge load limits and proper training of drivers. These issues will be included in traffic management plans as discussed in MM TRANS-1a, Implement Site-Specific Construction Traffic Management Plan. MM TRANS-2c, Improve Physical Condition of Affected Roadway Segments as Stipulated in Mitigation Agreements or Encroachment Permits, also notes that major improvements such as bridge upgrades or repairs are not anticipated, but may be determined necessary as construction plans are developed. If such improvements are required, alternative transportation means may be used to eliminate the need for upgrades or repairs.</p> <p>The Lead Agencies also acknowledge the importance of Delta roads for the delivery of emergency services. BDCP EIR Chapter 19, Transportation, page 19-36, identifies interference with emergency services as an effect of construction. Impact TRANS-3 further discusses this problem and its effects. MM TRANS-1a includes provisions to ensure that construction vehicles allow continual access for emergency vehicles at the time of an emergency. Mitigation Measure TRANS-1c also seeks to work with affected jurisdictions to enhance capacity of congested roadway segments where construction traffic will substantially affect transportation facilities. However, some significant impacts may be unavoidable as discussed on page 19-70 of BDCP EIR/EIS</p>

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		<p>Road, and Hood-Franklin; and may structurally damage them. To avoid this impact trucks loads should be strictly managed to not exceed bridge capacities. Bridge approaches can be narrow, approaches cross on-coming traffic causing a traffic hazard (especially with large trucks) and some bridges are too narrow to allow two-way traffic while a truck crosses. BDCP impacts to two-way traffic across the bridges increases the response time for emergency services in the Delta. Truck drivers inexperienced in crossing these bridges often run into the bridge and cause structural damage. In the event of BDCP truck accidents that temporarily block a bridge of damage that closes bridges for a longer period of time (perhaps months), emergency service response times and traffic patterns and road service loads can be dramatically impacted. The BDCP EIR/EIS document did not identify, characterize or disclose these project impacts. Bridges that cannot be crossed with two-way traffic should be widened by the project as a mitigation of this impact.</p>	<p>Chapter 19, Transportation.</p>
1601	869	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risk. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>Pump towers at intakes and tunnel headworks as well as transmission lines for the facilities creates an air traffic hazard for crop duster planes in the project area. This impact can be minimized by building the pumps at the existing ground level behind ring levees and making the surge towers larger diameter and shorter. Collision avoidance lights should also be added to the towers.</p>	<p>See Impact TRANS-21, Cumulative impacts on transportation systems from operation and maintenance (post-construction), regarding altered air traffic patterns. Potential hazards to air traffic and airports are discussed in Chapter 24, Hazards and Hazardous Materials. Specifically, see Impact HAZ-4.</p>
1601	870	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>Rerouting highway 160 around intake facilities will create 4 sharp turns for each intake where there were none before. Five intakes that would result in twenty 90-degree turns in Highway 160 that slow traffic and create a public safety hazard. The traffic slowing and extra distance will slow emergency response for the Courtland, Hood and Walnut Grove Fire Departments. The project can avoid this impact by setting their intake pumps back from the levee and allowing the road to stay on top of the original levee.</p>	<p>DWR has been working with Caltrans on all activities related to SR 160. All temporary and permanent facilities associated with SR 160 realignment will be designed and constructed in accordance with the Highway Design Manual and other Caltrans requirements to ensure safety and minimize impacts.</p>
1601	871	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Changes to a railway route by a major relocation of railroad tracks. (California Bay-Delta Authority (CALFED) Sig Criteria)</p>	<p>The location of the proposed facilities was identified through a thorough alternatives screening process documented in Appendix 3B. Also see Master Response 4 related to the range of alternatives considered. No issues related to the adequacy of the environmental impact analysis in the EIR/EIS were raised.</p> <p>For conceptual design information, please refer to the Conceptual Engineering Report.</p>

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		<p>Comment:</p> <p>The project would relocate railroad track adjacent to Clifton Court Forebay. This could be avoided by relocating the south Delta facilities so they do not conflict with the railroad tracks.</p>	
1601	872	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Creation of a substantial hazard to navigation or a substantial change to the ease of navigation. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>BDCP intakes, construction barges and dredges and maintenance dredging activities impact river navigation from encroachment into navigable channel which violates the Rivers and Harbors Act of 1899.</p>	<p>Impact TRANS-4, Disruption of Marine Traffic During Construction, and Impact REC-3, Result in Long-Term Reduction of Recreational Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, discuss impacts to commercial and recreational boating. All barge routes and landing sites will be selected to maximize continuous waterway access, and a minimum waterway width greater than 100 feet will be maintained. For all the alternatives, impacts will be reduced to less than significant by implementation of site-specific construction traffic management plans as discussed in MM TRANS-1A. In general, only one to two barge trips per day on average are expected, and this mitigation measure includes stipulations to notify the commercial and leisure boating community of proposed barge operations in the waterways, including use of in-water notifications via buoys, signage, and other means.</p>
1601	873	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Substantial deterioration of the roadway surface as a result of construction activities. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Large transport trucks with heavy loads of construction material and tunnel spoils will degrade road surfaces. BDCP can easily mitigate this by repaving all the roads at the end of the tunnel construction period that the BDCP project uses for truck traffic.</p>	<p>The project proponents acknowledge that truck traffic may degrade the physical condition of the roadway segments as discussed in the Draft EIR/EIS on page 19-13. The proponents are committed to minimizing and remedying such damage. Table 19-10 of EIR/EIS Chapter 19, Transportation, identifies roadway segments that are deficient. MMs TRANS-2a, b, and c seek to eliminate or reduce traffic on those segments or to improve the condition of those pavement sections if use cannot be avoided. However, the proponents realize that this may not be feasible for all segments. MM TRANS-2c also includes remediation of roads to their condition prior to project construction, or better. MM TRANS-2c also includes coordination with affected agencies to accomplish this objective.</p>
1601	874	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Impedance of navigational craft as a result of the installation of cofferdams, or the staging of barges in navigable sections of the south Delta waterways. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The construction of the BDCP intakes impacts river navigation from encroachment into navigable channel from coffer dams and permanently impedes commercial shipping by the intake encroachment on the navigable waterway. This impact can be reduced by setting back the levees at the site of intake construction.</p>	<p>See response 1601-872.</p>
1601	875	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Impedance or blockage of navigational craft in the Delta channels where the fish control gate and flow control gates are installed. (South Delta Improvements Program (SDIP) Sig</p>	<p>See response 1601-872.</p>

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		<p>Criteria)</p> <p>Comment:</p> <p>BDCP changes in the operation of the Delta Cross Channel Lock closed period impacts boat navigation. This can be mitigated by installing a boat portage around the locks. The boat lift at the Walnut Grove Boat Storage or new boat lift could be used for boat portage from the Sacramento River side and a boat ramp created to launch/haul from on the Snodgrass Slough side.</p>	
1601	876	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Safety conflicts by operating large, slow-moving dredging equipment on Delta Waterways. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Construction barges and maintenance dredging creates a recreational boating commercial shipping safety conflict. This impact can be avoided by only surface road hauling and dredging only from tops of levees.</p>	See response 1601-872.
1601	877	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>The intermediate forebay water surface area will increase the frequency, duration, and severity of dense fog events in its vicinity.</p> <p>Comment:</p> <p>The BDCP caused increase in the severity, frequency and duration of fog effects on traffic on Lambert Rd and Highways 160 and I-5 increases traffic hazards and reduces public safety. This impact can be avoided by covering the intermediate forebay.</p>	<p>Tule fog occurs in the Central Valley and is known to create low visibility and can be a hazard to vehicle and boat traffic. The areas mentioned, Lambert Rd, Highway 160 and Interstate 5, in project area are already known to have occurrences of severe Tule fog during the winter months.. The existing Clifton Court Forebay at the southern end of the project has a water surface area of more than 2,000 acres and has not been known to contribute to dense fog events. Given the proximity to of the proposed facility to the Sacramento River and small size of the proposed forebay relative to other bodies water such as the Clifton Court Forebay, it is unlikely that the 37 acre forebay would result in any change in the frequency, severity or duration of Tule fog conditions that already persist during the winter months. Accordingly, it is unlikely that the 37-acre intermediate forebay would result in fog events that would affect traffic conditions in the immediate surrounding area.</p> <p>Chapter 13, Land Use discusses compatibility with land use plans for local airports where fog is a concern.</p> <p>Additionally, Chapter 19, Transportation, Impact TRANS-3, found that construction traffic could result in an adverse effect to public safety on local roadways and emergency routes. MM TRANS-1c is available to address potential safety conflicts through improvements in local roadway conditions that would reduce congestion and enhance capacity. The measure would provide funding for the project's fair share of mitigation and may include direct improvements to bridges or increased signage to improve visibility. Ultimately, the EIR/EIS found that since the project proponents are not solely responsible for implementation of MM Trans-1c, effects would be adverse.</p>
1601	878	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>Highway 160 is designated a California Scenic Highway.</p> <p>Comment:</p>	<p>Chapter 17, Aesthetics and Visual Resources, analyzes impacts to visual character under Impact AES-1, scenic vistas under Impact AES-2, and scenic roadways under Impact AES-3 and accounts for impacts to the existing setting that would be seen from local roadways. The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. This includes impacts to scenic highways.</p> <p>The analysis addresses how the scenic route would be affected by the proposed project and its alternatives</p>

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		<p>With 5 large intake facilities that destroy the rural ambiance, no one could argue that this reach of the scenic highway would be designated scenic after the project is implemented.</p>	<p>and concludes that there will be significant and unavoidable impacts to the scenic route because of the negative visual effects that would occur. Even if the realignments were not proposed, impacts would still be significant and unavoidable due to the proposed intake facilities that would require tree removal and the introduction of built structures that would negatively affect views from the scenic route. These actions alone could affect the scenic highway designation without a realignment of SR 160. Therefore, the only way to ensure SR 160 remains in compliance with the State Scenic Highway Program and the County Circulation Element would be if these changes (i.e., the proposed project) would not occur. Visual mitigation provides measures to lessen the visual appearance of the proposed project and improve project aesthetics as much as possible, but cannot substantially lessen the significant adverse impacts to SR 160 because of the nature of the project, which is why the impacts are significant and unavoidable.</p>
1601	879	<p>Document Section: Chapter 19 - Transportation</p> <p>Issue:</p> <p>It is almost a certainty that some tunnel muck will have contaminant levels that will restrict its reuse and require special handling. The only question is what amount of the tunnel muck will be contaminated at those levels?</p> <p>Comment:</p> <p>Contaminated tunnel muck will have to be treated as a Class 1 material which would require shipping to the Kettleman City dump (California's only Class 1 material dump). The BDCP has not identified or disclosed the traffic impacts to shipping what could be (and should be assumed to be unless sufficient evidence is provided to quantify the volumes of contaminated tunnel muck) millions of tons of materials trucked to Kettleman City.</p>	<p>The environmental commitment (also Avoidance and Minimization Measure 6), "Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material," includes measures for handling, storing, beneficial reuse, and disposing of excavation or dredge spoils and RTM, including procedures for the chemical characterization of this material or the decant water to comply with permit requirements. Please see Master Response 12 (Reusable Tunnel Material) regarding reuse of RTM and Appendix 3B, Section 3B.2.18, regarding the disposal and reuse of spoils, RTM, and dredged material.</p>
1601	880	<p>Document Section: Chapter 20 - Utilities and Public Services</p> <p>Issue:</p> <p>Generate enough solid waste to exceed landfill capacity or substantially shorten the life of a landfill. (Monterey Agreement and South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Contaminants from upstream parent materials (e.g. Hg, Se, As) are endemic in the geomorphic formation of the Delta. The BDCP project and environmental impact disclosures should assume contaminant levels which are considered hazardous and disclose those potential impacts unless they can (using best available science) prove the absence of contaminants at those levels. BDCP has not provided any compelling evidence that it will not encounter contaminants in its tunnel boring or other excavation and earth moving-related actions. It is almost a certainty that some tunnel muck will have contaminant levels that will restrict its reuse and require special handling. The only question is, what amount of the tunnel muck will be contaminated at those levels? Contaminated tunnel muck will have to be treated as a Class 1 material which would require shipping to the Kettleman City dump (California's only Class 1 material dump). Any material shipped to Kettleman City would shorten the useful lifespan of the dump and be a significant impact that needs to be avoided, minimized and mitigated. The BDCP has not tested or disclosed contaminant testing of geotechnical borings done in the Delta, so the BDCP has not proven that toxic and hazardous material that restricts its reuse and requires special handling will not be found in</p>	<p>The environmental commitment (also Avoidance and Minimization Measure 6), "Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material," includes measures for handling, storing, beneficial reuse, and disposing of excavation or dredge spoils and RTM, including procedures for the chemical characterization of this material or the decant water to comply with permit requirements. Please see Master Response 12 (Reusable Tunnel Material) regarding reuse of RTM and Appendix 3B, Section 3B.2.18, regarding the disposal and reuse of spoils, RTM, and dredged material.</p>

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		<p>the tunnel muck. In order for the BDCP to meet the test of best available science, the BDCP needs to conduct geotechnical borings all along the tunnel route and test the cores for contaminants. the tunnel borings need to be of sufficient density and consistency in contaminant levels to achieve a NI 43-101 compliant level of confidence that the contaminants were not present at levels that pose human health risks or could require disposal restrictions. Then and only then, can the project assume that the tunnel muck can be safely disposed on the islands as they have proposed.</p>	
1601	881	<p>Document Section: Chapter 20 - Utilities and Public Services</p> <p>Issue:</p> <p>Create a demand for utilities that exceeds the capacity and outputs of existing infrastructure and requires new infrastructure or facilities. (Salton Sea, California Bay-Delta Authority (CALFED), and South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Pumps at intakes and at tunnel head works will require new transmission lines and some transmission lines in the south Delta pumping plants will require additional lines to be added to existing routes or parallel sets of lines next to existing lines. The transmission line capacity through the Delta is a limiting factor for the power transmission capacity in California. By adding load at this critical location of most limited capacity, the power demand by the BDCP facilities impacts the capacity and power transfer capabilities for the entire state. The additional power load placed on the Delta transmission facilities from the BDCP makes the entire California power grid less robust and more prone to cascading power failures. Any new power generation facilities, e.g. DWR's Lodi power plant, that are brought on line to supply the power demands of the BDCP are growth inducing. The impacts of bringing the additional power generation capacity to supply BDCP power requirements should have also been disclosed as an impact of the project.</p>	<p>Under Alternatives 1A through 8, electrical power to operate the new north Delta pumping plant facilities would be delivered through 230kV transmission lines that would interconnect with a local utility at a new or existing utility substation depending on the conveyance alignment. The alignment of this transmission line and its interconnection point would be based on the selection of a power provider for the project following selection of a conveyance alignment. This selection is ongoing, and the alignment of the transmission lines will be finalized at a later date. DWR will also conduct a system impact study that will evaluate the electrical transmission and power needed for the conveyance facilities. The study will be completed in time to procure the necessary power to support construction and operation of the facilities. The construction impacts of the new transmission lines are covered under each appropriate resource chapter. Proposed locations of electrical transmission lines are shown in Figure 3-25.</p>
1601	882	<p>Document Section: Chapter 20 - Utilities and Public Services</p> <p>Issue:</p> <p>Public finance: If the project necessitates public service expenditures substantially in excess of revenues. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP will reduce tax based revenues and in some cases increase the level of services needed. As an example, the local Fire and Law Enforcement Departments will have to respond to incidences related to the proposed facilities, e.g. fires, drowning, injuries, break-ins, vandalism, boating and swimming accidents at the intakes, etc. The BDCP increases burden on local services while reducing local tax revenue to support these services.</p>	<p>The following environmental commitments will be implemented as part of the preferred alternative (Appendix 3B, Environmental Commitments):</p> <ul style="list-style-type: none"> <li>• A hazardous materials management plan (HMMP) that includes appropriate practices to reduce the likelihood of a spill of toxic chemicals and other hazardous materials during construction and facilities operation and maintenance</li> <li>• A spill prevention, containment, and countermeasure plan (SPCC Plan) to minimize effects from spills of oil or oil-containing products during construction and operation of the project</li> <li>• A fire prevention and control plan that will include fire prevention and suppression measures consistent with the policies and standards in the affected jurisdictions and be in full compliance with Cal-OSHA standards for fire safety and prevention</li> </ul> <p>Incorporation of these environmental commitments would minimize the potential for construction-related accidents associated with hazardous materials spills, contamination, or fires and reduce potential effects associated with increased service demands from new construction workers in the Plan Area.</p> <p>Security personnel will serve as the first line of defense against criminal activities and nuisances at construction sites. Private patrol security operators hired to provide site security will have the appropriate licenses from the California Bureau of Security and Investigative Services. The proposed project is not</p>

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			<p>anticipated to increase the rate of boating and swimming accidents.</p> <p>The project would not increase the demand on law enforcement, fire protection, and emergency response services either due to an increased worker population or construction-related hazards such that it would result in substantial adverse physical effects associated with the provision of, or the need for, new or physically altered governmental facilities. Therefore, there would not be a substantial impact to the local tax revenue.</p>
1601	883	<p>Document Section: Chapter 20 - Utilities and Public Services</p> <p>Issue:</p> <p>Intersect with major infrastructure components, such as bridges or overpasses, requiring relocation of the components. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>BDCP construction-related traffic will significantly increase heavy truck traffic and construction staff commuter traffic on Delta roads. In the Delta, alternative routes may not be feasible, so local traffic normal service loads could be significantly affected. Heavy truck loads may exceed service capabilities of local bridges, including Freeport, Courtland, Ryer Island, Steamboat, Walnut Grove, Georgiana Slough, Isleton, Rio Vista, Highway 12, Lambert Road, and Hood-Franklin; and may structurally damage them. To avoid this impact trucks loads should be strictly managed to not exceed bridge capacities. Bridge approaches can be narrow, approaches cross on-coming traffic causing a traffic hazard (especially with large trucks) and some bridges are too narrow to allow two-way traffic while a truck crosses. BDCP impacts to two-way traffic across the bridges increases the response time for emergency services in the Delta. Truck drivers inexperienced in crossing these bridges often run into the bridge and cause structural damage. In the event of BDCP truck accidents that temporarily block a bridge or damage that closes bridges for a longer period of time (perhaps months), emergency service response times and traffic patterns and road service loads can be dramatically impacted. The BDCP EIR/EIS document did not identify, characterize or disclose these project impacts. Bridges that cannot be crossed with two-way traffic should be widened by the project as a mitigation of this impact.</p>	<p>The lead agencies acknowledge your concerns about transportation impacts on Delta and other local roads and agree with the desire to avoid further deterioration of these roadways where there may not be feasible alternative travel routes. Therefore, MMs TRANS-2a, b, and c seek to eliminate or reduce traffic on deficient segments or improve the condition of those pavement sections if use cannot be avoided. However, the proponents realize that this may not be feasible for all segments. MM TRANS-2c also includes remediation of roads to their condition prior to project construction, or better. MM TRANS-2c also includes coordination with affected agencies to accomplish this objective.</p> <p>The lead agencies acknowledge that construction truck traffic may impact the local community (residents, schools, and farmers). Therefore, MM TRANS-1c also seeks to work with affected jurisdictions to enhance capacity of congested roadway segments where construction traffic will substantially affect transportation facilities.</p> <p>Under MM TRANS-1a, the Lead Agencies will coordinate with Yolo County to develop a site-specific construction traffic management plan that address impacts on Yolo County roadway segments, including SR 84/Jefferson Boulevard.</p> <p>However, some significant impacts may be unavoidable as discussed on page 19-122 of the Recirculated EIR, Chapter 19, Transportation. The proponents are committed to minimizing and remedying the impacts of construction truck traffic.</p>
1601	884	<p>Document Section: Chapter 20 - Utilities and Public Services</p> <p>Issue:</p> <p>Increase the anticipated risk of gas line rupture during the construction phase, especially to gas lines crossing exterior levees. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Barges used during construction and vibration from tunneling could cause gas transmission pipeline ruptures. Tunneling could intersect with gas wells and cause collapse of casings. BDCP pipelines in the north end of the project could physically intersect with gas transmission pipelines.</p>	<p>Pipelines are generally present throughout the study area, and several pipelines are aligned west to east across the study area's southern half. Figure 24-3 displays the locations of study area oil and gas pipelines, and the number of regional pipeline crossings within the construction disturbance footprint of all conveyance alternatives is provided in Table 24-3. These gas pipelines will be accommodated for and taken into consideration during construction.</p>
1601	885	<p>Document Section: Chapter 20 - Utilities and Public Services</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or conservation measures. Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A is also the NEPA</p>

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		<p>Issue:</p> <p>Require the construction or expansion of a water conveyance or treatment facilities or require new or expanded water supply entitlements. (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Yolo Bypass diversion flows for floodplain habitat will require either new water rights or transfer of existing water rights to a new location with a new water use specified to accommodate the use of the water for environmental purposes instead for water supply purposes. BDCP aquatic and intertidal habitat restorations also need water rights as water will be consumed by these through transpiration and evaporation. The BDCP document did not identify the source of water rights for these applications.</p>	<p>Preferred Alternative, a designation that was not attached to any of the alternatives presented in the 2013 Public Draft EIR/EIS. Alternative 4 (also known as BDCP) remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original HCP/NCCP alternative approach and because it provides an important reference point from which the Alternatives 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Draft EIR/EIS may be used by other programs for implementation of the long term conservation efforts. If an alternative is chosen that includes Yolo Bypass improvements, DWR would comply with any water rights requirements required by the SWRCB.</p>
1601	886	<p>Document Section: Chapter 20 - Utilities and Public Services</p> <p>Issue:</p> <p>Require the construction or expansion of communications facilities (telephone, cell, cable, satellite dish). (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>The tunnel headworks facility and intakes will require new communications facilities to link operations to the Joint Operations Center. The communications facilities may require new or augmentation of existing relay towers.</p>	<p>In addition, alternative construction would require use of existing and/or construction of new communications infrastructure for intake pumping plants (Chapter 3, Description of Alternatives). A communication system would be required to connect to the existing DWR Delta Field Division Operations and Maintenance Center near Banks Pumping Plant and the DWR communications headquarters in Sacramento, which would require buried fiber-optic conduit installed from the southern end of the new conveyance facility at Byron Tract forebay along the inlet canal to Banks pumping plant and the Delta Field Division Operations and Maintenance Center. The conduit route would be adjacent to roads, highways, railroads, utilities, or other easements. The commenter's assessment is correct; however, MMs UT-6a, UT-6b, and UT-6c are available to reduce the severity of this effect. If coordination with all appropriate utility providers and local agencies to integrate with other construction projects and minimize disturbance to communities were successful under MM UT-6b, the effect would not be adverse.</p>
1601	887	<p>Document Section: Chapter 20 - Utilities and Public Services</p> <p>Issue:</p> <p>Private lands which are publicly condemned for the BDCP facilities and habitat restorations will no longer pay fees to the local Reclamation Districts.</p> <p>Comment:</p> <p>Reclamation Districts are funded by assessments on their service area land owners. When the BDCP takes land away from the land owners it is also taking revenue from the Reclamation Districts. Although economic impacts are not considered in the environmental analysis, the impacts of the loss of funding on levee maintenance and other real physical impacts of the reduction in funding are within the scope of what the environmental document is supposed to evaluate under NEPA and CEQA. This impact was not identified, characterized, quantified or disclosed in the BDCP EIR/EIS and therefore the document is incomplete and deficient.</p>	<p>The 2013 public draft BDCP included funding to Reclamation districts and other local jurisdictions to replace revenue lost from land acquisition by BDCP. This revenue replacement, called "Property Tax and Assessment Revenue Replacement," is described in the 2013 public draft BDCP in Section 8.2.3.23 on pages 8-51 and 8-52. This funding is intended to replace all tax revenue to Reclamation districts that would otherwise be lost when private land is acquired in fee title by a public agency.</p> <p>Although the proposed action (Alternative 4A) no longer includes the BDCP, the property tax and assessment revenue replacement remains a part of the new project.</p>
1601	888	<p>Document Section: Chapter 21 - Energy</p> <p>Issue:</p> <p>Require or result in the construction of new water, wastewater treatment, or electrical power generation facilities or expansion of existing facilities, the construction of which</p>	<p>The comment raises concerns about the additional energy needed for the alternative conveyance pumping plants, the possible energy transmission line limits near the Delta, and the possible need for new generation plants to provide the additional energy. These concerns should be reduced with Alternative 4A, which reduces the need for north Delta intake pumping plants and reduces the energy needed for the new Clifton Court Forebay pumping plant to about 60 GWh/yr, which is just 1 percent of the 6,000 GWh of electrical energy needed to pump CVP and SWP water from the Delta to south-of-Delta contractors. Major</p>

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		<p>could cause significant environmental effects. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Pumps at intakes and at tunnel head works will require new permanent transmission lines, there are construction-related transmission lines installed at tunnel boring machine access points and some transmission lines in the south Delta pumping plants will require additional lines to be added to existing routes or parallel sets of lines next to existing lines. The transmission line capacity through the Delta is a limiting factor for the power transmission capacity in California. By adding load at this critical location of most limited capacity, the power demand by the BDCP facilities impacts the capacity and power transfer capabilities for the entire state. The additional power load placed on the Delta transmission facilities from the BDCP makes the entire power grid less robust and more prone to cascading power transmission failures. Any new power generation facilities, e.g., DWR's Lodi power plant, that are brought on line to supply the power demands of the BDCP are growth inducing. The impacts of bringing the additional power generation capacity to supply BDCP power requirements should have also been disclosed as an impact of the project. The tunnels are only seasonally operated. Due to the high nutrient loading, biological oxygen demand and anaerobic conditions that would occur in just days of non-operation of the tunnels, the water volume in the tunnels (approximately 10,000 acre-feet (AF)) would need to be treated to address the resulting water quality before the water could be used or even disposed of. Treatment of this toxic water would require new treatment facilities which will draw large amounts of power that the BDCP has not accounted for in its impact analysis. None of these energy impacts were disclosed by the BDCP EIR/EIS document.</p>	<p>transmission lines already converge at the SWP and CVP pumping plants near Tracy, and these are large enough to carry the full CVP and SWP pumping energy. The new Clifton Court Forebay pumping plant (20MW) will require only about 6 percent of the Jones and Banks pumping capacity (350MW).</p> <p>Please see responses to comments 379 and 919 regarding quality of water conveyed through the tunnels.</p> <p>Chapter 30 addresses growth inducing effects, both direct and indirect.</p> <p>Sedimentation basins are designed to address the commenter refers to. It is recognized and analyzed in the EIR/EIS that the sedimentation basins would need to be dredged. Also, the intakes are intended to be operated at minimum levels throughout the year. Chapter 14 of the EIR/EIS describes the potential water quality effects for the SWP/CVP service areas and no adverse effects have been identified with respect to the water quality constituents that have been evaluated.</p>
1601	889	<p>Document Section: Chapter 21 - Energy</p> <p>Issue:</p> <ul style="list-style-type: none"> <li>- Effects on the SWP net energy requirements would be considered significant if net electricity consumption increased more than 10%. (South Delta Improvements Program (SDIP) Sig Criteria)</li> <li>- Project effects on net energy requirements considered significant if result in an increase of more than 10 percent in net electricity consumption. (Salton Sea Sig Criteria)</li> </ul> <p>Comment:</p> <p>The EIR/EIS fails to utilize this criteria and perform this analysis. SDIP, which included the same agencies as the BDCP determined that this significance criteria and analysis were required, why does the BDCP project not adhere to a consistent policy and process as the same agencies previously adopted policy and process on what is clearly a very similar project in terms of location and types or affects?</p>	<p>The comment suggests that a 10 percent increase in energy should be used to determine impact significance. However, the increased use of energy is not considered an environmental impact; only the waste or inefficient use of energy is considered an impact. Nevertheless, in comparison with the average energy use for CVP and SWP pumping of about 7,500 GWh/yr, the increased energy for the alternatives are less than 10 percent, and Alternative 4A energy use would increase by about 5 percent.</p>
1601	890	<p>Document Section: Chapter 21 - Energy</p> <p>Issue:</p> <ul style="list-style-type: none"> <li>- Increase in long-term average annual power requirement of more than 5 percent. (Yuba Accord Sig Criteria)</li> <li>- Project effects on net energy requirements considered significant if result in a increase of</li> </ul>	<p>Please see response to comment 1601-889.</p>

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		<p>more than 10 percent in net electrify consumption. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The EIR/EIS fails to utilize this criteria and perform this analysis. South Delta Improvements Program (SDIP), which included the same agencies as the BDCP determined that this significance criteria and analysis were required, why does the BDCP project not adhere to a consistent policy and process as the same agencies previously adopted policy and process on what is clearly a very similar project in terms of location and types or affects?</p>	
1601	891	<p>Document Section: Chapter 21 - Energy</p> <p>Issue:</p> <p>The BDCP intake diversion pumps will be ramped on and off 2 times per day to address sweeping velocities across the fish screens for tidal operations.</p> <p>Comment:</p> <p>The startup and shutdown of pumps will likely be phased every few minutes during the tidal cycles. These are large pumps, 500 to 1000 cubic feet per second (cfs) each. As pumps are powered up, there is a peak electrical load that occurs that is a much larger load than their static load demand. The BDCP failed to identify, characterize and disclose this impact to the power grid. Since multiple pumps are in each facility and there are multiple facilities, the BDCP needs to describe an operational plan and the engineering systems (and back-up systems and protocols) which will coordinate the phasing of the introduction of these power loads on the grid so that it does not precipitate peak power loads that will take down the transmission line power grid. Without the description of the system, protocols, back-up systems and safety mechanisms, the BDCP has failed to provide any supporting information that the project will not catastrophically pull down the power grid and cause a cascading power failure that could black out the entire West Coast. Bonneville Power Administration made this same mistake and blacked out Oregon and California for 3 days.</p>	<p>The commenter is concerned with the pump start-up load (amps). The electrical design for pumps and turbines includes these peak power loads. The Alternative 4A pumps will be relatively small; the Clifton Court Forebay pumps capacity (20MW) would be just 8 percent of the existing SWP pumps capacity (250MW), which are often operated during off-peak hours. The energy load required to start these large pumps is a routine part of the design and operations.</p>
1601	892	<p>Document Section: Chapter 21 - Energy</p> <p>Issue:</p> <p>The BDCP increases local and regional power requirements and reduces available capacity on existing transmission lines throughout the Delta and the entire state.</p> <p>Comment:</p> <p>BDCP can reduce, avoid and mitigate their impact on local power demand and power transmission line capacity by generating electricity at the intake locations to power their pumps. This on-site power generation could include solar, natural gas fired or current/tidal power generation. BDCP can also avoid and minimize the impacts to energy availability and transmission line capacity by only pumping when there is available existing capacity to run their pumps and facilities.</p>	<p>Please see response to comment 1601-888 (see tables in EIR/EIS). Alternative 4A will not require any new regional energy transmission lines. The energy for the Clifton Court Forebay pumps will be procured by SWP as part of its normal energy operations and will likely include a larger percentage from renewable energy sources.</p>
1601	893	<p>Document Section: Chapter 21 - Energy</p>	<p>Chapter 24, Hazards and Hazardous Materials discusses the potential hazards active, abandoned, and shut-in oil and gas wells may pose in areas where excavation is planned. Improperly sealed natural gas wells have the potential to act as natural gas conduits from deep reservoirs to shallow strata where flammable gases</p>

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		<p>Issue:</p> <p>Tunnel boring machines may encounter gas well casings that were not correctly documented.</p> <p>Comment:</p> <p>Many gas wells have been drilled and abandoned in the Delta over the last 100 years or so. Some gas well records have been lost or are incomplete (omissions) and some records include incorrect identification, status and/or location (errors). When the tunnel boring machines hit these active or inactive gas wells, there are hazards for rapid gas accumulation in the tunnel, explosions, disruption to gas production and transmission lines, and damage to the tunnel boring machine that can require rescue operations and delays to construction schedules as disclosed in the BDCP EIR/EIS. Recently, a tunnel boring machine in Seattle was stopped and had to be rescued after hitting an undocumented pipe. The risk of the BDCP tunneling machine encountering a gas well is not slight and the impacts of it not inconsequential. If the BDCP tunnel boring machine (TBM) does encounter an active or inactive gas well, it could disrupt local and regional natural gas supplies which would affect local and regional businesses and communities which rely upon these supplies. The BDCP EIR/EIS document fails to identify, characterize, and disclose these hazards.</p>	<p>may pose hazards to excavation or tunneling activities. The locations of many abandoned or shut-in wells may be unknown due to inadequate or missing data or poor record-keeping. The potential for disturbing oil and gas fields during geotechnical investigations, excavation or tunneling activities is minimal because these fields are typically located at depths greater than 3,000 feet (U.S. Energy Information Administration 2012). Effects would be more likely to occur if utilities were not carefully surveyed prior to construction, including contacting the local utility service providers (e.g., contacting USA). California Government Code Sections 4216–4216.9 require that anyone planning to excavate contact the appropriate regional notification center at least 2 working days (but not more than 14 calendar days) before beginning to excavate. The precise location of pipelines within a tunnel section would be identified prior to construction to avoid conflicts with shaft construction and disposal of RTM. Studies would be done prior to construction to identify the minimum allowable distance between existing gas wells and tunnel excavation. Abandoned wells would be tested to confirm that they have been abandoned according to DOGGR well abandonment requirements. Those wells not abandoned according to these requirements would be improved. In addition, to avoid the potential conflicts with shaft construction and disposal areas, the utility and infrastructure relocation would be coordinated with local agencies and owners. Implementation of pre-construction surveys, and utility avoidance or relocation, if necessary, would minimize any potential disruption and hazardous effects due to disruption. Mitigation Measures UT-6a: Verify locations of utility infrastructure, and UT-6c: Relocate utility infrastructure in a way that avoids or minimizes any effect on worker and public health and safety (described in Chapter 20, Public Services and Utilities) address these effects.</p>
1601	894	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p> <p>Issue:</p> <ul style="list-style-type: none"> <li>- Produce emissions that would cause or measurably contribute to a violation of state or federal ambient air quality standards; (Salton Sea, Monterey Agreement, Oroville, and South Delta Improvements Program (SDIP) Sig Criteria)</li> <li>- Cause a net increase in pollutant emissions that exceed Clean Air Act conformity de minimis thresholds for ozone precursors or PM10; (Salton Sea Sig Criteria)</li> </ul> <p>Comment:</p> <p>The BDCP did not evaluate their air quality impacts against all of the affected County standards, including: Sacramento, Yolo, San Joaquin, Solano, Contra Costa, Fresno, Kings, Tulare, Kern etc. or all the affected Air Basin standards, including: San Joaquin, Sacramento, Lake Tahoe, etc. The BDCP document did not provide sufficient rationale for why the EIR/EIS did not include this larger affected geographic area and air quality standards. The document must be revised to include these additional affected areas.</p>	<p>As discussed in Chapter 22, Air Quality and Greenhouse Gases, Section 22.2, the air quality study area for the BDCP/California WaterFix includes the Sacramento–San Joaquin River Delta, the Suisun Marsh, the Yolo Bypass, and the Areas of Additional Analysis. While local cities and counties within the air quality study area have adopted general plan policies related to air quality protection, regulatory authority over air quality is divided among the U.S. Environmental Protection Agency (EPA), California Air Resources Board (ARB), and regional air quality management districts.</p> <p>As noted in Section 22.2.3, the four air districts with jurisdiction over local air quality in the Plan Area are the Yolo-Solano Air Quality Management District, Sacramento Metropolitan Air Quality Management District, Bay Area Air Quality Management District, and San Joaquin Valley Air Pollution Control District. The air quality study area also spans three air basins: the Sacramento Valley Air Basin, San Joaquin Valley Air Basin, and San Francisco Bay Area Air Basin. The air quality study area is limited to these four air districts and three air basins as these are the only locations in which construction or operational activity would occur. Figure 22-1 highlights these three air basins, including the affected counties listed by the commenter (please also refer to the discussion in Sections 22.1.1.1 through 22.1.1.3).</p> <p>The air quality and GHG analysis for the EIR/EIS was prepared consistent with modeling procedures, assumptions, and significance thresholds recommended by the EPA, ARB, and the four local air districts in the Plan Area. The mass emissions thresholds account for expected criteria air pollutant contributions from downwind air basins (see California Air Resources Board 2011b in the Administrative Record for the Draft EIR/EIS).</p> <p>Please refer to Section 22.3.2.1 for a summary of the local air district thresholds used to determine whether project construction and operational emissions would result in a significant air quality impact under CEQA. Section 22.3.2.2 summarizes the federal de minimis thresholds for the three affected air basins that were assessed pursuant to the EPA’s general conformity rule.</p>
1601	895	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p>	<p>As discussed in Chapter 22, Air Quality and Greenhouse Gases, Section 22.2, the air quality study area for the BDCP includes Sacramento–San Joaquin River Delta, the Suisun Marsh, the Yolo Bypass, and the Areas of Additional Analysis. The air quality analysis quantifies fugitive dust emissions associated with loading</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Issue:</p> <p>Establish land uses that would expose people to localized (as opposed to regional) air pollutant concentrations that violate state or federal ambient air quality standards; (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The tunnel spoil disposal area on Andrus Island is adjacent to Wilson Farms pear and cherry packing houses and orchards. Dust from the tunnel spoils will cause human health issue from dust particulate and contaminant exposure at those facilities and for local residences and other businesses for each of BDCP proposed the tunnel muck disposal sites. Tunnel muck has been treated to make it flowable for handling during excavation. The treatment deflocculates the soil structure and makes particle sizes that are easily mobilized by wind. These particle sizes are more likely to violate PM10 and PM2.5 particle size air quality standards. Significant population centers are downwind of the tunnel muck disposal sites, including the communities of: South Sacramento, Elk Grove, Galt, Lodi, Stockton, Tracy, Thornton, Isleton, Rio Vista, Brentwood, Antioch, Courtland, Walnut Grove, Clarksburg, Greenville, and West Sacramento.</p>	<p>reusable tunnel muck (RTM) material onto trucks for processing and transport. Particulate matter emissions rates for truck loading were obtained from CalEEMod and the U.S. Environmental Protection Agency's AP-42. Estimated fugitive dust emissions are compared to the local air district thresholds and incorporated into the PM2.5 health risk assessment. It is important to note that extracted RTM will be completely saturated. The piles will remain moist throughout tunnel construction due to the continual addition of RTM. Once tunneling is complete, top soil or other measures consistent control strategies outlined in Appendix 3B, Environmental Commitments will either be placed or the material may be transported to final disposal sites. Final disposal of the RTM, if moved, would be subject to all emissions control strategies outlined in Appendix 3B, Environmental Commitments. Please refer to Chapter 31 for additional information.</p>
1601	896	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p> <p>Issue:</p> <p>Potential air quality impacts are considered potentially significant if the construction or operations of facilities associated with a particular implementation alternative or Program element would cause substantial adverse changes to the existing (ambient) air quality conditions in the affected area. The range of such changes includes producing emissions that would either on their own or when combined with existing emissions: Violate federal or state ambient air quality standards, Cause a lowering of attainment status, or Conflict with adopted air quality management plan policies or programs (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>The tunnels are seasonally operated with periods of non-operation of up to several months at a time and several months of very low flows that would result in water residence times in the tunnels of several days to several weeks. Due to the high nutrient loading and high biological oxygen demand of the diverted Sacramento River water and anaerobic conditions that would occur in just days of non- or low flow operation (less than 1000 cubic feet per second (cfs)) in the tunnels, the water volume in the tunnels (approximately 10,000 acre-feet (AF)) would generate and out-gas constituents which are air quality problem and greenhouse gas contributors. Emissions from the tunnels would include: carbon monoxide, carbon dioxide, methane, ethane, butane, sulfurous compounds, ammonia and other nitrous compounds, and others. These air quality and greenhouse gas emissions will also occur at lesser levels during high volume tunnel operations. None of these greenhouse gas and air quality constituent releases from the tunnel operations and non- operating periods were identified, characterized, quantified or disclosed by the BDCP EIR/EIS document.</p>	<p>The commenter describes a scenario in which the facilities would be non-operational for several months at a time which is inconsistent with the proposed operations. Please refer Chapter 3 of the EIR/EIS and the 2015 Conceptual Engineering Report for the proposed facilities which can be found on the project website. As stated in the report, the intake facilities would be operated according to the tidal cycle and could be non-operational during two 6-hour periods centered on high tide. Low-level pumping would occur most of the time, given sufficient flows at Freeport (see Chapter 3 in the FEIR/EIS for information on operation criteria at the North Delta diversion). Low Level Pumping mode is up to 300 cfs at each intake depending on the flow in the Sacramento River. The mode of operation will allow for movement of water through the system to prevent stagnation and sediment deposition during periods of restricted north Delta pumping. There is no evidence that the impacts the commenter describes would occur as a result of this low-level pumping. Please also see responses to comments 379 and 919.</p>
1601	897	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p>	<p>Test results on RTM laboratory samples did not indicate that RTM would require handling as hazardous waste material and that it would be suitable for the proposed beneficial reuses. Accordingly, the EIR/EIS</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Issue:</p> <p>Construction-Related Significance Thresholds (tons per year): San Francisco Bay Area - 50 ROG, 100 NOx, 100 Co, n/a PM10; San Joaquin Valley Air Basin - 50 ROG, 50 NOx, 100 CO, 70 PM10 (South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Contaminated tunnel muck will have to be treated as a Class 1 material which would require shipping to the Kettleman City dump (California's only Class 1 material dump). The BDCP has not disclosed the air quality impacts from hauling and disposal of these materials which is a significant impact that needs to be avoided, minimized and mitigated.</p>	<p>does not assume that RTM would require special shipping or disposal at the Kettleman landfill. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.1.19) of the Draft EIR/EIS and illustrated by a flowchart (Figure 3B-1). The RTM may be transported to final disposal sites, although the location and timing of transport is currently unknown. Final disposal of the muck, if moved, would be subject to all emissions control strategies outlined in Appendix 3B, Environmental Commitments. Please refer to Chapter 31 for additional information.</p>
1601	898	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p> <p>Issue:</p> <p>Expose sensitive receptors to substantial pollutant concentrations. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>Tunnel muck disposal sites and tunnel access ports which will discharge emissions from volatilization as well as anaerobically produced air quality problem constituents are located within 1 - 3 miles of communities, schools, day care centers, senior centers, and wildlife refuges. None of these air quality constituent releases from the tunnel operations and non-operating periods were identified, characterized, quantified or disclosed by the BDCP EIR/EIS document.</p>	<p>The RTM Testing Report tested soil samples for a variety of potential environmental constituents primarily to evaluate if the addition of soil conditioners would significantly alter the chemical composition of the RTM. The analysis did not indicate any substantial difference between native and conditioned soils with respect to volatile organic compounds (VOCs). Accordingly, the RTM storage sites are not anticipated to result in additional VOC or hazardous air pollutants. Please see response to comment 1601-902 for additional information.</p>
1601	899	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p> <p>Issue:</p> <p>Create objectionable odors affecting a substantial number of people. (Oroville Sig Criteria)</p> <p>Comment:</p> <p>Algal blooms, tunnel discharge of gasses, tunnel muck disposal, sediment removal from diversion pumps, and intertidal habitat restorations will all generate noxious odors and these are in proximity to Delta communities as well as generally up-wind of South Sacramento, Elk Grove, Lodi, Galt, Tracy, Brentwood, Antioch and Stockton.</p>	<p>With respect to algal blooms, as discussed in Chapter 8, Water Quality, changes in water residence times and elevated ambient water temperatures may increase the frequency, magnitude, and geographic extent of Microcystis blooms in the Delta. Any odors associated with increased Microcystis blooms would be localized and often buffered by riparian zones between receptors and the waterway. The potential for increased odors from Microcystis blooms would also be reduced through implementation of MMs WQ-32a and WQ-32b. Please refer to Impact AQ-19. Please refer to Master Response 14.</p> <p>With respect to tunnel outgasses, please see response to comment 1601-906. The tunnels would be located more than 100 feet below the surface, and all access points would be capped.</p> <p>With respect to tunnel muck and sediment removal, if present in the muck and sediment, anaerobic decay of organic material can generate odorous gases, specifically hydrogen sulfide. Testing shows that soils in the Plan Area are predominately comprised of silt and clay, with a variety of inorganic materials that are not anticipated to result in malodors. Moreover, drying and stockpiling of the removed muck and sediment will occur under aerobic conditions, which will further limit any potential decomposition and associated malodorous products. Accordingly, it is not anticipated that tunnel and sediment excavation would create objectionable odors. Please refer to Impact AQ-19 in the RDEIR/SDEIS and Master Response 12 (Reusable Tunnel Material) for additional information.</p> <p>The conservation measures would restore estuarine wetland and upland habitats, both of which can generate odors from natural processes. While restored land uses associated with the program have the potential to generate odors from natural processes, the emissions would be similar in origin and magnitude to the existing land use types in the restored area (e.g., managed wetlands). Accordingly, it is not anticipated that habitat restoration would create objectionable odors. Please refer to Impact AQ-26 for additional</p>

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			information.
1601	900	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>The table indicates that 56% of all cores tested from 2009-2012 sampling had particle sizes of 200 mesh or smaller.</p> <p>Comment:</p> <p>A 200-mesh filter is 74 microns. More than half of the material cleared this screen size so more than half of the particles are smaller than 74 microns. The physical material testing did not screen the materials any finer to determine what proportion of the material was 10 microns or smaller. Seeing as more than half the material tested was smaller than 74 microns, it stands to reason that a significant percentage of the material could be and is likely, 10 microns or smaller. PM10 is an important air quality standard that regulates particle sizes of 10 microns and smaller as they pose a significant human health and ecosystem risk. The BDCP EIR/EIS did not analyze what proportion of tunnel muck disposal materials that the plan has proposed to dispose of on the surface in landfills, levee construction, habitat restoration, flood response, etc. would potentially affect PM10 air quality standards and human health. DWR obviously had the materials available to do the testing, but the EIR/EIS failed to utilize the best available science and quantify that impact. The materials should be tested for particle size distribution to 10 and 2.5 micron sizes so these risks and impacts can be appropriately analyzed and disclosed. Once the BDCP EIR/EIS document has been revised to address this serious deficiency, the document should be recirculated for public comment.</p>	<p>The air quality and GHG analysis is based on a cost estimate developed by 5RMK and DWR. The cost estimate provides detailed information on equipment and vehicle activity (e.g., operating hours per day) required to construct the water conveyance facility. Materials and earthwork quantities associated with construction were also estimated, including all borrowed, excavated, and dredged soil. The air quality analysis quantifies fugitive dust emissions associated with loading this material onto trucks for processing and transport. Particulate matter emissions rates for truck loading were obtained from CalEEMod and the EPA's AP-42. Estimated fugitive dust emissions were compared to the local air district thresholds and incorporated into the PM2.5 health risk assessment. Please refer to Impacts AQ-1 through AQ-4 and Impacts AQ-9 through AQ-12 for additional information.</p> <p>While RTM will be extracted during tunneling, the material will be completely saturated and therefore would not constitute a fugitive dust concern. The piles will remain moist throughout tunnel construction due to the continual addition of RTM. Once tunneling is complete, topsoil or other measures of consistent control strategies outlined in Appendix 3B, Environmental Commitments, will be placed, or the material may be transported to final disposal sites. Final disposal of the RTM, if moved, would be subject to all emissions control strategies outlined in Appendix 3B, Environmental Commitments. Please refer to Chapter 31 for additional information.</p>
1601	901	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>The soil physical testing failed to identify what proportion of the soil volume was composed of organic matter and the EIR/EIS failed to analyze the air quality impacts of the rapid oxidation of these materials.</p> <p>Comment:</p> <p>Deep soil conditions are anaerobic (without oxygen). Organic matter trapped deep in the soil is subject to rapid oxidation once exposed to surface aerobic conditions. This rapid oxidation of tunnel muck organic matter will generate potentially large CO2 discharges which is an air quality and greenhouse gas impact which the BDCP EIR/EIS has failed to identify, characterize, evaluate, disclose or mitigate. The samples were not tested to determine the organic matter composition, their oxidation rate, or their off-gassing rates and quantities during oxidation and degradation. DWR collected the samples, but failed to apply the best available science in evaluating that data. The samples should be processed to quantify the organic matter % of the tunnel muck material by location, determine off-gassing characteristics and volumes, and determine materials volumes by source location and determine fate of disposal or reuse by type and location. Only when the EIR/EIS</p>	<p>Testing conducted by Wallace Laboratories on soil samples collected from the proposed tunnel zone indicated low to very-low (characterized as less than 3 percent by dry weight) organic matter. The test results are included in Appendix E of the RTM Testing Report. Geotechnical boring data along the proposed project alignment indicate that the majority of organic soils are limited to within 40 feet of the ground surface. The proposed tunnel excavation will be located at least 100 feet below the ground surface, and, based on the subsurface information collected to date, is not anticipated to encounter significant amounts of organic material. These studies indicate that the potential for increased GHG emissions from organic matter decomposition in the RTM would be extremely low. Once tunneling is complete, topsoil or other measures of consistent control strategies outlined in Appendix 3B, Environmental Commitments, will be placed, or the material may be transported to final disposal sites.</p>

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		analysis completes all of these analyses could the level of analysis be considered to meet best available science and a project-level analysis that would potentially warrant issuance of construction-related permits.	
1601	902	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas, Reusable Tunnel Material Testing Report - Section 2.3.1</p> <p>Issue:</p> <p>Environmental testing was done only on soils mixed with polymers and was not handled appropriately for testing of compounds which volatilize.</p> <p>Comment:</p> <p>According to this report, samples were taken from 2009 through 2012. The report does not disclose how these samples were stored. The samples were all mixed together. Then they were wetted, mixed with polymers and then dried out and more time past. Then and only then was a sample sent to a single lab for testing. First, environmental testing should be done immediately after sampling with careful handling of the materials to preserve moisture content, prevent external contamination and manage off-gassing of volatile compounds. Sample handling, chain of custody, refrigeration of samples, storage container, processing time and other requirements need to be adhered to in any rigorous and appropriate sampling and testing protocol. The document does not disclose any of these protocols and given the length of time from sampling to testing, there probably were none. Each sample should have been processed separately so that the chemical conditions in the locations represented by each sample could be determined. Samples of each core should have been sent to more than one lab to confirm consistency of lab analysis and quality. Then and only then, would these results be useful and meet the test of best available science. As the work was done, we have a single, old, poorly stored, mixed, rewetted, polymer contaminated, biodegraded, dried out, oxidized sample that was only sent to one lab for one test. Unfortunately, even if all of the samples were now tested separately the samples are old and not representative of conditions. Most of the compounds tested are subject to change based on biodegradation, mineralization, oxidation, chemical breakdown, enzymatic breakdown, volatilization and chemical concentration gradient changes. The gasses that will be discharged and volatilized from the tunnel muck materials are not represented by the test results as they were processed, so this impact, if it was even evaluated in the BDCP EIR/EIS, would be significantly under-estimated. The BDCP EIR/EIS analysis needs to be revised to evaluate these impacts, the limitations and deficiencies of the current test data disclosed and the impacts mitigated.</p>	<p>The scope of the RTM study included mixing representative soil conditioner products with available soil samples from the proposed tunnel zone. Prior to development of the RTM study, previous test results on soil samples from within the proposed tunnel zone had not identified environmental concerns with regard to VOCs. Accordingly, after mixing with representative conditioner products, the laboratory soil samples were allowed to air dry to model anticipated field construction sequencing. RTM samples were tested for a variety of potential environmental constituents, primarily to evaluate if the addition of soil conditioners would significantly alter the chemical composition of the RTM. The analysis did not indicate any substantial difference between native and conditioned soils with respect to VOC. Accordingly, the RTM storage sites are not anticipated to result in additional VOC or hazardous air pollutants. Further testing and characterization of RTM will be performed throughout the project. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.1.19) of the Draft EIR/EIS, and illustrated by a flowchart (Figure 3B-1).</p>
1601	903	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas, Reusable Tunnel Material Testing Report - page 3-8</p> <p>Issue:</p> <p>"it is expected that RTM could be dried at a rate of approximately 2 percent per day given a maximum lift thickness of 12 to 18 inches and several passes per day with a disc to turn the material over."</p> <p>Comment:</p>	<p>The RTM will be completely saturated when it is extracted, and therefore would not constitute a fugitive dust concern. Conveyors would be used to transport the RTM to storage piles where it would dry naturally; no electricity would be used to dry the material. Onsite equipment required to manage the pile and other borrow sites have been included in the emissions analysis. The piles will remain moist throughout tunnel construction due to the continual addition of RTM, reducing exposure to potential wind erosion. Once tunneling is complete, topsoil or other control strategies outlined in Appendix 3B, Environmental Commitments will either be placed or the material may be transported to final disposal sites. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.1.19) of the Draft EIR/EIS and illustrated by a flowchart (Figure 3B-1). Please also see response to comment 1601-897 (see tables in EIR/EIS).</p>

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		<p>This statement identifies, but does not quantify, a large amount and intensity of equipment activity to condition tunnel muck to dry it out. Not only would the equipment discharge require air quality impact analysis, but the tunnel muck material is made up of fine particle sizes (more than 50% finer than 200 mesh) and therefore would be mobilized by the equipment activity and wind erosion. These impacts need to be quantified and disclosed at a project-level of detail in order to ensure that air quality requirements are met and appropriate avoidance, minimization and mitigation measures are implemented. The BDCP EIR/EIS needs to be revised to include and quantify these impacts before construction-related permits should be issued.</p>	
1601	904	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p> <p>Issue:</p> <p>It is almost a certainty that some tunnel muck will have contaminant levels that will restrict its reuse and require special handling. The only question is, what amount of the tunnel muck will be contaminated at those levels?</p> <p>Comment:</p> <p>Contaminated tunnel muck will have to be treated as a Class 1 material which would require shipping to the Kettleman City dump (California's only Class 1 material dump). The BDCP has not disclosed the air quality impacts from hauling and disposal of these materials which is a significant impact that needs to be avoided, minimized and mitigated.</p>	<p>Test results on RTM laboratory samples indicated that RTM would not require handling as hazardous waste material and that RTM would be suitable for the proposed beneficial reuses. Accordingly, the EIR/EIS does not assume that RTM would require special shipping or disposal at the Kettleman landfill. Please refer to response to comment 1601-897 for additional information.</p>
1601	905	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p> <p>Issue:</p> <p>Covered activities do not address all of the current CVP/SWP system (upstream tributaries, existing canals, on-going effects of water deliveries) on air quality and greenhouse gasses.</p> <p>Comment:</p> <p>Greenhouse gas and air pollution contributions from the upstream CVP/SWP reservoir operations, water conveyance in rivers upstream of the Delta, water conveyance across the Delta for south of Delta diversion, conveyance of water in the canals and downstream of Delta reservoirs and in the CVP/SWP service areas is not identified, characterized, evaluated, or the impacts of disclosed in the BDCP EIR/EIS document. Reservoirs have been demonstrated in published scientific papers to be sources of greenhouse gas emissions. Since the BDCP EIR/EIS document does not address the existing facilities maintenance, operation and ongoing air quality and greenhouse gas emission affects, these components of the CVP/SWP should not be included in the covered activities nor in any subsequent permits that are issued based on this document.</p>	<p>As discussed in response to comment 1601-894, the four air districts with jurisdiction over local air quality in the Plan Area are the Yolo-Solano Air Quality Management District, Sacramento Metropolitan Air Quality Management District, Bay Area Air Quality Management District, and San Joaquin Valley Air Pollution Control District. The air quality study area also spans three air basins: the Sacramento Valley Air Basin, San Joaquin Valley Air Basin, and San Francisco Bay Area Air Basin. The air quality study area is limited to these four air districts and three air basins as these are the only locations in which construction or operational activity would occur. Changes in water conveyance would not affect criteria pollutant emissions outside the study area in which operations and maintenance (O&amp;M) occurs. The EIR/EIS evaluates air quality impacts from all labor and equipment required for O&amp;M of proposed project. Please see Impacts AQ-5 through AQ-8 and Section 22A.2.1 in Appendix 22A, Air Quality Analysis Methodology.</p> <p>With respect to GHG, as noted in Chapter 22, Air Quality and Greenhouse Gases, Section 22.1, the study area for GHGs is much broader due to the global nature of climate change. While the GHG analysis focuses on emissions generated at the project site as a result of construction and operation, the analysis considers potential regional and global GHG effects. This includes net energy demand for SWP/CVP exports. Energy needed for transmission and distribution of water along the Valley String is also considered to enable a comparison with the assumptions in DWR's Climate Action Plan (see Impact AQ-22).</p> <p>While changes in water conveyance and hydroelectric reservoir operations could affect GHG emissions, long-term research is limited, and the results are mixed. For example, the longest study chronicling pre- and post-flood emissions from the same hydroelectric reservoir occurred over a period of seven years in northern Quebec (see The Net Carbon Footprint of a Newly Created Boreal Hydroelectric Reservoir, Global Biogeochemical Cycles, Volume 26, Issue 2, June 2012). The study demonstrates that GHG emissions vary depending on the depth of reservoir (shallow has higher emissions; deeper has less), the amount of organic material/plant material decaying under anaerobic conditions, the source water to the turbines, and the underlying climatic conditions (e.g., tropical versus temperate zones). Ultimately, the researchers concluded</p>

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			<p>that the reservoir initially resulted in a net source of carbon dioxide (i.e., during the first post-flood year, 2270 mg C m<sup>-2</sup> d<sup>-1</sup>) and a small source of methane annually thereafter (0.2 mg C m<sup>-2</sup> d<sup>-1</sup>).</p> <p>Accordingly, while some changes in GHG flux may occur in canals, rivers, or reservoirs, it would be speculative to quantify GHG emissions for the following reasons:</p> <ol style="list-style-type: none"> <li>1. Electricity would originate from a number of hydroelectric facilities. The amount of electricity generated by each facility, as well as the GHG flux rates from their reservoirs and associated rivers/canals, is currently unknown.</li> <li>2. There are very few studies comparing pre- and post-emissions from changes in reservoir and water levels, and, thus, a definitive conclusion on net GHG emissions is speculative.</li> <li>3. Published studies confirm that GHG flux rates are highly dependent on local factors (e.g., amount of plant material, power density). Extrapolating flux rates from studies around the world to the upstream and downstream Delta would therefore be inappropriate.</li> <li>4. It is uncertain how the incremental change in flow rates from Alternative 4 or 4A would affect individual reservoir and other facilities.</li> </ol> <p>For these reasons, quantifying changes in GHG flux and attributing those emissions to the proposed project would be speculative and is therefore excluded from the EIR/EIS. However, text has been added to Section 22.3.2.3 to qualitatively discuss this issue and the state of published literature.</p>
1601	906	<p>Document Section: Chapter 22 - Air Quality and Greenhouse Gas</p> <p>Issue:</p> <p>WQ-1: Effects on ammonia concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The impact call of "Less-Than-Significant" is incorrect. The No Action and BDCP Proposed Project south Delta operations continue to draw higher than background levels of ammonia concentrations from the Sacramento Regional Waste Water Treatment Plant discharges across the Delta, exposing a larger area of the Delta to elevated ammonia concentrations than would occur without the project. The disruption to the food chain in the Delta and its effects on listed fish species from elevated ammonia concentrations is a significant impact. The Proposed Project tunnels will outgas ammonia which is a greenhouse gas emission.</p>	<p>All DEIR/DEIS assessments were prepared for the early long-term (ELT), which corresponds to year 2025. In other words, water quality anticipated to occur under each of the nine alternatives was compared to that which would occur for the No-Action Alternative (also in 2025) and Existing Conditions. The Sacramento Regional County Sanitation District is implementing its EchoWater Project, which is an approximately \$1.5 billion upgrade to the Sacramento Regional Wastewater Treatment Plant (SRWTP), including full nitrification of the effluent. The nitrification facilities will reduce the ammonia loads to the Delta from the SRWTP to a small fraction of what they are today. All locations within the Delta influenced by Sacramento River water will have substantially lower ammonia levels under all alternatives (including the No-Action Alternative), relative to existing conditions. To the extent that ammonia levels in the lower Sacramento River water under existing conditions are adversely impacting aquatic life in the river and Delta presently, the substantial reduction in ammonia levels that would occur under all alternatives in 2025 would constitute a beneficial impact, relative to existing conditions, not a significant impact.</p> <p>With respect to tunnel ammonia outgas, please see response to comment 1601-896 (see tables in EIR/EIS).</p>
1601	907	<p>Document Section: Chapter 23 - Noise</p> <p>Issue:</p> <p>An alternative would have significant noise impacts if its implementation would directly or indirectly increase ambient Community Noise Equivalent Level (CNEL) levels by a discernible increment (3 dB or more) at noise sensitive land uses (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP intake and tunnel headworks facility pumps are loud. These pumps are less than a</p>	<p>Construction of the project uses noise thresholds established by DWR, which were established based on a consensus of experts and local and resource agencies. DWR will meet local noise standards wherever feasible. All of the impacts addressed in Chapter 23, Noise, identify significant noise impacts from construction and operations of conveyance facilities and identify mitigation measures to reduce noise effects.</p> <p>Operation of the project is expected to conform to local standards through MM NOI-3: Design and Construct Intake Facilities and Other Pump Facilities Such That Operational Noise Does Not Exceed 50 dBA (One-Hour Leq) during Daytime Hours (7:00 a.m. to 10:00 p.m.) or 45 dBA (One-Hour Leq) during Nighttime Hours (10:00 p.m. to 7:00 a.m..) or the Applicable Local Noise Standard (Whichever Is Less) at Nearby Noise</p>

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		<p>mile from Stone Lakes National Wildlife Refuge. The areas of these facilities are also habitat for Greater Sandhill Cranes. The value and productivity of these habitats and at the refuge will be significantly diminished by the noise disruption of the project construction and operations.</p>	<p>Sensitive Land Uses.</p>
1601	908	<p>Document Section: Chapter 23 - Noise</p> <p>Issue:</p> <p>Project Noise Impacts considered significant if:</p> <ol style="list-style-type: none"> <li>1) Construction activities lasting more that one day that increase the ambient noise levels by 10 dBA or more at any noise-sensitive location.</li> <li>2) A permanent (i.e., long term operational) increase of 5 dBA Community Noise Equivalent Level (CNEL) over ambient noise levels at any noise-sensitive land use.</li> <li>3) A permanent (i.e., long term operational) increase of 3 dBA CNEL over ambient noise levels at any noise-sensitive land use location (Monterey Agreement Sig Criteria)</li> <li>4) Result in a permanent increase in ambient noise above existing levels. (Oroville, South Delta Improvements Program (SDIP) Sig Criteria)</li> </ol> <p>Based on County of San Joaquin noise criteria, OPR standards, and Federal Transit Administration (FTA) criteria, the following thresholds have been developed for this project: Construction noise would exceed 45 dBA at the nearest noise-sensitive land uses between 9:00 pm and 6:00 am on any day; or Operation of facilities would result in noise that exceeds the acceptable noise standards of the relevant jurisdictions or existing or presumed ambient sound level by more than 5 dBA at sensitive receptor locations. (SDIP Sig Criteria)</p> <p>Comment:</p> <p>Significant impact 1: Construction and operations noise on the intakes, tunnel headworks and tunnel access ports is adjacent to a National Wildlife Refuge and other Greater sandhill cranes habitat. Cranes are a noise sensitive species and will abandon habitat if disturbed. Once disturbed, the cranes are much less likely to return to the habitat as habitat use is a learned behavior. Construction impacts on habitat usage may last for multiple generations of this species. Mitigation is for construction and operations activities to cease in season when cranes are present. Significant impact 2: The BDCP intake and tunnel headworks facility pump operations are loud. Sound carries farther and louder over water, so intakes adjacent to the communities of Freeport, Clarksburg, Courtland and Locke would be significantly affected. This impact can be minimized and avoided by a design of the intake pumping plants so they are protected by levees to get them out of the flood plain rather than the current BDCP design of having them on raised platforms. The raised platforms cause the sound from the pumps to carry farther to affect communities such as Elk Grove. Constructing the facilities on the existing ground level behind ring levees would dampen and redirect the noise from the facilities and is a reasonable and prudent avoidance and mitigation action. Significant impact 3: The BDCP intake and tunnel headworks facility pumps are loud. These pumps are less than a mile from Stone Lakes National Wildlife Refuge. The areas of these facilities are also habitat for Greater Sandhill Cranes. The value and productivity of these habitats and at the refuge will be significantly diminished by the</p>	<p>Construction of the project uses noise thresholds established by DWR, which were established based on a consensus of experts and local and resource agencies. DWR will meet local noise standards wherever feasible.</p> <p>The following standards were developed for onsite construction equipment:</p> <p>Onsite construction and restoration activity between the hours of 7:00 a.m. to 10:00 p.m. (daytime) would have adverse noise effects if the activity was predicted to result in a 1-hour A-weighted equivalent sound level that exceeds 60 dBA at noise-sensitive land uses where the ambient noise level is less than 60 dBA, or if the activity was predicted to increase the ambient noise level at residential locations by 5 dB or more where the ambient noise level is already greater than 60 dBA (pursuant to Section 01570 of DWR Specification 05-16).</p> <p>Onsite construction and restoration activity between the hours of 10:00 p.m. to 7:00 a.m. (nighttime) would have adverse noise effects if the activity was predicted to result in a 1-hour A-weighted equivalent sound level that exceeds 50 dBA at noise-sensitive land uses where the ambient noise level is less than 50 dBA, or if the activity is predicted to increase the ambient noise level at residential locations by 5 dB or more where the ambient noise level is already greater than 50 dBA.</p> <p>All of the impacts addressed in Chapter 23 identify significant noise impacts from construction and operations of conveyance facilities and identify mitigation measures to reduce noise effects.</p> <p>Operation of the project is expected to conform to local standards through MM NOI-3: Design and Construct Intake Facilities and Other Pump Facilities Such That Operational Noise Does Not Exceed 50 dBA (One-Hour Leq) during Daytime Hours (7:00 a.m.. to 10:00 p.m.) or 45 dBA (One-Hour Leq) during Nighttime Hours (10:00 p.m.. to 7:00 a.m. or the Applicable Local Noise Standard (Whichever Is Less) at Nearby Noise Sensitive Land Uses.</p>

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		noise disruption of the project construction and operations.	
1601	909	<p>Document Section: Chapter 23 - Noise</p> <p>Issue:</p> <p>The BDCP utilized a Traffic Noise Model.</p> <p>Comment:</p> <p>A similar level of sophistication for the noise analysis of the operations of the intakes and pumps was not conducted.</p>	<p>Attenuation of pumps was modeled using methods approved by the FTA and FHWA, which are appropriate for this analysis.</p>
1601	910	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>Generate enough solid waste to exceed landfill capacity or substantially shorten the life of a landfill. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>Contaminated tunnel muck will have to be treated as a Class 1 material which would require shipping to the Kettleman City dump (California's only Class 1 material dump). If only a small portion of the tunnel muck is contaminated, the volumes of materials sent to Kettleman City (or other Class 1 dumps) would significantly shorten the useful lifespan of those landfills. The BDCP has not provided adequate evidence that the tunnel muck will not be contaminated, so the EIR/EIS should take the prudent approach of assuming that contaminants will occur and to disclose the impacts that will occur from the contamination.</p>	<p>The cited criterion ("Monterey Agreement Sig Criteria") was not used in the draft BDCP EIR/EIS analysis and thus will not be addressed here.</p> <p>For analysis of impacts to landfill as a result of implementing the BDCP, please see Chapter 20, Public Services and Utilities.</p> <p>RTM and associated decant liquid will undergo chemical characterization by the contractor(s) prior to reuse or discharge, respectively, to determine whether it will meet the requirements of the NPDES and the Central Valley RWQCB.</p> <p>A recent study conducted by DWR consisted of mixing native soil samples collected from the potential tunnel zone with representative soil conditioner products and performing laboratory tests to measure the following qualities of RTM:</p> <ul style="list-style-type: none"> <li>• Geotechnical properties to evaluate constructability if used as structural fill</li> <li>• Environmental properties to characterize potential toxicity if placed in the environment</li> <li>• Planting suitability to assess sustainability for habitat growth and agricultural use</li> </ul> <p>Baseline and conditioned soil samples were tested for several inorganic, volatile, and semi-volatile organic compounds; polychlorinated biphenyls; petroleum hydrocarbons; pesticides; and complexed metals (including methyl mercury). Environmental constituents detected in the baseline and conditioned soil samples included metals, ammonia, and nitrate/nitrite, which are natural soil components. Several chemical compounds were detected sporadically. Methyl mercury and naphthalene were detected in two separate baseline samples at concentrations below the reporting limit. Naphthalene, phenanthrene, and total petroleum hydrocarbons in the diesel range were detected in one conditioned soil sample and may be a constituent of the conditioning process because these analytes were not detected in the corresponding baseline sample.</p> <p>The variation of test results between baseline and conditioned soil samples can, in part, be attributed to natural variation of compounds present in different soil samples. The report from this study can be found on the BDCP website (<a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx</a>).</p> <p>Therefore, there is no evidence to suggest that RTM would be classified as Class 1 waste. While the study consisted of a limited number of samples and tests and does not constitute a complete evaluation of RTM, based on the results of the geotechnical, environmental, and planting suitability tests, DWR concluded that</p>

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			<p>RTM appears to be suitable for the above-proposed beneficial uses following storage and drying. Consultation with governing regulatory agencies would be required to obtain the necessary approvals and permits.</p>
1601	911	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>Releases of toxic materials from soils or sediments (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Tunnel muck disposed may contain contaminants which are endemic in the Delta (e.g. Hg, Pb, Se, As). Sediment captured and disposed of from the intakes will contain contaminants that adhere to sediment particles (e.g. pyrethroids, DDT and DDT derivative breakdown products). Both of these sources of contaminants from BDCP disposals can release these otherwise biologically sequestered materials and mobilize them through surface water and wind erosions and percolation into groundwater through drainage. Once the BDCP releases and mobilizes these contaminants then other sensitive receptors are vulnerable to exposure - endangered species, local residents and workers, downwind communities and schools, bioaccumulation in the food web, etc.</p>	<p>The cited criterion (“California Bay-Delta Authority Sig Criteria”) was not used in the draft BDCP EIR/EIS impact analysis and thus will not be addressed here.</p> <p>A recent study conducted by DWR consisted of mixing native soil samples collected from the potential tunnel zone with representative soil conditioner products and performing laboratory tests to measure the following qualities of RTM:</p> <ul style="list-style-type: none"> <li>• Geotechnical properties to evaluate constructability if used as structural fill</li> <li>• Environmental properties to characterize potential toxicity if placed in the environment</li> <li>• Planting suitability to assess sustainability for habitat growth and agricultural use</li> </ul> <p>Baseline and conditioned soil samples were tested for several inorganic, volatile, and semi-volatile organic compounds; polychlorinated biphenyls; petroleum hydrocarbons; pesticides; and complexed metals (including methyl mercury). Environmental constituents detected in the baseline and conditioned soil samples included metals, ammonia, and nitrate/nitrite, which are natural soil components. Several chemical compounds were detected sporadically. Methyl mercury and naphthalene were detected in two separate baseline samples at concentrations below the reporting limit. Naphthalene, phenanthrene, and total petroleum hydrocarbons in the diesel range were detected in one conditioned soil sample and may be a constituent of the conditioning process because these analytes were not detected in the corresponding baseline sample.</p> <p>The variation of test results between baseline and conditioned soil samples can, in part, be attributed to natural variation of compounds present in different soil samples. The report from this study can be found on the BDCP website (<a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx</a>).</p> <p>While the study consisted of a limited number of samples and tests and does not constitute a complete evaluation of RTM, based on the results of the geotechnical, environmental, and planting suitability tests, DWR concluded that RTM appears to be suitable for the above-proposed beneficial uses following storage and drying. Consultation with governing regulatory agencies would be required to obtain the necessary approvals and permits.</p> <p>Riverine or in-Delta sediment dredging and dredge material disposal activities may involve potential contaminant discharges not addressed through typical NPDES or SWRCB Construction General Permit (CGP) processes. Construction of Dredge Material Disposal (DMD) sites will likely be subject to the SWRCB CGP (Order No. 2009-0009-DWQ). BDCP EIR/EIS Appendix 3B identifies several best management practices to manage dredging operations, including handling and disposal of any potentially hazardous dredged material.</p>
1601	912	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>The potential for transmission of mosquito- borne diseases to humans would increase substantially. (Salton Sea Sig Criteria)</p>	<p>It is assumed that the commenter is referring to the significance criteria in the Salton Sea Restoration Project EIS/EIR for Public Health and Environmental Hazards. Those criteria were not used in the impact analysis and thus will not be addressed here.</p> <p>Much of the study area consists of lowlands capable of supporting insects such as mosquitos, which can be vectors for infectious diseases. The potential hazards associated with vector-borne diseases are discussed in</p>

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		<p>Comment:</p> <p>Subtidal, intertidal, wetland, and riparian habitat restorations will significantly increase mosquito production in areas that are adjacent to Delta communities (e.g. Clarksburg, Courtland, Locke, Walnut Grove, Isleton, Rio Vista) and is generally upwind of large populations (e.g. Elk Grove, Galt, Lodi, Stockton, Tracy, Brentwood)</p>	Chapter 25, Public Health.
1601	913	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <ul style="list-style-type: none"> <li>- Whether health effects occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards. (California Bay-Delta Authority (CALFED) and South Delta Improvements Program (SDIP) Sig Criteria)</li> <li>- Whether the risk or rate of hazard exposure by minority population or low-income population to an environmental hazard exceeds or is likely to exceed the risk or rate to the general population or appropriate comparison group. (CALFED and SDIP Sig Criteria)</li> </ul> <p>Comment:</p> <p>Minority farm workers will have greatest exposure and risk from mosquito borne West Nile Virus compared to any population segment (greater time exposure outdoors in the immediate vicinity of increased West Nile Virus risk from the project and a population that has less economic resources to pay for insect repellent). Increased nutrient and contaminant loading increases bio-accumulation of contaminants such as Hg, As, Pb and pesticides. Some minority populations consume fish from the Delta for subsistence and are at much higher exposure and risk than populations that are not dependent upon the Delta fishery as their primary source of sustenance.</p>	<p>Please see Chapter 28, Environmental Justice, Section 28.2.1.4, Characteristics of Relevant Minority Populations, for a discussion of fish consumption patterns among ethnic groups in the Delta.</p> <p>The environmental justice assessment in this EIR/EIS is limited to effects that have been identified as adverse, even with mitigation. These effects were carried forward and screened for their potential to result in disproportionate adverse effects on environmental justice populations. For effects that were determined not adverse, such as Impact PH-1 and Impact PH-5, no additional evaluation is needed because those effects would not result in disproportionate effects on minority and low-income populations. This method of screening effects is consistent with the CEQ guidance (Council on Environmental Quality 1997:25).</p>
1601	914	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>Recreational users of the Sea or fish consumers would be exposed to substantially increased levels of health hazards (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Reduced water turnover and assimilative capacity result in additional nutrient loading and increased water temperatures which cause an increased frequency, magnitude, duration and geographic extent of algal blooms in the Delta. Algal blooms increases human health risks from contact recreation and drinking water sources. Increased nutrient and contaminant loading increases bio-accumulation of contaminants such as mercury (Hg), arsenic (As), Lead (Pb) and pesticides. Some minority populations consume fish from the Delta for subsistence and are at much higher exposure and risk than populations that are not dependent upon the Delta fishery as their primary source of sustenance.</p>	<p>It is assumed that the commenter is referring to the significance criteria in the Salton Sea Restoration Project EIS/EIR for Public Health and Environmental Hazards. Those criteria were not used impact analysis and thus will not be addressed here.</p> <p>Chapter 25, Public Health, discusses bioaccumulation of toxicants (e.g., methylmercury) in fish and aquatic organisms consumed by humans and pathogens and Microcystis in recreational waters. Chapter 28, Environmental Justice, describes fish consumption rates in minority populations and concerns that these populations in the Delta have about potential mercury and pesticide contamination in the fish they consume. Chapter 8, Water Quality, describes the potential changes in water quality and beneficial uses of water in the study area as a result of implementing an action alternative. Bioaccumulation models that link the concentration of methylmercury in the water to resultant concentrations in fish tissues for methylmercury are also presented in Chapter 8. Please refer to Master Response 14.</p>
1601	915	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p>	The Lead Agencies acknowledge the comment regarding the “Salton Sea Sig Criteria.” It is assumed that the commenter is referring to the significance criteria in the Salton Sea Restoration Project EIS/EIR for Public Health and Environmental Hazards. Those criteria were not used in the draft BDCP EIR/EIS and thus will not

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		<p>Wind erosion of exposed contaminated sediments would expose people to airborne health hazards (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Habitat restoration construction and tunnel muck disposal will increase airborne soil which may be contaminated with selenium (Se), mercury (Hg), arsenic (As), other heavy metals and/or pesticide residues. Airborne dust particles from these project sources can also cause Valley Fever which is a human health risk.</p>	<p>be addressed here.</p> <p>The risk of valley fever exposure as a result of implementing the BDCP is addressed in draft BDCP EIR/EIS Chapter 22, Air Quality and Greenhouse Gases.</p> <p>As described in draft BDCP EIR/EIS Chapter 22, fugitive dust particulate matter concentrations are expected to be highest in the vicinity of restoration areas, particularly near those sites that require substantial earthmoving activities or site grading. BDCP proponents will implement basic and enhanced fugitive dust control measures at all construction and staging areas to reduce construction-related fugitive dust. As described in draft BDCP EIR/EIS Appendix 3B, Environmental Commitments, these measures are based on the Sacramento Metropolitan Air Quality Management District's CEQA guidelines and are in conformance with the Bay Area Air Quality Management District, San Joaquin Valley Air Pollution Control District, and Yolo Solano Air Quality Management District fugitive dust control requirements.</p>
1601	916	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>The maps show areas designated "reusable tunnel materials". The plan does not disclose the exact composition of the tunnel spoil materials.</p> <p>Comment:</p> <p>Contaminants from upstream parent materials (e.g. mercury (Hg), selenium (Se), arsenic (As)) are endemic in the geomorphic formation of the Delta. As an example, Cache Slough is one of the largest naturally occurring mercury sources in the state and mercury from that drainage has been transported into the Delta from that source since the Coastal Range was formed geologically. Selenium has been also been transported into the Delta from the San Joaquin River system since the Coastal Range was formed geologically. The size, shape and drainage patterns in the Delta have changed dramatically since the geologic formation of the Coastal Range so it is very likely that those two specific sources of toxics could have deposited substantial contaminant loads in the areas that the tunnels are planned to excavate. Mercury (Hg) is heavy, so it can sink through the soil and pool up in high concentrations. The BDCP project and environmental impact disclosures should assume contaminant levels which are considered hazardous and disclose those potential impacts unless they can (using best available science) prove the absence of contaminants at those levels. BDCP has not provided any compelling evidence that it will not encounter contaminants in its tunnel boring or other excavation and earth moving-related actions. It is almost a certainty that some tunnel muck will have contaminant levels that will restrict its reuse and require special handling. The BDCP has not tested or disclosed contaminant testing of geotechnical borings done in the Delta, so the BDCP has not proven that toxic and hazardous material that restricts its reuse and requires special handling will not be found in the tunnel muck. In order for the BDCP to meet the test of best available science, the BDCP needs to conduct geotechnical borings all along the tunnel route and test the cores for contaminants. The tunnel borings need to be of sufficient density and consistency in contaminant levels to achieve a NI 43-101 [National Instrument Standards of Disclosure for Mineral Projects] compliant level of confidence that the contaminants were not present at levels that pose human health risks or could require disposal restrictions. Then and only then, can the project assume that the tunnel muck could be disposed on the islands without potential significant human health effects.</p>	<p>A recent study conducted by DWR consisted of mixing native soil samples collected from the potential tunnel zone with representative soil conditioner products and conducting laboratory tests to measure the following qualities of RTM:</p> <ul style="list-style-type: none"> <li>• Geotechnical properties to evaluate constructability if used as structural fill</li> <li>• Environmental properties to characterize potential toxicity if placed in the environment</li> <li>• Planting suitability to assess sustainability for habitat growth and agricultural use</li> </ul> <p>Baseline and conditioned soil samples were tested for several inorganic, volatile, and semi-volatile organic compounds; polychlorinated biphenyls; petroleum hydrocarbons; pesticides; and complexed metals (including methyl mercury). Environmental constituents detected in the baseline and conditioned soil samples included metals, ammonia, and nitrate/nitrite, which are natural soil components. Several chemical compounds were detected sporadically. Methyl mercury and naphthalene were detected in two separate baseline samples at concentrations below the reporting limit. Naphthalene, phenanthrene, and total petroleum hydrocarbons in the diesel range were detected in one conditioned soil sample and may be a constituent of the conditioning process because these analytes were not detected in the corresponding baseline sample.</p> <p>The variation of test results between baseline and conditioned soil samples can, in part, be attributed to natural variation of compounds present in different soil samples. The report from this study can be found on the BDCP website (<a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Reusable_Tunnel_Material_Testing_Report.sflb.ashx</a>).</p> <p>While the study consisted of a limited number of samples and tests and does not constitute a complete evaluation of RTM, based on the results of the geotechnical, environmental, and planting suitability tests, DWR concluded that RTM appears to be suitable for the above-proposed beneficial uses following storage and drying. Consultation with governing regulatory agencies would be required to obtain the necessary approvals and permits.</p>

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1601	917	<p>Document Section: Chapter 24 - Hazards, Reusable Tunnel Material Testing Report - Page 2.4</p> <p>Issue:</p> <p>"...soil samples to be air dried for one month to simulate anticipated field construction procedures and allow for biodegradation of the conditioner products."</p> <p>Comment:</p> <p>What microbes are responsible for biodegradation of the conditioners? Do any of these microbes pose human health risks? What are the breakdown chemical products from this decomposition? Where in the EIR/EIS are the Materials Safety Data Sheets (MSDS) on these products the BDCP proposes to use? Where is the analysis of risks of handling these materials in the TBM operations in the EIR/EIS? The BDCP EIR/EIS is deficient as it does not address any of these questions. The BDCP EIR/EIS should be revised to address these significant deficiencies and recirculated for public comment.</p>	<p>Any microbes capable of degrading the soil conditioners used during tunneling as part of construction of the water conveyance facilities would occur under existing/baseline conditions. They would not be introduced to the environment as a result of implementing the action alternatives.</p> <p>Biodegradation is the breakdown of an organic compound by microorganisms. Before degrading completely to water and carbon dioxide, substances may be degraded to intermediate compounds. Results from the RTM Testing Report do not indicate that the RTM would be hazardous. While additives used to facilitate tunneling will be nontoxic and biodegradable, it is possible that some quantity of RTM will be deemed unsuitable for reuse. In such instances, the material will be disposed of at a site approved for disposal of such material. In the case of RTM, such requirements are anticipated to apply to less than 1 percent of the total volume of excavated material. Additional risk assessment studies would need to be done if RTM were to be considered for use where people would be in contact with the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate or as leachate in surface or drinking water). Environmental commitments have been incorporated into project alternatives that describe the conditions for reuse of RTM to avoid and reduce potential environmental effects (see Appendix 3B, Environmental Commitments, Section 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material). Please see Master Response 12 (Reusable Tunnel Material) related to RTM.</p> <p>Soil conditioner products for tunneling are typically selected by the tunneling contractor. Therefore, it is not yet known what specific conditioners will be used, and Material Safety Data Sheets for the conditioner(s) were not reviewed. The project proponents will ensure that each construction contractor for any action alternative will develop and implement an HMMP before beginning construction. As part of the HMMP(s), Material Safety Data Sheets will be made available to the contractor's employees and other personnel at the work site(s).</p>
1601	918	<p>Document Section: Chapter 24 - Hazards, Reusable Tunnel Material Testing Report - Section 2.3.1</p> <p>Issue:</p> <p>Environmental testing was done only on soils mixed with polymers and was not handled appropriately for testing of compounds which volatilize.</p> <p>Comment:</p> <p>According to this report, samples were taken from 2009 through 2012. The report does not disclose how these samples were stored. The samples were all mixed together. Then they were wetted, mixed with polymers and then dried out and more time past. Then and only then was a sample sent to a single lab for testing. First, environmental testing should be done immediately after sampling with careful handling of the materials to preserve moisture content, prevent external contamination and manage off-gassing of volatile compounds. Sample handling, chain of custody, refrigeration of samples, storage container, processing time and other requirements need to be adhered to in any rigorous and appropriate sampling and testing protocol. The document does not disclose any of these protocols and given the length of time from sampling to testing, there probably were none. Each sample should have been processed separately so that the chemical conditions in the locations represented by each sample could be determined. Samples of each core should have been sent to more than one lab to confirm consistency of lab analysis and quality. Then and only then, would these results be useful and meet the test of best available science. As the work was done, we have a single, old, poorly stored, mixed, rewetted, polymer contaminated, biodegraded, dried out, oxidized sample that was only sent to one</p>	<p>While additives used to facilitate tunneling will be nontoxic and biodegradable, it is possible that some quantity of RTM will be deemed unsuitable for reuse. In such instances, the material will be disposed of at a site approved for disposal of such material. In the case of RTM, such requirements are anticipated to apply to less than 1 percent of the total volume of excavated material. Additional risk assessment studies would need to be done if RTM were to be considered for use where people would be in contact with the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate or as leachate in surface or drinking water). RTM and associated decant liquid would be chemically characterized prior to reuse or discharge. Environmental commitments have been incorporated into project alternatives that describe the conditions for reuse of RTM to avoid and reduce potential environmental effects (see Appendix 3B, Environmental Commitments, Section 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material). Please see Master Response 12 (Reusable Tunnel Material) related to RTM.</p>

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		<p>lab for one test. Unfortunately, even if all of the samples were now tested separately the samples are old and not representative of conditions. Most of the compounds tested are subject to change based on biodegradation, mineralization, oxidation, chemical breakdown, enzymatic breakdown, volatilization and chemical concentration gradient changes. The gasses that will be discharged and volatilized from the tunnel muck materials are not represented by the test results as they were processed, so this impact, if it was even evaluated in the BDCP EIR/EIS, would be significantly under-estimated. The BDCP has already identified that the tunnel boring machine (TBM) will need to utilize a "gassy tunnel protocol" for drilling the tunnels. If the soil cores had been properly handled and tested, the degree, variability and risks of soil-borne gasses could have been determined. This lost opportunity to characterize and quantify the gassy tunnel risks and the BDCP failure to analyze those results is borderline criminal negligence and the project should not be awarded any construction-related permits until sufficient and appropriate testing and analysis of these risks is conducted. The BDCP EIR/EIS analysis needs to be revised to evaluate these impacts, the limitations and deficiencies of the current test data disclosed and the impacts mitigated.</p>	
1601	919	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>The CVP/SWP water diversions are operated seasonally. There are typically one to several months of the year that no or very little diversion occurs. The two 40' tunnels that are 35 miles long represents a volume of over 10,000 acre-feet (AF). Diversions of 500 cubic feet per second (cfs) will take over a week to move through the tunnel. Water diverted from the Sacramento River has a high Biological Oxygen Demand (BOD), is largely photosynthetic and aerobic based microbial population ecology, and is nutrient loaded. Without sunlight and without oxygen, the volume of water in the tunnels will quickly go anaerobic and anoxic.</p> <p>Comment:</p> <p>Anaerobic and anoxic conditions in the tunnels during non-operational and low flow operational conditions will creates taste and odor problems that make water unsuitable for drinking water supply or requires very expensive water treatment. Separating the contaminated water would be difficult and instead of this water volume being water supply, it becomes a hazardous material disposal problem. Under these conditions arsenate compounds can be formed which is a wildlife and human health risk that was not identified, characterized, quantified or disclosed in the BDCP EIR/EIS.</p>	<p>The commenter is concerned with two water quality conditions in the tunnels, one in which no diversions are occurring, the other in which low-level pumping is occurring, resulting in a long transit time in the tunnels. The comment claims that adverse water quality conditions relative to dissolved oxygen would occur under both conditions. The extent of water quality degradation is dictated by a number of factors; consequently, the claims that unacceptable anoxic conditions will develop in the tunnels cannot be made with certainty.</p> <p>Low-level pumping would occur most of the time, given sufficient flows at Freeport (see Chapter 3 in the FEIR/EIS for information on operation criteria at the North Delta diversion). Water will enter the tunnels highly oxygenated and flowing, and transferred water would mix with aerated water at each of conveyance intakes, at the intermediate forebay, and upon entering the Clifton Court Forebay. In addition, water exported south of the Clifton Court Forebay would be pumped and transported through pipelines and open channels (up to several hundred miles depending on the SWP service area), providing conditions that are conducive to increasing dissolved oxygen levels.</p> <p>For the condition in which pumping is at low levels, it is likely there would be some ongoing decay and consumption of oxygen due to biological demand during these longer transit times. The degree to which this occurs and will have an adverse effect when diversion operations increase depends, in part, on how much settling of organic matter is achieved prior to increased tunnel diversions; what the biological oxygen demand (BOD) is of water in the tunnels; and other factors related to the water itself, such as temperature and abundance and composition of the bacterial community. Anaerobic bacteria communities specialized to degrade BOD in an anoxic environment grow slowly and will be flushed and scoured (but perhaps not completely) from the conveyances during high flow so that the communities are minimized or do not result in adverse water quality impacts during subsequent low- and no-flow periods.</p> <p>In summary, the resulting water quality in the tunnels may see some oxygen depletion due to BOD in the water; however, it is unlikely that the BOD will be sufficient to result in anoxic conditions that result in the unacceptable water quality conditions claimed in the comment. Moreover, dilution of tunnel water at the Clifton Court Forebay, exposure to air during open channel export, reentry into downstream, forebays, and conventional drinking water treatment by downstream agencies will significantly attenuate any water quality concerns.</p> <p>Source: Hintelmann, H., Keppel-Jones, K., Evans, R.D., Constants of Mercury Methylation and Demethylation Rates in Sediments and Comparison of Tracer and Ambient Mercury Availability. 2000. Environmental</p>

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			<p>Toxicology and Chemistry 19:9 (2204-2211)</p> <p>The Environmental Setting/Affected Environment for water quality has been updated, which can be found in Chapter 8, Section 8.1.</p>
1601	920	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>The intermediate forebay water surface area increases fog in its vicinity.</p> <p>Comment:</p> <p>This potentially affects local traffic on Lambert Rd and traffic on Highways 160 and I-5. This increase in the frequency, severity and duration of fog increases traffic hazards and reduces public safety.</p>	See response 1601-877.
1601	921	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>BDCP proposes to utilize a "gassy tunnel protocol" for the boring machines. This is because of methane and natural gas that is naturally occurring in the areas where the tunnel boring is proposed. The protocols are to reduce the risks of explosions from these gasses.</p> <p>Comment:</p> <p>The BDCP acknowledges that there is a risk of explosion during the tunnel boring process by adopting the gassy tunnel drilling protocol. The BDCP fails to disclose the level of risk of explosion that remains after the protocols have theoretically reduced the risk of explosion during construction. When the tunnel boring machines hit an active or inactive gas wells there is a risk of an explosions that could travel through a gas transmission lines, much the same as recently occurred with PG&amp;E gas transmission lines in San Bruno. The EIR/EIS also fails to disclose what level of risk there is from explosion from gas accumulation during operation and non- operation periods of the tunnels. There is a human health risk to the workers and residents from a potential explosion and an explosion could cause levees to fail either from direct impact or indirectly through vibration and liquefaction. These risks were not identified, characterized or disclosed in the EIR/EIS.</p>	<p>The proposed project does not propose to utilize gassy tunnel protocol; rather, the water conveyance tunnels may receive a Cal-OSHA classification of "gassy or extrahazardous," and if this were the case, specialized tunneling equipment would be required in accordance with the tunnel safety orders (Title 8, Division 1, Chapter 4, Subchapter 20, Article 8, "Tunnel Classifications"). Whether there is or isn't a real risk of explosion in the construction footprint of the water conveyance facility is not yet known. Geotechnical studies will be done prior to construction to assess the potential for encountering natural gas. Studies will be done prior to construction to identify the minimum allowable distance between existing gas wells and tunnel excavation. Abandoned wells would be tested to confirm that they have been abandoned according to California Division of Oil, Gas, and Geothermal Resources (DOGGR) well abandonment requirements. Those wells not abandoned according to these requirements will be improved. In addition, to avoid the potential conflicts with shaft construction and disposal areas, the utility and infrastructure relocation will be coordinated with local agencies and owners.</p> <p>The construction contractor would be required to prepare an emergency plan prior to construction of the tunnels (Title 8, Division 1, Chapter 4, Subchapter 20, Article 9, "Emergency Plan and Precautions"). This plan would outline the duties and responsibilities of all employees in the event of a fire, explosion, or other emergency. It would include maps, evacuation plans, rescue procedures, communication protocol, and check-in/check-out procedures. Copies of the plan would be given to the local fire department or designated off-site rescue teams and Cal/OSHA.</p>
1601	922	<p>Document Section: Chapter 24 - Hazards</p> <p>Issue:</p> <p>Tunnel boring machines may encounter gas well casings that were not documented.</p> <p>Comment:</p> <p>Many gas wells have been drilled and abandoned in the Delta over the last 100 years or so. Some gas well records have been lost or are incomplete (omissions) and some records include incorrect identification, status and/or location (errors). When the tunnel boring machines hit these active or inactive gas wells, there are hazards for rapid gas accumulation in the tunnel, explosions, disruption to gas production and transmission lines, and damage</p>	<p>Studies will be done prior to construction to identify the minimum allowable distance between existing gas wells and tunnel excavation. Abandoned wells would be tested to confirm that they have been abandoned according to DOGGR well abandonment requirements. Those wells not abandoned according to these requirements will be improved. In addition, to avoid the potential conflicts with shaft construction and disposal areas, the utility and infrastructure relocation will be coordinated with local agencies and owners.</p>

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		to the tunnel boring machine that can require rescue operations and delays to construction schedules as disclosed in the BDCP EIR/EIS. Recently, a tunnel boring machine in Seattle was stopped and had to be rescued after hitting an undocumented pipe. The risk of the BDCP tunneling machine encountering a gas well is not slight and the impacts of it not inconsequential. The BDCP EIR/EIS document fails to identify, characterize, and disclose these hazards. In the event of an explosion or a boring machine rescue operation, there are additional risks to construction personnel, adjacent residents and workers, and to levee integrity.	
1601	923	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>An increase in mosquito breeding habitat (California Bay-Delta Authority (CALFED) Sig criteria)</p> <p>Comment:</p> <p>BDCP habitat restorations including intertidal, subtidal, wetlands, vernal pool and riparian, new forebays, construction site dewatering and tunnel muck disposal sites (from drainage, wet soil and puddles) create mosquito breeding habitat. Since the project proposes to create a significant amount of this of habitat (approximately 100,000 acres) plus thousands of acres of forebay, dewatering and tunnel muck disposal sites which combined represent over 15% of the surface area of the statutory Delta, this will be a significant impact.</p>	<p>Certain features of BDCP CM1 (e.g., cofferdams at the intake sites, sedimentation basins, solids lagoons, and the intermediate forebay inundation area) have the potential to provide mosquito breeding habitat.</p> <p>The depth, design, and operation of the sedimentation basins and solids lagoons would prevent the development of suitable mosquito habitat primarily due to their depth and because the water contained in these structures would be constantly circulated and the flow rates would be high enough to prevent water from stagnating. Additionally, DWR will consult with the appropriate mosquito vector control district(s) prior to construction of the intakes and before the sedimentation basins, solids lagoons and the intermediate forebay inundation area become operational to inform mosquito management and control practices in order to limit public health risks from mosquito-borne diseases. Further, once the sedimentation basins, solids lagoons, and intermediate forebay inundation area become operational, project proponents will again consult with the mosquito vector control district(s) to determine if mosquitoes are present in these conveyance components. If mosquitos are present, mosquito control techniques will be implemented.</p> <p>Habitat restoration activities under all action alternatives could increase standing water in the Delta throughout the year, thereby potentially resulting in an increase in vector breeding locations and in vector-borne diseases in the study area. This potential impact is discussed under Impact PH-1 and Impact PH-5.</p>
1601	924	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>A decrease in the distance between human and mosquito populations (California Bay-Delta Authority (CALFED) Sig criteria)</p> <p>Comment:</p> <p>Minority farm workers will have greatest exposure and risk from mosquito borne West Nile Virus compared to any population segment (greater time exposure outdoors in the immediate vicinity of increased West Nile Virus risk from the project and a population that has less economic resources to pay for insect repellent). Habitat restorations and project facilities and operations which generate mosquito populations are adjacent to Delta communities (e.g. Freeport, Hood, Clarksburg, Courtland, Locke, Walnut Grove, Isleton, Ryde, Rio Vista, Bethel Island, Brentwood, etc.) and are upwind of large urban areas (e.g. Sacramento, West Sacramento, Davis, Woodland, Elk Grove, Lodi, Galt, Stockton, Tracy, Antioch, Pittsburg, etc.). Cumulatively these populations which will have significantly increased exposure to and risk from mosquito populations could be greater than 1,000,000 people.</p>	<p>The environmental justice assessment in Chapter 28 this EIR/EIS is limited to effects that have been identified as adverse, even with mitigation. These effects were carried forward and screened for their potential to result in disproportionate adverse effects on environmental justice populations. For effects that were determined not adverse, such as Impact PH-1 and Impact PH-5, no additional evaluation is needed because those effects would not result in disproportionate effects on minority and low-income populations. This method of screening effects is consistent with CEQ guidance (Council on Environmental Quality 1997:25).</p>
1601	925	Document Section: Chapter 25 - Public Health	Note that in Chapter 25, Public Health, Section 25.3.2, Determination of Effects, similar criteria (i.e., related to increase risk of contracting a disease) are used (as noted below), and these potential impacts are

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		<p>Issue:</p> <p>Expose people to a significant risk of contracting a disease. (South Delta Improvements Program (SDIP) sig criteria)</p> <p>Comment:</p> <p>The EIR/EIS fails to utilize this criteria and perform this analysis. SDIP, which included the same agencies as the BDCP determined that this significance criteria and analysis were required, why does the BDCP project not adhere to a consistent policy and process as the same agencies previously adopted policy and process on what is clearly a very similar project in terms of location and types or affects?</p>	<p>discussed under Impact PH-1, Impact PH-5, Impact PH-6.</p> <ul style="list-style-type: none"> <li>Substantial increase in the public’s risk of exposure to vector-borne diseases. For purposes of this analysis, “substantial increase” is evaluated qualitatively, depending on the location of the alternative, in accordance with Section 15064(b) of the State CEQA Guidelines (see Footnote 6, Section 25.3.1.1, Vectors)</li> <li>Substantial increase in recreationists’ exposure to pathogens. For purposes of this analysis, a “substantial increase in recreationists’ exposure” is based on the amount of tidal habitat restored and findings in Chapter 8, Water Quality (See also Section 25.3.1.2, Pathogens and Water Quality)</li> </ul>
1601	926	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. (South Delta Improvements Program (SDIP) sig criteria)</p> <p>Comment:</p> <p>Many gas wells have been drilled and abandoned in the Delta over the last 100 years or so. Some gas well records have been lost or are incomplete (omissions) and some records include incorrect identification, status and/or location (errors). When the tunnel boring machines (TBMs) hit these active or inactive gas wells, there are hazards for rapid gas accumulation in the tunnel, explosions and damage to the tunnel boring machine that can require TBM rescue operations. The risk of the BDCP tunneling machine encountering a gas well is not slight and the impacts of it not inconsequential. In the event of a tunnel explosion, a boring machine rescue operation or damage from TBM vibration, there are significant risks to levee integrity and therefore increased risk of flooding to all the tracts and islands the tunnels traverse. Communities affected by the increased flood risk from the tunnel boring machines include Hood, Courtland, and Clarksburg. In the event that one island is flooded, it significantly increases the risk of flooding of adjacent islands from seeps and boils that pass from island to island (as was documented in the Victoria Island flood onto McDonald Island) and from redirected flood flows (as has been documented from McCormack-Williamson Tract onto Staten Island). During tunnel operations in the event of a catastrophic failure (such as from the Delta seismic risk the BDCP identifies in its Purpose and Need Statement), the tunnel access ports will let the momentum of water in the tunnel be dissipated by releasing water through them. This could result in two 40-foot diameter surges of water being discharged at the tunnel access port without warning. The discharged volume could total of several thousand acre feet of water depending on the location, operations and nature of the tunnel failure. Any personnel, residents or workers in the vicinity of the tunnel access port during this event would be in extreme risk of injury or death and damage and/or loss of property and structures would occur. This volume of water could also risk levee integrity on the affected island or tract which is another source of flood risk from the project. Construction of levees for aquatic habitat restorations also increases flood risks to public health. According to the USACE’s definition, an embankment that permanently holds back water is not a levee, it is a dam. In order to minimize the risk of failure of the habitat restoration levees, the levees should be constructed to meet the U.S.</p>	<p>Engineering reconnaissance has identified active and inactive oil and gas wells within construction footprints of the action alternatives, and these are identified in Chapter 24, Hazards and Hazardous Materials. Further, as stated in Chapter 24, , gas fields in the United States are typically located at depths greater than 3,000 feet (U.S. Energy Information Administration 2012), whereas the tunnels would be approximately 150 to 160 feet below ground surface. It is therefore unlikely that a gas field would be encountered. However, geotechnical investigations will be performed within the construction footprint, in part to evaluate how gas fields could affect the constructability of the tunnels.</p> <p>Chapter 9, Geology and Seismicity, discusses the potential for impacts related to tunnel collapse due to seismically induced ground shaking and indicates that during construction, all active construction sites would be designed and managed to meet the safety and collapse-prevention requirements of the relevant state codes and standards, including the California Code of Regulations, Title 8. Title 8, Subchapter 20, Tunnel Safety Orders, requires that an emergency plan be prepared. This plan must include “such items as maps, ventilation controls, fire-fighting equipment, rescue procedures, evacuation plans, and communications.” Additionally, in conformance with Title 8, copies of the plan would be given to the local fire department or designated off-site rescue teams and Cal/OSHA.</p> <p>State and federal design codes and standards will regulate construction of the many structures that are part of the .proposed project. These codes and standards establish minimum design and construction requirements, including design and construction of concrete and steel structures, levees, tunnels, pipelines, canals, buildings, bridges, and pumping stations. They also establish construction requirements for temporary activities such as shoring of excavations and site grading. The codes and standards are intended to ensure structural integrity and protect public health and safety. The codes and standards are developed by federal and state agencies with the participation of engineering boards or associations and professional engineering societies. They are based on the performance history of structures under real conditions, including surface and subsurface geologic conditions and variable regional conditions such as flooding and seismic events. These are described in Chapter 9.</p> <p>As described in Chapter 24, Hazards and Hazardous Materials, the construction contractor would be required to prepare an emergency plan prior to construction of the tunnels (Title 8, Division 1, Chapter 4, Subchapter 20, Article 9, “Emergency Plan and Precautions”). This plan would outline the duties and responsibilities of all employees in the event of a fire, explosion, or other emergency. The plan would include maps, evacuation plans, rescue procedures, communication protocol, and check-in/check-out procedures. Copies of the plan would be given to the local fire department or designated off-site rescue teams and Cal/OSHA.</p>

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		Army Corp of Engineers' (USACE) criteria for dams. The BDCP EIR/EIS document fails to identify, characterize, and disclose these impacts to public health from increased flood risks.	
1601	927	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Adversely affect drinking water quality (South Delta Improvements Program (SDIP) Sig criteria)</p> <p>Comment:</p> <p>The CVP/SWP water diversions are operated seasonally. There are typically one to several months of the year that no or very little diversion occurs. The two 40' tunnels that are 35 miles long represents a volume of over 10,000 acre-feet (AF). Diversions of 500 cubic feet per second (cfs) will take over a week to move through the tunnel. Water diverted from the Sacramento River has a high Biological Oxygen Demand (BOD), is largely photosynthetic and aerobic based microbial population ecology, and is nutrient loaded. Without sunlight and without oxygen, the volume of water in the tunnels will quickly go anaerobic and anoxic. This creates taste and odor problems that make water unsuitable for drinking water supply or requires very expensive water treatment. Separating the contaminated water would be difficult and instead of this water volume being water supply, it becomes a hazardous material disposal problem.</p>	Please see response to Comment 1601-919.
1601	928	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>If the project necessitates public service expenditures substantially in excess of revenues. (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>The BDCP will reduce tax based revenues and in some cases increase the level of services needed. As an example, the local Fire and Law Enforcement Departments will have to respond to incidences related to the proposed facilities, e.g. fires, drowning, injuries, break-ins, vandalism, boating and swimming accidents at the intakes, etc. The BDCP increases burden on local services while reducing local tax revenue to support these services.</p>	Please see response to letter 1601-882.
1601	929	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Whether the health effects, which may be measured in risks and rates, are above the generally accepted norms. Adverse health effects may include bodily impairment, infirmity, illness, or death. (California Bay-Delta Authority (CALFED) and South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Reduced water turnover and assimilative capacity in the Delta from BDCP operations will</p>	Potential project contributions to increased Microcystis blooms and resulting effects on public health are considered under Impacts PH-8 and PH-9. Potential project contributions to increased Microcystis blooms and resulting effects on water quality are considered in Chapter 8, Water Quality. Please refer to Master Response 14.

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		result in additional nutrient loading and increased water temperatures which cause an increased frequency, magnitude, duration and geographic extent of algal blooms in the Delta. Algal blooms increases public health risks from contact recreation and drinking water sources.	
1601	930	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Whether health effects occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards. (California Bay-Delta Authority (CALFED) and South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Minority farm workers will have greatest exposure and risk from mosquito borne West Nile Virus compared to any population segment (greater time outdoors in the immediate vicinity and less economic resources to pay for protective clothing and insect repellent).</p>	The environmental justice assessment in this EIR/EIS is limited to effects that have been identified as adverse, even with mitigation. These effects were carried forward and screened for their potential to result in disproportionate adverse effects on environmental justice populations. For effects that were determined not adverse, such as Impact PH-1 and Impact PH-5, no additional evaluation is needed because those effects would not result in disproportionate effects on minority and low-income populations. This method of screening effects is consistent with CEQ guidance (Council on Environmental Quality 1997:25).
1601	931	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Are significantly adverse environmental or human health impacts likely to fall disproportionately on minority or low-income populations? (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Increased nutrient and contaminant loading from BDCP operations increases bio-accumulation of contaminants in fish such as mercury (Hg), arsenic (As), lead (Pb) and pesticides. Some minority populations consume fish from the Delta for subsistence and are at much higher exposure and risk than populations that are not dependent upon the Delta fishery as their primary source of sustenance.</p>	The environmental justice assessment in this EIR/EIS is limited to effects that have been identified as adverse, even with mitigation. These effects were then carried forward and screened for their potential to result in disproportionate adverse effects on environmental justice populations. For effects that were determined not adverse, such as Impact PH-3 (Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Construction, Operation or Maintenance of the Water Conveyance Facilities) and Impact PH-7 (Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Implementing CM2, CM4, CM5 and CM10 [or EC4 and EC10]), no additional evaluation is needed because those effects would not result in disproportionate effects on minority and low-income populations. This method of screening effects is consistent with CEQ guidance (Council on Environmental Quality 1997:25).
1601	932	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Reduces the quality of a water supply such that it is more difficult to treat to meet applicable federal or state drinking water standards for finished water or to maintain existing finished water quality. (Monterey Accord Significance Criteria)</p> <p>Comment:</p> <p>The BDCP EIR/EIS Water Quality chapter identifies that there is a degradation in water quality from the Proposed Project for: ammonia, boron, nitrates, pathogens, phosphorus, trace metals, and turbidity. The BDCP EIR/EIS Water Quality chapter identifies that there is a significant unavoidable impact to water quality from the Proposed Project for: bromide, chloride, electrical conductivity, mercury, organic carbon, pesticides, and selenium. These are all important drinking water supply quality parameters that will require additional water treatment from the Proposed Project impacts. The Significant Unavoidable impact calls on drinking water quality parameters that have significant human health issues is particularly</p>	<p>Of the constituents identified in the comment, only degradation that would adversely affect beneficial uses was identified in the Draft EIR/EIS for Alternatives 1–9 was for bromide, chloride, electrical conductivity (EC), mercury, organic carbon, pesticides, and selenium. Of these constituents, bromide, chloride, EC, and organic carbon degradation were identified as of concern to drinking water uses.</p> <p>Regarding impacts call of the proposed project versus the No-Action Alternative, proposed project impacts are not in addition to the no-action impacts. The proposed project replaces the no-action conditions. Thus, the comparison of the proposed project to the No-Action Alternative isolates the effect of the proposed project and illustrates the effects of taking “no action” versus implementing the proposed project.</p> <p>For the portion of the comment regarding the impact summary table in the Executive Summary and the CEQA and NEPA baselines, please refer to Master Response 1.</p>

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		<p>alarming and unacceptable for any project to be approved by the agencies to move forward to permitting or construction. The No Action impacts are often represented in the same box as the impact calls for the Proposed Project and indicate that they have the same impact calls, i.e. both No Action (NA) and Proposed Project (PP) have Less-Than-Significant (LTS) and Not Adverse (NA) impact calls. What this impact summary table misrepresents is that for the NEPA impact call, the Proposed Project is compared to the No Action so the Proposed Project impacts are in addition to (not equivalent to) the No Action impacts. If the impacts were the same in the Proposed Project as the No Action, even if there were impacts in the No Action, the Proposed Project impact would be No Impact and No Effect. Many people get their drinking water supply from the Delta and it ... [comment not completed]</p>	
1601	933	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Private lands which are publicly condemned for the BDCP facilities and habitat restorations will no longer pay fees to the local Reclamation Districts.</p> <p>Comment:</p> <p>Reclamation Districts are funded by assessments on their service area land owners. When the BDCP takes land away from the land owners it is also taking revenue from the Reclamation Districts. Although economic impacts are not considered in the environmental analysis, the impacts of the loss of funding on levee maintenance and other real physical impacts of the reduction in funding are within the scope of what the environmental document is supposed to evaluate under NEPA and CEQA. A reduction in funding of levee maintenance has real and significant impacts on public health and safety from increased flooding risks caused by BDCP land condemnation. This impact was not identified, characterized, quantified, disclosed or mitigated in the BDCP EIR/EIS and therefore the document is incomplete and deficient.</p>	See response to Letter 1601, Comment 928.
1601	934	<p>Document Section: Chapter 25 - Public Health, Reusable Tunnel Material Testing Report - Table 2.1</p> <p>Issue:</p> <p>The table indicates that 56% of all cores tested had particle sizes of 200 mesh or smaller.</p> <p>Comment:</p> <p>A 200-mesh filter is 74 microns. More than half of the material cleared this screen size so more than half of the particles are smaller than 74 microns. The physical material testing did not screen the materials any finer to determine what proportion of the material was 10 microns or smaller. Seeing as more than half the material tested was smaller than 74 microns, it stands to reason that a significant percentage of the material could be and is likely, 10 microns or smaller. PM10 is an important air quality standard that regulates particle sizes of 10 microns and smaller as they pose a significant human health and ecosystem risk. The BDCP EIR/EIS did not analyze what proportion of tunnel muck disposal materials that the plan has proposed to dispose of on the surface in landfills, levee construction, habitat restoration, flood response, etc. would potentially affect PM10 air quality standards and human health. DWR obviously had the materials available to do the</p>	<p>This study consisted of a limited number of samples and tests and does not constitute a complete evaluation of RTM. RTM and associated decant liquid will undergo chemical characterization by the contractor(s) prior to reuse or discharge, respectively.</p> <p>While additives used to facilitate tunneling will be nontoxic and biodegradable, it is possible that some quantity of RTM will be deemed unsuitable for reuse. In such instances, the material will be disposed of at an approved site. In the case of RTM, such requirements are anticipated to apply to less than 1 percent of the total volume of excavated material. Additional risk assessment studies would need to be done if RTM were to be considered for use where people would be in contact with the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate or as leachate in surface or drinking water). RTM and associated decant liquid would be chemically characterized prior to reuse or discharge. Environmental commitments have been incorporated into project alternatives that describe the conditions for reuse of RTM to avoid and reduce potential environmental effects (see Appendix 3B, Environmental Commitments, Section 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material). Please also see Master Response 12 (Reusable Tunnel Material) related to RTM.</p>

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		<p>testing, but the EIR/EIS failed to utilize the best available science and quantify that impact. The materials should be tested for particle size distribution to 10 and 2.5 micron sizes so these risks and impacts can be appropriately analyzed and disclosed. Once the BDCP EIR/EIS document has been revised to address this serious deficiency, the document should be recirculated for public comment.</p>	
1601	935	<p>Document Section: Chapter 25 - Public Health, Reusable Tunnel Material Testing Report - Page 2.4</p> <p>Issue:</p> <p>"...soil samples to be air dried for one month to simulate anticipated field construction procedures and allow for biodegradation of the conditioner products."</p> <p>Comment:</p> <p>What microbes are responsible for biodegradation of the conditioners? Do any of these microbes pose human health risks? What are the breakdown chemical products from this decomposition? Where in the EIR/EIS are the Materials Safety Data Sheets (MSDS) on these products the BDCP proposes to use? Where is the analysis of risks of handling these materials in the TBM operations in the EIR/EIS? The BDCP EIR/EIS is deficient as it does not address any of these questions. The BDCP EIR/EIS should be revised to address these significant deficiencies and recirculated for public comment.</p>	<p>Any microbes capable of degrading the soil conditioners used during tunneling as part of construction of the water conveyance facilities would occur under existing/baseline conditions. They would not be introduced to the environment as a result of implementing the action alternatives.</p> <p>Biodegradation is the breakdown of an organic compound by microorganisms. Before degrading completely to water and carbon dioxide, substances may be degraded to intermediate compounds. Results from the BDCP RTM Testing Report do not indicate that the reusable tunnel material would be hazardous. While additives used to facilitate tunneling will be nontoxic and biodegradable, it is possible that some quantity of RTM will be deemed unsuitable for reuse. In such instances, the material will be disposed of at an approved site. In the case of RTM, such requirements are anticipated to apply to less than 1 percent of the total volume of excavated material. Additional risk assessment studies would need to be done if RTM were to be considered for use where people would be in contact with the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate, or as leachate in surface or drinking water). Environmental commitments have been incorporated into project alternatives that describe the conditions for reuse of RTM to avoid and reduce potential environmental effects (see Appendix 3B, Environmental Commitments, Section 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material). Please also see Master Response 12 (Reusable Tunnel Material) related to RTM.</p> <p>Soil conditioner products for tunneling are typically selected by the tunneling contractor. Therefore, it is not yet known what specific conditioners will be used, and Material Safety Data Sheets for the conditioner(s) were not reviewed. The project proponents will ensure that each construction contractor for any action alternative will develop and implement an HMMP before beginning construction. As part of the HMMP(s), Material Safety Data Sheets will be made available to the contractor's employees and other personnel at the work site(s).</p>
1601	936	<p>Document Section: Chapter 25 - Public Health, Reusable Tunnel Material Testing Report - Section 2.3.1</p> <p>Issue:</p> <p>Environmental testing did not include all of the relevant compounds that should have been tested for.</p> <p>Comment:</p> <p>As an example, the tests had a category for "soluble metals". This is such a broad category as to be useless in a meaningful environmental analysis. The samples should have been tested for a broad panel that encompassed all of the drinking water quality standards so that the impacts of tunnel muck disposal that resulted in water or wind erosion deposition in water could be evaluated. Testing panels should have also included compounds which can be bio-accumulated in fish and other species so those impacts could have been evaluated and disclosed. The testing of the samples should be redone to include these other important constituents and the EIR/EIS revised to evaluate, quantify, disclose and mitigate for the impacts associated with the chemical constituent impacts of the tunnel muck materials</p>	<p>Refer to response for Letter 1601, Comment 934.</p>

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		proposed by the BDCP.	
1601	937	<p>Document Section: Chapter 25 - Public Health, Reusable Tunnel Material Testing Report - page 3-23</p> <p>Issue:</p> <p>"Exposure of people, wildlife and plants to conditioned soil has not been fully assessed under unrestricted-use conditions, creating an uncertainty for potential adverse effects."</p> <p>Comment:</p> <p>Even the BDCP's own report indicates that the analysis of the tunnel muck is incomplete and "not fully assessed". The BDCP EIR/EIS has not even identified the limitations of the current analysis and the remaining uncertainties. The EIR/EIS is incomplete and should be revised to address these deficiencies and recirculated for public comment.</p>	Refer to response for Letter 1601, Comment 934.
1601	938	<p>Document Section: Chapter 25 - Public Health, Reusable Tunnel Material Testing Report - page 3-23</p> <p>Issue:</p> <p>"If RTM (reusable tunnel material) is to be placed in the environment where people could contact the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate, or as leachate in surface or drinking water), then human health risk assessment(s) will need to be developed. Development of appropriate exposure scenarios for evaluation in the risk assessment will depend on the specific environmental context; for example, uses as surficial landscape fill for a residential area or subsurface use at a construction site. Determination of appropriate exposure scenarios, and the specific risk-assessment details, is a collaborative process with regulatory agency and/or permitting agency authorities (e.g., the California Regional Water Quality Control Board (RWQCB), the United States Army Corps of Engineers (USACE), or the California Department of Toxic Substances Control (DTSC)), depending on the re-use option. The scoping process would be used to determine if additional evaluation efforts are necessary to meet agency requirements for allowing re-use (e.g., benthic invertebrate bioassays if spoils are intended for wetland fill, or phytotoxicity testing if spoils are intended for upland re-use)."</p> <p>Comment:</p> <p>This statement in the report is correct, the project should be re-scoped to determine exactly how the tunnel muck would be disposed and all of the analyses conducted at a project-level of detail prior to permitting the project. The BDCP EIR/EIS includes none of these analyses and therefore should not be awarded any construction-related permits based on the currently deficient and incomplete document. The document should be revised to include this information and recirculated for public comment.</p>	Refer to response for Letter 1601, Comment 934.
1601	939	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>The tunnel spoil disposal area on Andrus Island is adjacent to Wilson Farms pear and cherry packing houses and orchards. Dust from the tunnel spoils will cause quality problems with</p>	<p>Please note that the preferred alternative is now Alternative 4A, which does not include a RTM storage site on Andrus Island.</p> <p>While additives used to facilitate tunneling will be nontoxic and biodegradable, it is possible that some quantity of RTM will be deemed unsuitable for reuse. In such instances, the material will be disposed of at an approved site. In the case of RTM, such requirements are anticipated to apply to less than 1 percent of</p>

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		<p>the fruit and become a human health issue from dust particulate exposure at those facilities.</p> <p>Comment:</p> <p>Contaminants from upstream parent materials (e.g. mercury (Hg), selenium (Se), arsenic (As)) are endemic in the geomorphic formation of the Delta. The BDCP project and environmental impact disclosures should assume contaminant levels which are considered hazardous and disclose those potential impacts unless they can (using best available science) prove the absence of contaminants at those levels. BDCP has not provided any compelling evidence that it will not encounter contaminants in its tunnel boring or other excavation and earth moving-related actions. It is almost a certainty that some tunnel muck will have contaminant levels that will restrict its reuse and require special handling. The only question is, what amount of the tunnel muck will be contaminated at those levels? Contaminated tunnel muck will have to be treated as a Class 1 material which would require shipping to the Kettleman City dump (California's only Class 1 material dump). Any material shipped to Kettleman City would shorten the useful lifespan of the dump and be a significant impact that needs to be avoided, minimized and mitigated. The BDCP has not tested or disclosed contaminant testing of geotechnical borings done in the Delta, so the BDCP has not proven that toxic and hazardous material that restricts its reuse and requires special handling will not be found in the tunnel muck. In order for the BDCP to meet the test of best available science, the BDCP needs to conduct geotechnical borings all along the tunnel route and test the cores for contaminants. The tunnel borings need to be of sufficient density and consistency in contaminant levels to achieve a NI 43-101 compliant level of confidence that the contaminants were not present at levels that pose human health risks or could require disposal restrictions. Then and only then, can the project assume that the tunnel muck can be safely disposed on the islands as they have proposed.</p>	<p>the total volume of excavated material. Additional risk assessment studies would need to be done if RTM were to be considered for use where people would be in contact with the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate, or as leachate in surface or drinking water). RTM and associated decant liquid would be chemically characterized prior to reuse or discharge. Environmental commitments have been incorporated into project alternatives that describe the conditions for reuse of RTM to avoid and reduce potential environmental effects (see Appendix 3B, Environmental Commitments, Section 3B.2.18 Disposal and Reuse of Spoils, RTM and Dredge Material). Please see Master Response 12 (Reusable Tunnel Material) related to RTM.</p>
1601	940	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>Effects on Emergency response</p> <p>Comment:</p> <p>BDCP construction-related traffic will significantly increase heavy truck traffic and construction staff commuter traffic on Delta roads. In the Delta, alternative routes may not be feasible, so local traffic normal service loads could be significantly affected. Heavy truck loads may exceed service capabilities of local bridges, including Freeport, Courtland, Ryer Island, Steamboat, Walnut Grove, Georgiana Slough, Isleton, Rio Vista, Highway 12, Lambert Road, and Hood-Franklin; and may structurally damage them. Bridge approaches can be narrow, cross on-coming traffic and some bridges are too narrow to allow two-way traffic while a truck crosses. Truck drivers inexperienced in crossing these bridges often run into the bridge and cause structural damage. To avoid this impact trucks loads should be strictly managed to not exceed bridge capacities. Bridges that cannot be crossed with two-way traffic should be widened by the project as a mitigation of this impact.</p>	<p>Chapter 19, Transportation, Impact TRANS-3, found that construction traffic could result in an adverse effect to public safety on local roadways and emergency routes. MM TRANS-1c is available to address potential safety conflicts through improvements in local roadway conditions that would reduce congestion and enhance capacity. The measure would provide funding for the project's fair share of mitigation and may include direct improvements to bridges or increased signage to improve visibility. Ultimately, the EIR/EIS found that since the project proponents are not solely responsible for implementation of MM Trans-1c, effects would be adverse.</p>
1601	941	<p>Document Section: Chapter 25 - Public Health</p>	<p>See response 1601-877.</p>

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		<p>Issue:</p> <p>The intermediate forebay water surface area increases fog in its vicinity.</p> <p>Comment:</p> <p>The BDCP caused increase in the severity, frequency and duration of fog effects on traffic on Lambert Rd and Highways 160 and I-5 increases traffic hazards and reduces public safety and slows emergency response.</p>	
1601	942	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-5: Effects on bromide concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The "Significant Unavoidable" and "Adverse" increase in bromide after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Bromide is an important water quality constituent for drinking water and represents a well documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	Please see Response to Comment Letter 1601, Comment 244.
1601	943	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The "Significant Unavoidable" and "Adverse" increase in chloride after mitigation as compared to the "Less-Than-Significant" impact of the No Action Alternative is an unacceptable degradation of the beneficial uses of water in the Delta. Chloride is an important water quality constituent for drinking water and represents a well documented and severe health risk to humans and animals. A project that has this kind of "Significant Unavoidable" and "Adverse" impact should not be allowed to be implemented, especially when the impact is not precipitated in the No Action condition.</p>	Please see Response to Comment Letter 1601, Comment 245.
1601	944	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-14: Effects on mercury concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action is incorrect. CM2-22 do not exist in the No</p>	Because CM2–CM22 are not components of the No-Action Alternative, no water quality impact calls are provided for these project components in the assessment of the No-Action Alternative. Please see Chapter 8 of the FEIR/EIS for updated analyses of water quality impacts and associated mitigation measures and Chapter 25 for impacts and mitigation measures related to public health. For more information regarding environmental commitments, please see Appendix 3B.

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		Action, therefore there would be No Impact/No Effect. A Proposed Project that has this severity of an impact on water quality, especially compared to the No Impact/No Effect of the No Action, should not be implemented.	
1601	945	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-15: Effects on nitrate concentrations resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The No Action impact call is incorrect. There is no change in the No Action for operations that affect nitrate concentrations, so the correct impact call would be "No Impact" and "No Effect". The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The impact call of less than significant is incorrect as any increase in nitrate concentrations in water supplies is a degradation to beneficial uses of drinking water and is therefore a significant impact to human health. The impact call for the Proposed Project should be changed to significant and adverse.</p>	Because CM2–CM22 are not components of the No-Action Alternative, no water quality impact conclusions are provided for these project components in the assessment of the No-Action Alternative. Regarding impact conclusions and nitrate degradation, please see Response to Comment Letter 1601, Comment 406.
1601	946	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-16: Effects on nitrate concentrations resulting from implementation of CM2-CM22</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the No Action is incorrect. CM2-22 do not exist in the No Action, therefore there would be No Impact/No Effect. The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. Since nitrate concentrations in drinking water supply pose significant human health risks, any degradation of nitrate water quality should be considered significant and significant impacts must be mitigated.</p>	See response 1601-946.
1601	947	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-17: Effects on organic carbon concentrations resulting from facilities operations and maintenance (CM1)</p>	The issue portion of this comment mentions organic carbon, but the comment mentions both nitrate and organic carbon. Response to this comment regarding nitrate and the impact calls is provided in Response to Comment Letter 1601, Comment 406. Degradation of water quality with respect to organic carbon due to implementation of CM1 such that drinking water uses would be adversely affected is not expected to occur, as described in Impact WQ-17, Effects on Dissolved Organic Carbon Concentrations Resulting from Facilities Operations and Maintenance. Please refer to Chapter 8 of the FEIR/EIS for updated analyses of water quality

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		<p>Comment:</p> <p>The No Action impact call is incorrect. There is no change in the No Action for operations that affect nitrate concentrations, so the correct impact call would be "No Impact" and "No Effect". The Not Adverse and Less-Than-Significant impact calls are in conflict. Less-Than-Significant is an impact call for an adverse impact of small magnitude or significance. Not Adverse is an impact call for an impact that includes conditions that are both positive and negative, but on the balance are not negative. Therefore, the NEPA Not Adverse impact call is incompatible with the CEQA Less-Than-Significant impact call. If the CEQA call of Less-Than-Significant is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. Since dissolved organic carbon concentrations is an important parameter to drinking water supply suitability, any degradation of organic carbon water quality should be considered significant and significant impacts must be mitigated.</p>	<p>impacts.</p>
1601	948	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-19: Effects on pathogens resulting from facilities operations and maintenance (CM1)</p> <p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	<p>Please refer to Chapter 8 of the FEIR/EIS for updated analyses of water quality impacts. Regarding effects on pathogens from facilities operations and maintenance, please see Response to Comment Letter 1601, Comment 410.</p>
1601	949	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>WQ-20: Effects on pathogens resulting from implementation of CM2-CM22</p>	<p>Please refer to Chapter 8 of the FEIR/EIS for updated analyses of water quality impacts, including Microcystis. Regarding effects on pathogens, please see Response to Comment Letter 1601, Comment 411. Please refer to Master Response 14.</p>

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		<p>Comment:</p> <p>The BDCP EIR/EIS impact calls on the Proposed Project are wrong. The Proposed Project operations reduces the rate of turnover of water in the Delta and reduces assimilative capacity (a conclusion from the Water Quality Chapter). Reduced rate of refreshment of water in the Delta from the Proposed Project operations is further evidenced by the results of the DSM2 Particle Tracking Model. Increased nutrient loads (e.g. phosphates) and water temperatures that occur from the reduced refreshing of water in the Delta from the Proposed Project will result in an increase in the frequency, magnitude, duration and geographic extent of algal blooms. Excess carbon and nitrogen, which the previous impact discussions have disclosed the Proposed Project increases, also contribute to algal blooms (<a href="http://en.wikipedia.org/wiki/Algal_bloom">http://en.wikipedia.org/wiki/Algal_bloom</a>). The increase in the magnitude, duration, frequency and geographic extent of harmful algal blooms (HAB) will be significantly increased under the Proposed Project operations due to reduced refreshing of water in the Delta and the resulting increase in nutrient loading. The HAB creates toxins that are poisonous to humans through water supply and contact recreations. HAB is also harmful to fish and aquatic bird species. The BDCP aquatic habitat restorations will also cause in increase nutrient concentrations and water temperatures and which result in an increase in the rate and severity of algal blooms and therefore also significantly adversely impact dissolved oxygen (DO). The impacts on algal blooms from the Proposed Project operations and aquatic habitat restorations act in combination together, so the impacts will be worse than the additive impacts of each. This is a significant and adverse impact and the impact call should be changed to reflect this. Any impact call change is a material change to the document and therefore the draft document should be recirculated.</p>	
1601	950	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-1: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking of water conveyance features during construction</p> <p>Comment:</p> <p>The NEPA call on the No Action is incorrect, it should be "No Effect" seeing as the No Action does not include construction of conveyance features. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 7]. The risks of levee failure (a water conveyance) from BDCP Proposed Project tunnel boring machine vibration is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be a less than significant and adverse impact.</p>	<p>The commenter is referring to the impact conclusions in the summary table in the Executive Summary. "NA" was not applied correctly in the table. The change has been made in the Final EIR/EIS executive summary table. However, the text of Chapter 9 describes the likely effects on geology and seismicity due to the No Action Alternative.</p>
1601	951	<p>[ATT 7: Photo of partial levee failure as tunnel boring machine passed underneath.]</p>	<p>This comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in comment referencing the attachment or the Final EIR/EIS.</p>
1601	952	<p>Document Section: Chapter 25 - Public Health</p>	<p>The commenter is referring to the impact conclusions in the summary table in the Executive Summary. "NA" was not applied correctly in the table. The change has been made in the Final EIR/EIS executive summary table. However, the text of Chapter 9 describes the likely effects on geology and seismicity due to the No</p>

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		<p>Issue:</p> <p>GEO-2: Loss of property, personal injury, or death from settlement or collapse caused by dewatering during construction of water conveyance features</p> <p>Comment:</p> <p>The NEPA call on the No Action is incorrect, it should be "No Effect" seeing as the No Action does not include dewatering during construction of conveyance features. The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of collapse from dewatering during conveyance construction is real. The risks of settlement or collapse caused by BDCP Proposed Project construction site dewatering is significant and only with mitigation (safety precautions, surface elevation monitoring, dewatering impoundments, etc.) would they be less than significant and adverse.</p>	Action Alternative.
1601	953	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-3: Loss of property, personal injury, or death from ground settlement during construction of water conveyance features</p> <p>Comment:</p> <p>Finally, here is an example of an impact call that is made correctly relative to the No Action. The correct answer is that since the No Action does not include construction of conveyance features there is "No Effect". The Not Adverse and Less-Than-Significant impact calls of the Proposed Project are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 8]. The risks of levee failure (a water conveyance) from BDCP Proposed Project tunnel boring machines is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be less than significant and adverse.</p>	<p>As described in Chapter 9, Geology and Seismicity, conformance with identified codes and standards would reduce the potential risk for increased likelihood of loss of property or personal injury from ground settlement above the tunneling operation during construction.</p> <p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p>
1601	954	[ATT 8: Photo of partial levee failure as tunnel boring machine passed underneath.]	This comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in comment referencing the attachment or the Final EIR/EIS.
1601	955	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-4: Loss of property, personal injury, or death from slope failure during construction of water conveyance features</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 9]. The risks of slope failure of a levee (a</p>	<p>Because different baselines are used, the CEQA and NEPA conclusions may also be different. Please see Master Response 1. As described in the Executive Summary, in some instances, NEPA analyses and CEQA conclusions differ for a particular impact discussion because the NEPA and CEQA baselines or points of comparison differ.</p> <p>The Federal and State Lead Agencies have done their best to make the EIR/EIS for the proposed project as fair, objective, and complete as possible. The Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed project. These agencies readily acknowledge, however, that the document addresses a number of topics for which some scientific uncertainty exists. Such uncertainty can give rise to differing opinions as to what conclusions may be reached.</p>

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		water conveyance) from BDCP Proposed Project tunnel boring machines is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be less than significant and adverse.	
1601	956	[ATT 9: Photo of partial levee failure as tunnel boring machine passed underneath.]	This comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in comment referencing the attachment or the Final EIR/EIS.
1601	957	Document Section: Chapter 25 - Public Health  Issue:  GEO-5: Loss of property, personal injury, or death from structural failure resulting from construction-related ground motions during construction of water conveyance features  Comment:  The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. The risk of levee failure during conveyance construction is real, see "SFPUC Tunnel Boring Machine caused failure in the SF Bay Cargill Salt Pond levee" [ATT 10]. The risks of slope failure of a levee (a water conveyance) from BDCP Proposed Project tunnel boring machines is significant and with mitigation (safety precautions, temporary protection levees, etc.) could be less than significant and adverse.	See response 1601-955.
1601	958	[ATT 10: Photo of partial levee failure as tunnel boring machine passed underneath.]	This comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in comment referencing the attachment or the Final EIR/EIS.
1601	959	Document Section: Chapter 25 - Public Health  Issue:  GEO-6: Loss of property, personal injury, or death from structural failure resulting from rupture of a known earthquake fault during operation of water conveyance features  Comment:  The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.	See response 1601-955.
1601	960	Document Section: Chapter 25 - Public Health  Issue:  GEO-7: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking during operation of water conveyance features  Comment:	See response 1601-955.

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		The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.	
1601	961	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-8: Loss of property, personal injury, or death from structural failure resulting from seismic-related ground failure (including liquefaction) during operation of water conveyance features</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	See response 1601-955.
1601	962	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-9: Loss of property, personal injury, or death from landslides and other slope instability during operation of water conveyance features</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to an Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	Please see Master Response 3, Purpose and Need.
1601	963	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-10: Loss of property, personal injury, or death from seiche or tsunami during operation of water conveyance features</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to an Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	Please see response 1601-963.
1601	964	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-11: Ground failure caused by increased groundwater surface elevations from unlined</p>	Please see response 1601-655.

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		<p>canal seepage as a result of operating the water conveyance facilities</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	
1601	965	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-12: Loss of property, personal injury, or death resulting from structural failure caused by rupture of a known earthquake fault at Restoration Opportunity Areas</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see response 1601-655.
1601	966	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-13: Loss of property, personal injury, or death from structural failure resulting from strong seismic shaking at Restoration Opportunity Areas</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see response 1601-655.
1601	967	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-14: Loss of property, personal injury, or death from structural failure resulting from seismic-related ground failure (including liquefaction) beneath Restoration Opportunity Areas</p> <p>Comment:</p> <p>The Not Adverse and Less-Than-Significant impact calls are in conflict. If the CEQA call is correct, then the NEPA call cannot be Not Adverse, it must be Adverse. A Proposed Project that precipitates such a significant adverse impact when the No Action has no impact and no effect is a project that should not be implemented.</p>	Please see response 1601-655.

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1601	968	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-15: Loss of property, personal injury, or death from landslides and other slope instability at Restoration Opportunity Areas</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to an Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	Please see response 1601-963.
1601	969	<p>Document Section: Chapter 25 - Public Health</p> <p>Issue:</p> <p>GEO-16: Loss of property, personal injury, or death from seiche or tsunami at Restoration Opportunity Areas as a result of implementing the conservation actions</p> <p>Comment:</p> <p>The Proposed Project takes this impact from a Benefit in the No Action to an Adverse and less than significant impact in the Proposed Project. Why would anyone want to do a project that so obviously results in a worse condition for so many resources as compared to the No Action?</p>	Please see response 1601-963.
1601	970	<p>Document Section: Chapter 26 - Minerals</p> <p>Issue:</p> <p>Result in the loss of a known mineral resource of value to the region and the residents of the State (Oroville Sig Criteria)</p> <p>Comment:</p> <p>The presence of BDCP facilities (forebays, intakes, pipelines, tunnels, canals and habitat restorations) will create an obstruction for the access to extract and transport natural gas in the Delta. The BDCP will not grant new gas transmission line crossings across their right of way once the facilities are constructed. Offset drilling may be utilized to access pools of natural gas under the facilities, but at an additional cost that discourages development of these resources. In some cases, the gas deposits will not be accessible at all due to the presence of the BDCP facilities.</p>	Impact MIN-1 and MIN-2 discuss the potential for BDCP facilities to obstruct access to natural gas. Also, as discussed under Impact MIN-1 and MIN-2, directional drilling would allow access to all natural gas fields even if BDCP facilities prevent direct vertical drilling to the underlying natural gas field. Consequently, there are no expected cases where natural gas fields would not be accessible. Directional drilling to multiple natural gas sources from a single well site has become common in the industry.
1601	971	<p>Document Section: Chapter 26 - Minerals</p> <p>Issue:</p> <p>Result in substantial soil erosion or the loss of topsoil. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p>	The volume and anticipated character of the tunnel muck (also referred to Reusable Tunnel Material, or RTM) is described in RDEIR/SDEIS Appendix A, Chapter 3, Description of Alternatives, EIR/EIS, Chapter 24, Hazardous Materials, EIR/EIS, and Appendix 3C, Construction Assumptions for Water Conveyance Facilities, EIR/EIS. Under Alternative 4 and 4A (the proposed project), the revised estimates of RTM volume can be found in the recirculated documents in Table 3C-1 "Construction Assumptions for Water Conveyance Facilities" starting on page 3C-40 of Appendix 3C in Appendix A of the RDEIR/SDEIS, which details the revised estimates for RTM storage acreage, volume, and potential reuses. Mapbook figures M3-4 and M14-7 show

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		<p>BDCP disposal of tunnel muck will bury the topsoil such that it is equivalent to loss as a usable resource. This is a significant impact to hundreds of acres from BDCP tunnel muck disposal. This impact can be avoided and minimized by excavating and reserving the topsoil at the tunnel muck disposal sites, disposing of the muck (if it is not contaminated), dry out and provide for drainage of the tunnel muck and putting the original topsoil back on top of the tunnel muck.</p>	<p>potential RTM storage locations. Final locations for storage of RTM would be selected based on guidelines presented in Appendix 3B Environmental Commitments, section 3B.2.18 "Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material" starting on page 3B-50, also in Appendix A of the RDEIR/SDEIS.</p> <p>See Appendix 3B, Environmental Commitments, for discussion of how reusable tunnel material will be handled, tested and reused. Impacts on existing topsoil resources would be minimized through implementation of the environmental commitment noted above and through implementation of Mitigation Measures SOILS-2a and SOILS 2b, which would protect topsoil and soil quality, including organic matter content, to the maximum extent practicable. To the extent that the reuse of the materials for these purposes may lead to adverse environmental effects, such effects shall be addressed through site-specific environmental documents prepared under NEPA and CEQA.</p> <p>For additional information regarding Reusable Tunnel Material, please see Master Response 12.</p>
1601	972	<p>Document Section: Chapter 26 - Minerals</p> <p>Issue:</p> <p>Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse. (Monterey Agreement Sig Criteria)</p> <p>Comment:</p> <p>BDCP construction and operations vibrations could result in liquefaction of soils or levees. The weight of BDCP facilities can contribute to soil compaction and subsidence. BDCP construction dewatering can cause collapse of water bearing soil strata which causes subsidence.</p>	<p>As discussed in the 2013 Public Draft EIR/EIS Chapter 9, Geology and Seismicity, Impact GEO-5, pile driving and other heavy equipment operations would cause vibrations that could initiate liquefaction and associated ground movements in places where soil and groundwater conditions are present to allow such movements to occur. The movements could result in compaction, settlement, loss of bearing capacity, and lateral spreading of the levee material, thereby causing levee failure. Also described are the codes and standards that would be adhered to with respect to pile driving and the measures that would be implemented to minimize the potential for construction-induced liquefaction and other ground movements. For additional information regarding seismic issues, please see Master Response 16.</p> <p>The greatest potential for impacts to groundwater will be during the construction of the intake facilities, pump stations, forebays, and tunnel shafts. It is anticipated that construction of these facilities will require some type of groundwater dewatering immediately adjacent to the construction site while construction activities are underway. Localized dewatering along the alignment will be used only in the event of certain maintenance activities, or specialized construction conditions. While groundwater levels could be temporarily lowered in localized areas during the dewatering phases of construction, groundwater would return to pre-pumping levels over the course of several months following the dewatering phase.</p> <p>Geotechnical exploration work is planned in advance of dewatering well installation so that the groundwater regime at each project site can be better understood, which in turn will allow each dewatering system to be uniquely designed and operated in order to limit construction-related effects to the groundwater user adjacent to the construction sites. If a construction-related effect is identified to have occurred, the magnitude, significance, and anticipated duration of the effect will be determined and an appropriate mitigation measure will be utilized. For more information see Mitigation Measure GW-1 in Appendix A of the RDEIR/SDEIS, Chapter 7, Groundwater.</p>
1601	973	<p>Document Section: Chapter 26 - Minerals</p> <p>Issue:</p> <p>Increase the anticipated risk of gas line rupture during the construction phase, especially to gas lines crossing exterior levees. (California Bay-Delta Authority (CALFED) Sig Criteria)</p> <p>Comment:</p> <p>Barges used during construction and vibration from tunneling could cause gas transmission pipeline ruptures. Tunneling could intersect with gas wells and cause collapse of casings.</p>	<p>The issue of natural gas related to the water conveyance tunnels is addressed in Chapter 24, Hazards and Hazardous Materials, Natural Gas Accumulation in Water Conveyance Tunnels. That section includes a discussion of Cal/OSHA and Mine Safety and Health Administration (MSHA) requirements to address natural gas facilities.</p> <p>The intersection of natural gas transmission pipelines and associated procedures is addressed in Chapter 24, Hazards and Hazardous Materials, Infrastructure Containing Hazardous Materials (including natural gas pipelines) and shown in Figure 24-3, Oil and Gas Pipelines.</p>

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		BDCP pipelines in the north end of the project could physically intersect with gas transmission pipelines.	
1601	974	<p>Document Section: Chapter 26 - Minerals</p> <p>Issue:</p> <p>Tunnel boring machines may encounter gas well casings that were not correctly documented.</p> <p>Comment:</p> <p>Many gas wells have been drilled and abandoned in the Delta over the last 100 years or so. Some gas well records have been lost or are incomplete (omissions) and some records include incorrect identification, status and/or location (errors). When the tunnel boring machines (TBMs) hit these active or inactive gas wells, there are hazards for rapid gas accumulation in the tunnel, explosions, disruption to gas production and transmission lines, and damage to the tunnel boring machine that can require rescue operations and delays to construction schedules as disclosed in the BDCP EIR/EIS. Recently, a tunnel boring machine in Seattle was stopped and had to be rescued after hitting an undocumented pipe, so this is not an uncommon problem for TBMs. The risk of the BDCP tunneling machine encountering a gas well is not slight and the impacts of it not inconsequential. If the BDCP TBM does encounter an active or inactive gas well, it could disrupt local and regional natural gas supplies which would affect local and regional businesses and communities which rely upon these supplies. The BDCP EIR/EIS document fails to identify, characterize, and disclose these hazards.</p>	<p>As discussed above, the issue of natural gas related to the water conveyance tunnels is addressed in Chapter 24, Hazards and Hazardous Materials, Natural Gas Accumulation in Water Conveyance Tunnels. That section includes a discussion of Cal-OSHA and MSHA requirements to address the potential for the project to encounter tunnels classified as “gassy or extrahazardous” due to the presence of natural gas wells along the alignment. If so, specialized tunneling equipment would need to be approved by MSHA, as would natural gas detection equipment on the tunnel-boring machines, an automatic shutoff of the equipment if gas were detected, and fireproof construction equipment. As noted in that discussion, the contractor would also be required to follow gas monitoring and fire prevention requirements mandated by Cal/OSHA based on the tunnel gas classification in accordance with the California Code of Regulations per tunnel classifications.</p> <p>The potential number of natural gas wells and natural gas well production affected by BDCP facilities is addressed under Impacts MIN-1 and MIN-2, and no impact that would disrupt local and regional natural gas supplies is identified.</p>
1601	975	<p>Document Section: Chapter 28 - Environmental Justice</p> <p>Issue:</p> <p>Whether health effects occur in a minority population or low-income population affected by cumulative or multiple adverse exposures from environmental hazards. (California Bay-Delta Authority (CALFED) and South Delta Improvements Program (SDIP) Sig Criteria)</p> <p>Comment:</p> <p>Minority farm workers will have greatest exposure and risk from mosquito borne West Nile Virus compared to any population segment (greater time outdoors in the immediate vicinity and less economic resources to pay for insect repellent). Increased nutrient and contaminant loading from BDCP operations increases bio-accumulation of contaminants in fish in the Delta such as mercury (Hg), arsenic (As), lead (Pb) and pesticides. Some minority populations consume fish from the Delta for subsistence and are at much higher exposure and risk than populations that are not dependent upon the Delta fishery as their primary source of sustenance.</p>	<p>Impacts listed in Chapter 28, Environmental Justice, were identified by first identifying all adverse effects in other resource chapters and then reviewing them to determine if any of those environmental consequences may disproportionately affect an environmental justice population, per guidance from the EPA Toolkit for Assessing Potential Allegations of Environmental Injustice. Because Impacts PH-1 and 5, which discuss increases in vector-borne diseases as a result of construction and operation of the intakes, solids lagoons, and/or sediment basins associated with the water conveyance facilities or as a result of implementing conservation measures/environmental commitments, have less-than-significant conclusions, they were not carried into Chapter 28 for further discussion.</p> <p>Additional details on increases in methylmercury, bioaccumulation in fish, and subsistence fishing have been added to Chapter 28 in the RDEIR/SDEIS under each applicable alternative. As described in Section 28.5.1.4 of Chapter 28, an associated increase in human consumption of mercury caused by these alternatives would depend upon the selection of the fishing location (and associated local fish body burdens) and the relative proportion of different Delta fish consumed. Different fish species would suffer bioaccumulation at different rates associated with the specific species; therefore, the specific spectrum of fish consumed by a population would determine the effect of increased mercury body burdens in individual fish species. These confounding factors make demonstration of precise impacts on human populations infeasible. However, because minority populations are known to practice subsistence fishing and consume fish exceeding EPA reference doses, any increase in the fish body burden of mercury may contribute to an existing adverse effect. For effects that were determined not adverse, such as Impact PH-3, Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Construction, Operation or Maintenance of the Water Conveyance Facilities, and Impact PH-7, Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Implementing CM2, CM4, CM5, and CM10 (or EC4 and EC10), no additional evaluation is needed because those effects would not result in disproportionate effects on minority and</p>

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			<p>low-income populations. This method of screening effects is consistent with CEQ guidance (Council on Environmental Quality 1997:25). Because subsistence fishing is specifically associated with minority populations in the Delta, compared to the population at large, this effect would be disproportionate on those populations for Alternative 4A, the new preferred alternative. This effect would be adverse.</p>
1601	976	<p>Document Section: Chapter 28 - Environmental Justice</p> <p>Issue:</p> <p>Are significantly adverse environmental or human health impacts likely to fall disproportionately on minority or low-income populations? (Salton Sea Sig Criteria)</p> <p>Comment:</p> <p>Minority farm workers will have greatest exposure and risk from mosquito borne West Nile Virus compared to any population segment (greater time outdoors in the immediate vicinity and less economic resources to pay for insect repellent). Increased nutrient and contaminant loading from BDCP operations increases bio-accumulation of contaminants in fish in the Delta such as mercury (Hg), arsenic (As), lead (Pb) and pesticides. Some minority populations consume fish from the Delta for subsistence and are at much higher exposure and risk than populations that are not dependent upon the Delta fishery as their primary source of sustenance.</p>	<p>Impacts listed in Chapter 28, Environmental Justice, were identified by first identifying all adverse effects in other resource chapters and then reviewing them to determine if any of those environmental consequences may disproportionately affect an environmental justice population, per guidance from the EPA Toolkit for Assessing Potential Allegations of Environmental Injustice. Because Impacts PH-1 and 5, which discuss increases in vector-borne diseases as a result of construction and operation of the intakes, solids lagoons, and/or sediment basins associated with the water conveyance facilities or as a result of implementing conservation measures/environmental commitments, have less-than-significant conclusions, they were not carried into Chapter 28 for further discussion.</p> <p>Additional details on increases in methylmercury, bioaccumulation in fish, and subsistence fishing have been added to Chapter 28 in the RDEIR/SDEIS under each applicable alternative. As described in Section 28.5.1.4 of Chapter 28, an associated increase in human consumption of mercury caused by these alternatives would depend upon the selection of the fishing location (and associated local fish body burdens) and the relative proportion of different Delta fish consumed. Different fish species would suffer bioaccumulation at different rates associated with the specific species; therefore, the specific spectrum of fish consumed by a population would determine the effect of increased mercury body burdens in individual fish species. These confounding factors make demonstration of precise impacts on human populations infeasible. However, because minority populations are known to practice subsistence fishing and consume fish exceeding EPA reference doses, any increase in the fish body burden of mercury may contribute to an existing adverse effect. For effects that were determined not adverse, such as Impact PH-3, Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Construction, Operation or Maintenance of the Water Conveyance Facilities, and Impact PH-7, Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Implementing CM2, CM4, CM5, and CM10 (or EC4 and EC10), no additional evaluation is needed because those effects would not result in disproportionate effects on minority and low-income populations. This method of screening effects is consistent with CEQ guidance (Council on Environmental Quality 1997:25). Because subsistence fishing is specifically associated with minority populations in the Delta, compared to the population at large, this effect would be disproportionate on those populations for Alternative 4A, the new preferred alternative. This effect would be adverse.</p>
1601	977	<p>Document Section: Chapter 28 - Environmental Justice</p> <p>Issue:</p> <p>Effects on bioaccumulation of toxics from reduced assimilative capacity on subsistence fishermen</p> <p>Comment:</p> <p>Minority farm workers will have greatest exposure and risk from mosquito borne West Nile Virus compared to any population segment (greater time outdoors in the immediate vicinity and less economic resources to pay for insect repellent). Increased nutrient and contaminant loading from BDCP operations increases bio-accumulation of contaminants in fish in the Delta such as mercury (Hg), arsenic (As), lead (Pb) and pesticides. Some minority populations consume fish from the Delta for subsistence and are at much higher exposure and risk than populations that are not dependent upon the Delta fishery as their primary</p>	<p>Impacts listed in Chapter 28, Environmental Justice, were identified by first identifying all adverse effects in other resource chapters and then reviewing them to determine if any of those environmental consequences may disproportionately affect an environmental justice population, per guidance from the EPA Toolkit for Assessing Potential Allegations of Environmental Injustice. Because Impacts PH-1 and 5, which discuss increases in vector-borne diseases as a result of construction and operation of the intakes, solids lagoons, and/or sediment basins associated with the water conveyance facilities or as a result of implementing conservation measures/environmental commitments, have less-than-significant conclusions, they were not carried into Chapter 28 for further discussion.</p> <p>Additional details on increases in methylmercury, bioaccumulation in fish, and subsistence fishing have been added to Chapter 28 in the RDEIR/SDEIS under each applicable alternative. As described in Section 28.5.1.4 of Chapter 28, an associated increase in human consumption of mercury caused by these alternatives would depend upon the selection of the fishing location (and associated local fish body burdens) and the relative proportion of different Delta fish consumed. Different fish species would suffer bioaccumulation at different rates associated with the specific species; therefore, the specific spectrum of fish consumed by a population would determine the effect of increased mercury body burdens in individual fish species. These confounding</p>

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		source of sustenance.	factors make demonstration of precise impacts on human populations infeasible. However, because minority populations are known to practice subsistence fishing and consume fish exceeding EPA reference doses, any increase in the fish body burden of mercury may contribute to an existing adverse effect. For effects that were determined not adverse, such as Impact PH-3, Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Construction, Operation or Maintenance of the Water Conveyance Facilities, and Impact PH-7, Substantial Mobilization of or Increase in Constituents Known to Bioaccumulate as a Result of Implementing CM2, CM4, CM5, and CM10 (or EC4 and EC10), no additional evaluation is needed because those effects would not result in disproportionate effects on minority and low-income populations. This method of screening effects is consistent with CEQ guidance (Council on Environmental Quality 1997:25). Because subsistence fishing is specifically associated with minority populations in the Delta, compared to the population at large, this effect would be disproportionate on those populations for Alternative 4A, the new preferred alternative. This effect would be adverse.
1601	978	Document Section: Chapter 28 - Environmental Justice  Issue:  Effects on local communities occurs disproportionately on disadvantaged minorities  Comment:  Delta communities affected by the project are predominantly minority and economically disadvantaged communities, e.g. Hood, Courtland, Locke, Isleton.	Please refer to Section 28.2.2, Low-Income Populations, of Chapter 28, Environmental Justice, which describes low-income communities in the plan area, as well as Section 28.5.1, Methods for Analysis, which describes the methodology used for determining impacts in the chapter.
1601	979	Document Section: Chapter 28 - Environmental Justice  Issue:  The BDCP EIR/EIS directed the reader to a website to get more specific information on the proposed project and conservation actions.  Comment:  The EIR/EIS link did not even point to these items specifically. Websites change, are not a suitable substitute for providing the reader information. Economically disadvantaged people do not have web access. All relevant supporting descriptions should be included in the document.	The EIR/EIS includes all information regarding the proposed project. Chapter 3 in the RDEIR/SDEIS and the Final EIR/EIS includes a thorough description of the proposed project, including all alternatives. Chapter 28, Environmental Justice, includes analyses of all potential impacts to environmental justice communities, including low-income communities. In addition to the BDCP ( <a href="http://baydeltaconservationplan.com">http://baydeltaconservationplan.com</a> ), DWR, and Reclamation websites, the entire document is available for review at Lead Agency offices and libraries throughout the Delta. For more information regarding adequacy of public outreach activities please see Master Response 40 (Public Outreach Adequacy).
1601	980	Document Section: Chapter 28 - Environmental Justice  Issue:  The public draft EIR/EIS was never translated into other languages.  Comment:  By not making the public draft EIR/EIS available in any languages other than English, the BDCP has denied reasonable access and opportunity to participate in and contribute to the public process all individuals that do not read English or have any difficulties reading and comprehending English. The public draft EIR/EIS must be translated into Spanish and other important ethnic languages, especially since these communities and populations are so directly and profoundly affected by BDCP impacts in the conversion of farmland which	Due to the size of the document, it would be infeasible to translate the entire document into other languages, nor is it a NEPA requirement. Please review Section 28.3, Public Outreach, of Chapter 28, Environmental Justice, regarding the outreach that has been conducted directly to environmental justice communities, which more than satisfy Reclamation's NEPA Handbook requirements. Notification and announcements of scoping meetings were posted in ethnic newspapers and on ethnic radio stations; translators were provided at scoping meetings; the project website is available in Spanish, and there is a multilingual hotline for project information. In 2012, six public meetings were held throughout the state, including in the Delta, to update stakeholders and the public on elements of the administrative draft BDCP and EIR/EIS. In the summer of 2015, two public meetings were held in Walnut Grove and in Sacramento to discuss the RDEIR/SDEIS with the public. Public outreach documents are also available in six languages (in addition to English), on the website, located at: <a href="http://baydeltaconservationplan.com/2015PublicReview/2015PublicReviewInformationalMaterials/2015_Multi-Lingual.aspx">http://baydeltaconservationplan.com/2015PublicReview/2015PublicReviewInformationalMaterials/2015_Multi-Lingual.aspx</a> . For more information regarding adequacy of public outreach activities please see Master

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		results in losses of farm jobs and farm-related support jobs for people in these ethnic groups and communities.	Response 40.
1601	981	<p>Document Section: Chapter 28 - Environmental Justice</p> <p>Issue:</p> <p>An EIR/EIS is supposed to be written so it is accessible and understandable.</p> <p>Comment:</p> <p>NEPA and CEQA guidance says an environmental document needs to be targeted to approximately an 8th grade level of reading proficiency. Not only is the language used in the BDCP EIR/EIS too laden with acronyms, high level vocabulary and water industry specific terminology that is incompletely or poorly explained, but the poor organization and extreme size of the document makes it absolutely inaccessible to anyone with less than a college level reading and comprehension level. Do you know any 8th graders that would be able to comprehend this document or read 40,000 odd pages? The BDCP fails to meet these important NEPA and CEQA requirements to provide access to all citizens. The document must be rewritten to conform with these NEPA and CEQA requirements.</p>	<p>In order for the Lead Agencies to effectively communicate with the public, several different types of summary documents and presentations on the BDCP, Draft EIR/EIS, and related documents were made available on the BDCP website. For instance, lay-friendly highlight documents for both the BDCP and the EIR/EIS were published to provide summary information about the documents and to help readers get acquainted with the documents. The BDCP Highlights and the EIR/EIS Highlights were posted online at <a href="http://baydeltaconservationplan.com/AboutBDCP/InformationalMaterials.aspx">http://baydeltaconservationplan.com/AboutBDCP/InformationalMaterials.aspx</a>. Short one-page factsheets on the BDCP and EIR/EIS, as well as California Water Fix, were also provided online and by request. In addition, 17 narrated informational webinar episodes were posted to the website for both the BDCP and EIR/EIS. These webinars were developed to provide short, easy to understand summaries of key elements of the BDCP and EIR/EIS. Background documents, additional factsheets, and FAQs continue to be available on-line. For more information, please see Master Response 38 regarding the length and complexity of the documents.</p>
1601	982	<p>Document Section: Chapter 29 - Climate Change</p> <p>Issue:</p> <p>Do covered activities address all of the current CVP/SWP system (upstream tributaries, existing canals, on-going effects of water deliveries, etc)?</p> <p>Comment:</p> <p>The document does not discuss climate change impacts and contributions on-going CVP/SWP operations and maintenance from leaks, salt accumulation in service areas, erosion, loss of habitat, degradation of beneficial uses, disposal of contaminants, greenhouse gas contributions, reservoir greenhouse gas emissions, etc. Since this document does not address climate change impacts what environmental coverage does the CVP/SWP have for those activities?</p>	<p>The Delta Science Panel requested additional explanations of how the SWP and CVP facilities would be effected by climate change. Appendix 3E in the EIR/EIS, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies, indicates that existing SWP/CVP water supply facilities and levees would be at increasing risk of reduced water supply availability and levee failures. The EIR/EIS does assume that levee failures would generally be repaired and possibly modified to withstand sea level rise and that SWP/CVP existing facilities would be modified to withstand sea level rise in the No-Action Alternative and all other alternatives. The new facilities would be designed to withstand a 200-year flood event, in accordance with federal and state requirements, as described in Chapter 3, Description of Alternatives.</p> <p>Please refer to RDEIR/SDEIS, Appendix A, Revisions to the Draft EIR/EIS, Chapter 5, Water Supply; Master Response 31 (Compliance with Delta Reform Act); and Master Response 19 (Climate Change and GHG) for additional information regarding climate change impacts on CVP/SWP operations.</p>
1601	983	<p>Document Section: Chapter 29 - Climate Change</p> <p>Issue:</p> <p>The BDCP climate change assumptions fail to take into account the possibility that the climate is reverting to the geologic historical norm.</p> <p>Comment:</p> <p>The geologic and dendrochronology record show that the last 150 years of California hydrology have been anomalously wet. All of California's population distribution and industry, current water use, cultural norms and expectations with regards to water use and water supply infrastructure are based on observations and experience that are limited to the last 150 years that we know are not representative of the longer term normal precipitation patterns in California. The dendrochronology and geologic record show that in</p>	<p>Please refer to RDEIR/SDEIS, Appendix A, Revisions to the Draft EIR/EIS, Chapter 5, Water Supply and Master Response 19 (Climate Change and GHG) for additional information regarding climate change impacts on CVP/SWP operations and the underlying assumptions and data that formed the basis of the analysis. Also refer to Appendix 29D, Climate Change Analysis and Discussion of Future Uncertainty.</p> <p>While considerable scientific uncertainty exists regarding future hydrologic conditions, neither CEQA nor NEPA require the lead agencies to engage in speculative analysis. To address this uncertainty and others, DWR, Reclamation, DFW, USFWS, NMFS, and the public water agencies will establish a robust program of collaborative science, monitoring, and adaptive management. It is assumed the Collaborative Science and Adaptive Management Program (AMMP) developed for Alternative 4A would not, by itself, create nor contribute to any new significant environmental effects; instead, the AMMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A.</p> <p>Collaborative science and adaptive management will support the proposed action by helping to address scientific uncertainty where it exists, and as it relates to the benefits and impacts of the construction and</p>

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		<p>California's recent history (over the last 1000 years), California has experienced several droughts that last more than 100 years. The BDCP climate change analysis needs to include a scenario for how the CVP/SWP would perform and what impacts would occur if California's hydrology returned to the geologic historical norm which occurred prior to the last 150 years. BDCP's analysis of operations only uses the hydrologic period of record dating back to 1912, so the climate change section, in order to be a complete analysis and disclosure, should analyze the hydrology and impacts of the potential operations in hydrologic conditions prior to this date. The data to simulate this pre-western development hydrology is readily available -- as an example, <a href="http://ascelibrary.org/doi/abs/10.1061/40856%28200%29278">http://ascelibrary.org/doi/abs/10.1061/40856%28200%29278</a>.</p>	<p>operations of the new water conveyance facility and existing CVP and SWP facilities.</p>
1601	984	<p>Document Section: Chapter 29 - Climate Change</p> <p>Issue:</p> <p>The BDCP's analysis of climate change is inconsistent with climate change analysis directives from Federal Agencies.</p> <p>Comment:</p> <p>The BDCP analysis of climate change utilized different assumptions than are mandated by Bureau of Reclamation and the U.S. Army Corps of Engineers (USACE).</p>	<p>Please refer to Master Response 19 (Climate Change and GHG), which addresses how climate change has been properly, methodically, and comprehensively described and analyzed in the EIR/EIS.</p> <p>Additionally, Master Response 31 (Compliance with Delta Reform Act), Issue 2, Climate Change, has a listing of the numerous chapters and appendices in the EIR/EIS that address and demonstrate the importance of climate change in the evaluation of the proposed project's alternatives, as well as how environmental baselines were developed under CEQA and NEPA.</p>
1601	985	<p>Issue:</p> <p>Even when project-related impacts are individually minor, the cumulative effects of these impacts, in combination with the impacts of other projects, could be significant under CEQA and must be discussed (State CEQA Guidelines, Sections 15130 and 15355[b]). Section 15065(c) of the State CEQA Guidelines, an EIR must discuss the cumulative impacts of a project when its incremental effect would be cumulatively considerable. This means that the incremental effects of an individual project would be cumulatively considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Section 15355 of the State CEQA Guidelines defines cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts."</p> <p>Comment:</p> <p>BDCP cumulative topics that should have been identified, evaluated and disclosed include: Mining and dredging activities; tributary and ocean fisheries harvest, attraction flows in the bay and for Napa River Steelhead, Agricultural development and land uses in the CVP/SWP service areas (e.g. conversion to permanent crops from more reliable water supply); management of special-status species (interactions with other HCPs); other regional fish hatchery activities (straying from non-central valley river systems and the genetic effects on fisheries stocks).</p>	<p>Cumulative analyses are presented in each of the EIR/EIS resource chapters. Cumulative impacts on land uses and agriculture from construction of project features are included in those chapters. Potential cumulative impacts from dredging activities is presented in Chapter 6, Surface Water. Cumulative impacts on fish species is presented in Chapter 11, Fish and Aquatic Resources. Cumulative crop conversion impacts in areas south of the Delta was not evaluated in the EIR/EIS because effects in export areas would not be directly additive to agricultural effects in the Plan Area and possible conversion of crop types in export areas is speculative. Overall, the EIR/EIS cumulative analyses disclose that significant cumulative impacts could occur, and the contribution of the action alternatives in many cases is considered cumulatively considerable.</p>
1601	986	<p>Issue:</p> <p>When considering the quantity of land in the statutory Delta that the BDCP is proposing to convert from farm production that contributes to the local and regional area economies and add to that the amount of land already converted plus all the lands proposed to be</p>	<p>Please note that the new preferred alternative, 4A, includes substantially less restoration. The cumulative baseline already includes projects that are reasonably foreseeable into the future, but it is not required by CEQA or NEPA to also account for projects completed in the past, as the commenter suggests.</p>

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		<p>converted by the other 5 Habitat Conservation Plans implementing in the Delta, these impacts are very significant as they comprise over 25% of the land area of the Delta.</p> <p>Comment:</p> <p>A 25% change in land use cannot be considered insignificant. Cumulative impacts are not adequately addressed. The real need is the recovery and protection of fish -- not terrestrial resources.</p>	
1601	987	<p>Issue:</p> <p>The DWR Oroville Federal Energy Regulatory Commission (FERC) Relicensing EIR defined their fisheries cumulative impact geographic scope with the following: "The geographic scope of the analysis of cumulative effects on aquatic resources, including spring-run Chinook salmon and Central Valley steelhead, is broad, given their large geographic distribution and the many different types of related actions that affect these anadromous fish species. It ranges from the upper portions of the Feather River basin where the species spawned prior to construction of other mining, hydroelectric, and water development projects by mining entities, electric utilities, and water agencies, down to the Feather and Sacramento Rivers, to the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) and even the Pacific</p> <p>Comment:</p> <p>DWR found that the operations of the Oroville Facility warranted evaluating Cumulative impacts to the ocean (including the bay and effects on the Napa River Steelhead (North Coast ESU - Evolutionary Significant Unit)) and the BDCP modifies operations at not only Oroville, but Shasta, Folsom and New Melones. BDCP needs to consider the cumulative impacts to at least as comprehensive as the Oroville Relicensing EIR. Given the magnitude of the operational changes in net outflows, X2, and population level effects on anadromous species, the BDCP should also be evaluating direct and indirect impacts of anadromous species in the bay, Napa River and ocean.</p>	<p>The analysis of direct and indirect environmental effects required under CEQA is limited to those that are reasonably foreseeable. Analysis of speculative or uncertain effects is not required, so the documents' scope of impact analysis was created to encapsulate the areas in which effects could be reasonably foreseen without speculation. It should be noted that the analysis in the EIR/EIS chapters does not always provide impacts specific to a particular geography, time period, project feature, or type of resources; instead, DWR has focused on analyzing the "whole of the action," as required by CEQA (see CEQA Guidelines, Section 15378(a)).</p> <p>The impact analysis was focused on the Delta watershed to approximately the Benicia Bridge, where the effects of the Sacramento and San Joaquin Rivers generally blended with the effects of the Pacific Ocean and San Francisco Bay. In response to public comment requesting more analysis of effects in downstream bays, including San Francisco and San Pablo Bays, the lead agencies added additional information to Chapter 11, Fish and Aquatic Resources. Additionally, Chapter 8, Water Quality, was updated with additional discussion of constituent effects downstream.</p> <p>Impacts on Delta outflows (fresh water flowing to the Bay) are not significant. Model simulation results for the preferred alternative (4A) indicate that long-term average and wet year peak outflows would increase in winter months with a corresponding decrease in spring months because of the shift in system inflows caused by climate change and increased Delta exports as compared to Existing Conditions. In other year types, Alternative 4A would result in higher or similar outflow because of the spring outflow requirements. In summer and fall months, Alternative 4A would result in similar or higher outflow because of changes in export patterns and OMR flow requirements and export reductions in fall months, and also because of the Fall X2 requirements in wet and above-normal years. The incremental changes in Delta outflow between Alternative 4A and Existing Conditions would be a function of both the facility and operations assumptions (including north Delta intakes capacity of 9,000 cfs, less negative OMR flow requirements, enhanced spring outflow and/or Fall X2 requirements) and the reduction in water supply availability due to increased north of Delta urban demands, sea level rise, and climate change. Results for the range of changes in Delta outflow under Alternative 4A are presented in more detail in Appendix 5A, BDCP EIR/S Modeling Technical Appendix, of the Draft EIR/EIS. For a more detailed response regarding impacts beneficial uses of water, please see Master Response 34 (Beneficial Use of Water).</p> <p>Operation of the new north Delta facilities will be guided by strict regulations that are set by the SWRCB. Adaptive management and collaborative science will aid operators in managing the pumping schedule in the presence of sensitive species. Appendix B of the RDEIR/SDEIS shows supplemental modeling results for the new alternatives. In particular, in Section B.2.1, Alternative 4A, the modeling demonstrates that under the preferred alternative (4A) reservoir levels (e.g., Trinity Lake, Shasta Lake, Folsom Lake, and Lake Oroville) would be similar to the No-Action Alternative (ELT).</p> <p>The amount of water DWR can pump from the new north Delta facilities is set by federal regulating agencies, ESA compliance, and project design, not by the water contractors. Operations for the proposed project would still be consistent with the criteria set by the USFWS (2008) and NMFS (2009) biological opinions and SWRCB Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive</p>

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			management process as described in the 2008 and 2009 biological opinions.
1601	988	<p>Document Section: Chapter 30 - Growth Inducement</p> <p>Issue:</p> <p>The analysis of growth-inducing effects addresses the effects that economic and population growth fostered by the BDCP that could have on local resource conditions, including housing, provision of public services, and other resources (i.e., air quality, water quality, and biological resources).</p> <p>Comment:</p> <p>The Cost Benefit Analysis conducted by the BDCP should be re-evaluated based on the \$51-\$65 Billion Cost estimated by Westlands Water District in their November 20, 2013 District Workshop presentation. This cost results in water that costs \$238 - \$337/acre-feet (AF). At this cost, the cost of water will be uneconomic for most farm crops. Since most of the water from the BDCP goes to agriculture, but agriculture will not be able to economically use the water, then the water must be used for other purposes, such as growth of M&amp;I uses. This new supply of water that is only economic for Municipal and Industrial (M&amp;I) purposes is clearly growth inducing.</p>	<p>The economic effects of growth or growth inducement are not considered or discussed in the environmental analysis of growth inducement effects of the project, nor is a cost-benefit analysis included. However, because this project would increase water supplies using the existing CVP and SWP facilities, the additional water costs with the project are likely less than other alternatives for increased or more reliable (dependable) supplies.</p> <p>Under the No-Action Alternative, water deliveries would decrease from historical (existing) conditions; however, assuming conditions favorable to growth were present, growth (with increased water demands) would likely still occur absent projected increases in deliveries under the proposed project. Contractors would seek to develop alternative supplies. Consequently, the environmental impacts of growth would likely still occur, but would be attributable to other water supply projects.</p>
1601	989	<p>Document Section: Chapter 30 - Growth Inducement</p> <p>Issue:</p> <p>The BDCP incorporated other water supply intakes into their project description, including: Solano County Cache Slough complex, City of Stockton, Contra Costa, Mirant and other intakes.</p> <p>Comment:</p> <p>Even though the BDCP claims that no new water will be delivered as a result of the project, these other water supplies will result in urban and industrial growth and are growth inducing.</p>	<p>These other water supply facilities are existing facilities and are included in the No-Action Alternative. They are, therefore, not growth-inducing effects of the project.</p>
1601	990	<p>Document Section: Chapter 30 - Growth Inducement</p> <p>Issue:</p> <p>The BDCP claims that no new water will be delivered as a result of the project, but an increase in water supply reliability is also growth inducing.</p> <p>Comment:</p> <p>An increase in the reliability of water supply allows current water supplies to be stretched to support additional housing, industry and conversion of farmland from annual crops to permanent crops.</p>	<p>Please see response to Comment 1601-988, above.</p>
1601	991	<p>Document Section: Chapter 30 - Growth Inducement</p> <p>Issue:</p>	<p>The potential changes in exported SWP and CVP water supply are presented in Chapter 5, Water Supply, including discussion of water transfers. The secondary possibility for increased water transfers is thoroughly described and evaluated in Chapter 5, Water Supply, Appendix 5D, Water Transfer Analysis Methodology</p>

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		<p>BDCP changes in available or unutilized water conveyance capacity is growth inducing.</p> <p>Comment:</p> <p>A BDCP increase in water conveyance capacity (two 40' tunnels) and a reduction in the current operational constraints of the CVP/SWP creates an opportunity for third party water transfers above and beyond that of the current CVP/SWP system and operations. By creating additional capacity and opportunity, BDCP is encouraging transfer of water supplies from northern California water sources to water consumers south of the Delta. As an example, under existing conditions the Lower Yuba River Accord, Yuba County Water Agency (YCWA) is able to transfer only a small portion of the water it has available for sale and transfer. Sales and transfers can currently only occur under a very narrow range of operational and hydrologic conditions. With the BDCP facilities and reduced operational constraints, the opportunity for those transfers would be greatly increased. In anticipation of this capacity available for transfer through the new BDCP facilities, several northern California water districts have been purchased by southern California interests. The BDCP must include in their environmental analysis and disclosure what the quantity of available capacity would be in the proposed facilities and operations and compare that to the existing and future no action/no project conditions. The change in available water transfer capacity should then be evaluated for its growth inducing and other impacts (e.g. socioeconomics, agriculture, water supply, water quality, environmental justice, groundwater, fisheries, etc.) The BDCP can avoid this impact by adding to the operational charter for the facilities and as part of the joint operations agreement, that the facilities will not be used for private water transfers. Since the BDCP is largely being paid for with public funding, private entities should not be allowed to profit from it.</p>	<p>and Results, and the potential growth-inducing effects of additional water transfers are described in Chapter 30. Meeting water supply needs is a beneficial use of water and should be facilitated by publicly funded water facilities</p> <p>Chapter 30 describes long-term water demand in the hydrologic regions based on projections from the California Water Plan. The chapter goes on to compare the modeled changes in deliveries associated with alternatives to the projected changes in future demand to evaluate the potential for the proposed project implementation to remove obstacles to growth. The proposed project does not propose any change to storage or conveyance capacity of facilities outside of the Plan Area. Thus, water diverted from new north Delta facilities would find its way into existing facilities. Please also refer to Master Response 43 (Water Transfers) regarding water transfers.</p>
1601	992	<p>Document Section: Chapter 30 - Growth Inducement</p> <p>Issue:</p> <p>The additional power requirements of the BDCP will lead to construction of additional power generation facilities, which is growth inducing.</p> <p>Comment:</p> <p>Pumps at intakes and at tunnel head works will require new transmission lines and some transmission lines in the south Delta pumping plants will require additional lines to be added to existing routes or parallel sets of lines next to existing lines. The transmission line capacity through the Delta is a limiting factor for the power transmission capacity in California. By adding load at this critical location of most limited capacity, the power demand by the BDCP facilities impacts the capacity and power transfer capabilities for the entire state. In the event of a cascading power failure, the additional power load placed on the Delta transmission facilities from the BDCP makes the entire power grid less robust and more prone to cascading power failures. Any new power generation facilities, e.g. DWR's Lodi power plant, that are brought on line to supply the power demands of the BDCP are growth inducing. The impacts of bringing the additional power generation capacity to supply BDCP power requirements should have also been disclosed as an impact of the project.</p>	<p>The electrical energy uses for project alternatives (for the new Delta conveyance pumps and for the existing CVP and SWP pumps) are fully disclosed in Chapter 21, Energy, and Chapter 22, Air Quality and Greenhouse Gases. The potential energy use for increased CVP and SWP deliveries is within the existing transmission system capacity—running the existing pumps for longer periods each day—and the additional energy use for the new conveyance pumps is relatively small compared to the existing energy use at just the Jones and Banks pumping plants. A cascading power failure will not likely be triggered by the project; the ISO, SWP, and CVP (WPA) energy operations are closely linked, and reduced pumping during peak energy use periods or transmission line shortages is a common first response. Increased energy use itself is not considered growth inducing.</p>
1601	993	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p>	<p>DWR is acting as lead agency for compliance with CEQA, and Reclamation, USFWS, and NMFS are acting as lead agencies for compliance with NEPA. Please refer to Chapter 1, Introduction, Section 1.6, Intended Uses</p>

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		<p>Issue:</p> <p>The BDCP has the wrong lead agencies for the environmental review.</p> <p>Comment:</p> <p>US Fish and Wildlife Service (FWS) is a much more appropriate federal lead than Reclamation ever was as FWS would issue permits based on the EIS document and Reclamation has recently indicated that they will not even be a part of the BDCP when implemented. Reclamation should only have the role of a cooperating agency in the EIS given that it has said it will not be part of the BDCP. DWR will be an active participant in the BDCP, but it will not be issuing any permits based on the EIR. California Department of Fish and Game (DFG) will be issuing permits based on the EIR, so it should be the state lead agency on the environmental document. DWR should only have the role of a responsible agency in the EIR. DWR and Reclamation have committed many predecisional acts and generated huge amounts of advocacy propaganda in favor of the BDCP project. For these reasons and those previously stated in this comment, DWR and Reclamation should recuse themselves from lead agency roles on the environmental documents. Once FWS and DFG have taken on the federal and state lead agency roles, the entire EIR/EIS document should be reviewed and adapted to meet those lead agency needs.</p>	<p>of this EIR/EIS and Agency Roles and Responsibilities, for details on agency roles and responsibilities.</p> <p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or conservation measures. Alternative 4A has been developed in response to public and agency input. The FEIR/EIS analyzes all alternatives, including Alternative 4A. Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures. For the non-HCP alternatives described in the RDEIR/SDEIS, compliance with the ESA would be achieved by Reclamation as the federal lead action agency through compliance with Section 7 of the Act, while CDFW would comply with the California ESA by granting an incidental take permit under Section 2081 of the California Fish and Game Code. Pursuant to the Coordinated Operations Agreement, by which DWR and Reclamation coordinate their operations of the SWP and CVP, Reclamation, and DWR as the project applicant, would consult with both the USFWS and NMFS.</p> <p>For more information regarding pre-decision and the alternatives screening process, please see Master Response 4 (Alternatives Development).</p>
1601	994	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP should be split into separate NEPA and CEQA documents.</p> <p>Comment:</p> <p>NEPA and CEQA have different requirements. It is technically possible to have joint NEPA and CEQA documents, but in the case of the BDCP, the combined document misses some of the requirements of both. As an example, BDCP determined that the NEPA No Action and the CEQA No Project were the same. They are not. The BDCP attempt to do a joint document took a very large and complex document and made it even more large and complex. As a result, not only does the document miss the 300 page long EIR document guidance from CEQA by a factor of over 130 times, but it has made the document unreadable. The document also misses critical requirements of both NEPA and CEQA or those elements are so deeply buried or convoluted that their identification escapes the readers ability to identify them. The BDCP needs to separate the NEPA and CEQA requirements and publish two separate documents. this will greatly simplify the over complicated BDCP document, make it more readable, make identification of required NEPA or CEQA elements more apparent and would greatly shorten the grossly overlong document. Common elements that truly support both documents could be kept as common appendixes. Once the NEPA and CEQA documents have been separated, the public review and comment process should be restarted.</p>	<p>Under both CEQA and NEPA, a combined joint document may be prepared to meet the requirements of both CEQA and NEPA. The EIR/EIS, RDEIR/SDEIS, and FEIR/EIS meet CEQA and NEPA requirements.</p> <p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or conservation measures. Alternative 4A has been developed in response to public and agency input. The FEIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>Please refer to Master Response 38 (Length of Environmental Document) regarding the length of the document. For more information regarding public outreach adequacy, please see Master Response 40 (Public Outreach Adequacy).</p>
1601	995	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The Lead Agencies, DWR, Reclamation, U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), have demonstrated a consistent bias in favor of the</p>	<p>Please refer to Master Response 4 (Alternatives Development) related to the issue of the project being predecisional.</p>

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		<p>project throughout the environmental review process which is in direct contradiction to NEPA and CEQA regulations for impartial environmental reviews. The Lead Agencies have consistently advocated in favor of the project through public comments of agency officials that have direct oversight and directive responsibilities for the development of the EIR/EIS, through literature published by the Lead Agencies and through the official EIS/EIR website portal.</p> <p>Comment:</p> <p>Bureau of Reclamation, NMFS and USFWS, have previously commented on their concerns on their own BDCP EIR/EIS document regarding agency "advocacy" and/or "biased" documents for the BDCP Water Tunnels project. (Federal Agency Release, Bureau of Reclamation Comments p.1; NMFS Comments p.2): USFWS Comments p.1, July 18, 2013).</p>	
1601	996	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP is suppressing public comment by not posting public comments on the EIR/EIS website as they previously had been doing.</p> <p>Comment:</p> <p>On the BDCP website, the following language now appears under "Correspondence": "In order to maintain the integrity of the formal public review period, incoming correspondence will not be available via the website beginning December 13, 2013 to the close of the public comment period April 14, 2014." (See <a href="http://bayDeltaconservationplan.com/library/Correspondence.aspx">http://bayDeltaconservationplan.com/library/Correspondence.aspx</a>) On the BDCP website, now only those viewpoints that the government chooses will be posted on the BDCP website. For example, the website continues to include blogs purporting to debunk alleged "Myths" about the BDCP, and other materials written to promote BDCP and discount public concerns. (See, e.g., <a href="http://bayDeltaconservationplan.com/news/blog/14-01-10/Correcting_Stubborn_Myths_Part_II.aspx">http://bayDeltaconservationplan.com/news/blog/14-01-10/Correcting_Stubborn_Myths_Part_II.aspx</a>.) The First Amendment of the United States Constitution provides in pertinent part that there shall be no law "abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances." Similarly, the California Constitution commands that "A law may not restrain or abridge liberty of speech or press" and the people have the right to "assemble freely to consult for the common good." Cal. Const., Art. 1, [Section] 2(a); [Section] 3(a). "In a public forum, by definition, all parties have a constitutional right of access and the state must demonstrate compelling reasons for restricting access to a single class of speaker, a single viewpoint, or a single subject. When speaker and subject are similarly situated, the state may not pick and choose." <i>Perry Educ. Assn. v. Perry Local Education Assn</i>, 460 U.S. 37, 55 (1983). "Any access barrier must be reasonable and viewpoint neutral [citations]." <i>Christian Legal Soc. Chapter of the University of California, Hastings College of the Law v. Martinez</i>, 130 S.Ct. 2971, 2984 (2010). "When the government targets not subject matter, but particular views taken by speakers on a subject, the violation of the First Amendment is all the more blatant. [Citation.] Viewpoint discrimination is thus an egregious form of content discrimination. The government must abstain from regulating speech when the specific motivating ideology or the opinion or perspective of the speaker is the rationality for the restriction." <i>Rosenberger v Rector and Visitors of University of Virginia</i>, 515 U.S. 819, 829</p>	<p>Since 2006, DWR has sought to include as many voices in the planning process as possible and has demonstrated that commitment with an unprecedented level of public involvement. More information on how DWR has developed the project in an open and transparent manner is provided in Master Response 41 (Transparency). More information about the public outreach conducted during the comment review periods for the DEIR/EIS and RDEIR/SDEIS is provided in Master Response 40 (Public Outreach Adequacy).</p>

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		(1995). The exclusion of critical comments from the BDCP website at the same time as the government agency proponents continue to post materials that promote their viewpoint that BDCP is a worthwhile project violates the First Amendment prohibition of viewpoint discrimination in forums created by the government.	
1601	997	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The Denial of the Right of Access to Critical Comments Violates the California Constitution.</p> <p>Comment:</p> <p>The California Constitution provides in pertinent part that "The people have the right of access to information concerning the conduct of the people's business, and, therefore, the meetings of public bodies and the writings of public officials and agencies shall be open to public scrutiny." Cal. Const. Art. 1, [Section] 3(b)(1). Moreover, any authority "shall be broadly construed if it furthers the people's right of access, and narrowly construed if it limits the right of access." Cal. Const. Art. 1, [Section] 3(b)(2). "Given the strong public policy of the people's right to information concerning the people's business (Gov.Code, [Section] 6250), and the constitutional mandate to construe statutes limiting the right of access narrowly (Cal. Const., art. 1, [Section] 3, subd. (b)(2), all public records are subject to disclosure unless the Legislature has expressly provided to the contrary." <i>Sierra Club v. Superior Court</i>, 57 Cal.4th 157, 166 (2013) (internal quotation marks deleted). The complexity of the BDCP and the volume of documents being circulated for public review to explain that complexity make review challenging even for professionals. For an average member of the public, the job is almost impossible. The public's ability to be informed regarding this project is facilitated by having access to comments being made by others during the review process, including non-profit environmental groups and other public agencies. The refusal to publish comment letters on the website as they come in denies the public the right of access to the comments in violation of the California Constitution.</p>	Please see response to comment 1601-996, above.
1601	998	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The Exclusion of Environmental Information Contrary to the Opinions of the Project Proponents Violates NEPA and CEQA.</p> <p>Comment:</p> <p>NEPA and CEQA are both "environmental full disclosure laws." <i>Silva v. Lynn</i>, 482 F.2d 1282, 1284 (1st Cir. 1973)(NEPA); <i>Communities for a Better Environment v. City of Richmond</i>, 184 Cal.App.4th 70, 88 (2010)(CEQA). Both laws require that an agency "use its best efforts to find out all that it reasonably can" about the subject project and its environmental impacts. <i>Barnes v. U.S. Dept. of Transp.</i> 655 F.3d 1124, 1136 (9th Cir. 2011)(NEPA); <i>Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova</i>, 40 Cal. 412, 428 (2007)(CEQA). Interfering with review by members of the public of comments made by other members of the public is environmental concealment, not disclosure, and is calculated to prevent the public from finding out all that it reasonably can about the subject project and its impacts. CEQA provides that "notwithstanding any other provision of law" the record</p>	Please see Master Response 4 (Alternatives Development) for more information regarding alternatives to the proposed project. The alternatives included in the EIR/EIS represent a legally adequate reasonable range of alternatives, and the scope of the analysis of alternatives fully complies with both CEQA and NEPA.

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		<p>of proceedings "shall include, but is not limited to," written documents submitted by any person relevant to findings and all written correspondence submitted to the respondent public agency with respect to compliance with CEQA or the project. Public Resources Code [Section] 21167.6(e)(3), (7). The NEPA Regulations require that federal agencies make comments received under NEPA available to the public pursuant to the provisions of the Freedom of Information Act and that they shall be provided without charge to the extent practicable. 40 C.F.R. [Section] 1506.6(f). The CEQA Regulations provide that: Public participation is an essential part of the CEQA process. Each public agency should include provisions in its CEQA procedures for wide public involvement, formal and informal consistent with its existing activities and procedures, in order to receive and evaluate public reactions to environmental issues related to the agency's activities. Such procedures should include, whenever possible, making environmental information available in electronic format on the Internet, on a web site maintained or utilized by the public agency. 14 Code Cal. Regs [Section] 15201(emphasis added). Instead, the BDCP proponent agencies have selectively published environmental information favorable to the project on their website while concealing what they consider to be unfavorable information that they would rather not share with the public. Making the comments available only after the comment period has closed makes a mockery of the promise of a fair, transparent and open process. Members of the public will have no opportunity to learn information provided by those with concerns about the BDCP in time to help them develop their own timely comments, including suggested alternatives to the project. The exclusion of comments from the website violates the environmental full disclosure purposes of both NEPA and CEQA, and the CEQA regulation requiring the posting of environmental information on the agency's website.</p>	
1601	999	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The public handout, "BDCP EIR/EIS Highlights" December 2013, contains summary information which is misleading in its presentation and completeness.</p> <p>Comment:</p> <p>The table on page 39 shows the amount of Williamson Act Lands converted. The % conversion of the lands in the Delta leads the reader to conclude that the impacts are fairly small, e.g. 1.2% for the proposed project. What is not obvious is that this impact only represents the conveyance footprints and specifically avoids showing the number of acres that occur from the rest of the actions included in those alternatives. If those were included, it would show about 115,000 acres of conversion for alternative 4 which is about 14% of the surface area of the Delta. Since all of the actions are taking place on the land part of the Delta, conversion of WA farmland is over 20%. The representation of the impacts is so biased and purposely incomplete in this document, it is clearly designed to confuse and mislead the public with regards to the impacts of the project. This same misleading table was used as a poster at the public open house meetings conducted by BDCP from December 2013 - February 2014.</p>	<p>The comment refers to the analysis conducted for Alternative 4 (BDCP) for the 2013 Draft EIR/EIS. The title of the table is Estimate Conversion of Important Farmland to Nonagricultural Uses in CM1. This title sufficiently indicates that the estimates are related to the impacts of CM1, the conveyance facilities, and does not include impacts related to the other conservation measures included in Alternative 4.</p> <p>Alternative 4 remains a viable alternative; however, the preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>Please see Master Response 5 (BDCP) for additional detail on the BDCP and the alternatives involving an HCP component.</p> <p>Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided, and further consideration will be given to these comments. Any revisions to the Draft BDCP would only be made if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p>

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1601	1000	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>Here are some examples of inappropriate Lead Agency project advocacy from the BDCP EIR/EIS website from November 19, 2013:  <a href="http://baydeltaconservationplan.com/News/OpinionArticles.aspx">http://baydeltaconservationplan.com/News/OpinionArticles.aspx</a> -- "Opinion Articles The following selected opinion articles represent the views of the state administration in support of the Bay Delta Conservation Plan."</p> <p>Comment:</p> <p><a href="http://www.dailydemocrat.com/news/ci_24043894/meral-norcal-benefits-from-delta-water-plan">http://www.dailydemocrat.com/news/ci_24043894/meral-norcal-benefits-from-delta-water-plan</a> -- "Gov. Jerry Brown's conservation plan would provide clear benefits to all Californians through restoration of the largest estuary along the west coast and through vastly improving the reliability of the Delta's current water system, which is subject to disruptions and possible shut-downs caused by a predicted rise in sea level, earthquakes, floods and ongoing efforts to protect endangered fish species." "To logically reach the newspaper's conclusion that there is no benefit one would have to deny or look past the purpose, size, effects and full range of benefits BDCP is calculated to provide the entire state. The benefits range from the billions of dollars that would be spent on employment and the purchase of everything from equipment to the concrete needed to form the tunnels to a painstakingly detailed ecological restoration plan that aims to enhance and sustain delta smelt and Chinook salmon populations. Wouldn't readers of the newspaper benefit from enhancing the survivability of salmon if it means the salmon thrive to spawn in local waters for decades to come? Wouldn't they benefit from a strengthened statewide economy and the \$4.8 to \$5.4 billion net benefit economists predict would result from stabilizing water deliveries? Would they not also benefit by supporting steps we can take now to improve and protect the Delta water conveyance from sea level rise and the probability of earthquakes? Would northern California somehow be wholly immune from the economic damage that would result should water be abruptly cut off to 25 million people? Surely, you do not need to live in the Delta, or even be a fisherman, to appreciate and value moves to support the future survival of an endangered species like Chinook salmon." "The fish and wildlife resources in the Delta are declining, and only strong action gives any hope that they can be restored. The Bay Delta Conservation Plan is the best way to achieve this worthwhile goal." "The fact is the plan will do no harm to Northern California water rights, biological resources, or communities. In fact, it will actually benefit water users along the Sacramento River by helping to restore salmon and steelhead populations, relieving pressure from regulators on water users from Solano to Shasta counties."</p>	<p>The Proposed Project would enable DWR to construct and operate new conveyance facilities that improve conditions for endangered and threatened aquatic species in the Delta while at the same time improving water supply reliability, consistent with California law (see, e.g., Cal.Wat. Code, § 85001[c]). DWR has planned and developed the proposed project to address these needs, as discussed in detail in Master Response 3, Purpose and Need. Despite the commenter's assertion in Comments 1601-1000 through 1014, provision by DWR and other government entities of factual or opinion-based information to the public through the project website or media is not a "direct violation of NEPA and CEQA requirements for neutrality and objectivity," nor do such requirements exist in that context. The provision of factual or opinion-based information through such sources has no implications for the adequacy of the EIR/EIS content or environmental review process. The comments therefore do not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</p>
1601	1001	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:</p>	<p>Please see response to Comment 1601-1000 above.</p>

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		<p><a href="http://baydeltaconservationplan.com/News/OpinionArticles.aspx">http://baydeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.foxandhoundsdaily.com/2013/10/water-tunnels-good-economy-environment/#sthash.OJk2sTJE.dpuf">http://www.foxandhoundsdaily.com/2013/10/water-tunnels-good-economy-environment/#sthash.OJk2sTJE.dpuf</a> -- "It would provide secure and reliable water deliveries in the event that levee failure compromises water quality near the pumps. This also would help restore natural flow patterns in the Delta, protecting salmon and other fish species. The configuration of the south Delta system today is a dead end. Two out of three fish that get trapped there die. Other features of the plan will improve food production and rearing and migrating habitat for fish." "This restoration would benefit a large number of native species that depend on these habitats such as resident and migratory waterfowl, shorebirds, river otters, kit fox, coyote, shrimp and other crustaceans, aquatic insects, fish, and native plants. BDCP would provide extensive areas of transitional uplands to ensure that tidal marsh can persist and "migrate" upslope in the face of expected sea level rise."</p>	
1601	1002	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and National Marine Fisheries Service (NMFS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:</p> <p><a href="http://baydeltaconservationplan.com/News/OpinionArticles.aspx">http://baydeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.sacbee.com/2013/10/27/5846827/viewpoints-the-balancing-act-of.html">http://www.sacbee.com/2013/10/27/5846827/viewpoints-the-balancing-act-of.html</a> -- "Yet it appears on track to becoming a sound investment for dozens of public water agencies and the California public at large." "Our research shows that the plan, soon to be released for public review, reflects a balancing of the two fundamental goals the plan must meet: more reliable water supplies and a healthier Delta ecosystem." "Building five new intakes on the Sacramento River capable of filling the existing aqueduct system of the State Water Project and Central Valley Project would be the preferable approach from the narrow standpoint of improving water supply for the 25 million Californians and 3 million acres of farmland that use Delta water. Our cost-benefit analysis scores this proposal highest." "It sounds reasonable to argue for a smaller conveyance system to free up money to invest in water supply development outside the Delta, but our work shows that it doesn't pencil out." "Continued inaction could lead to much higher long- term costs to meet environmental and water supply goals." "If no new Delta water conveyance system is built and certain seasonal Delta flows and pumping restrictions weighed by wildlife agencies were imposed to protect fish, the result could be the loss of more than 1 million acre-feet of water supply a year. That supply loss would trigger severe cutbacks to farms and cities, and widespread economic pain. Avoiding further water supply cutbacks from the Delta is valuable, even if the \$25 billion investment in the Bay Delta Conservation Plan produces no additional supplies. Our economic analysis suggests that the water supply reliability offered by the plan is worth \$15 billion over 50 years to the water districts that depend upon the Delta. In all,</p>	Please see response to Comment 1601-1000 above.

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		<p>once water quality and seismic security benefits also are considered, the Bay Delta Conservation Plan offers these water districts -- whose customers would pay more than two-thirds of the plan's costs -- net benefits worth \$5 billion. The plan represents the proverbial choice of paying less now or a lot more later. Its stabilizing effect on water supply also would help build California's economic muscle. By my calculation, the plan would increase economic activity statewide by \$84 billion over its 50-year life, even after the costs of the project are taken into account. As a voluntary partnership, the Bay Delta Conservation Plan must make biological sense for the wildlife agencies and financial sense for the paying public, all while achieving broader state goals for the environment and the economy. The plan itself is a balancing act, but its statewide costs and benefits are not. In terms of California's economic future, this plan would pay off in a big way."</p>	
1601	1003	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:  <a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.insidebayarea.com/opinion/ci_24183739/putting-proposed-Delta-tunnels-better-perspective">http://www.insidebayarea.com/opinion/ci_24183739/putting-proposed-Delta-tunnels-better-perspective</a> -- "Importantly, the BDCP would vastly improve the reliability of the Delta's current water system, helping to responsibly protect it from potentially catastrophic disruptions and shutdowns resulting from efforts to protect endangered fish species, rising sea levels caused by climate change, and predicted floods and earthquakes."</p>	Please see response to Comment 1601-1000 above.
1601	1004	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:  <a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.mantecabulletin.com/archives/79806/">http://www.mantecabulletin.com/archives/79806/</a> -- "The plan preserves San Joaquin Valley agriculture by creating a more reliable and secure supply. The plan would not affect water rights."</p>	Please see response to Comment 1601-1000 above.

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1601	1005	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:  <a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.westerncity.com/Western-City/July-2013/The-Bay-Delta-Conservation-Plan/">http://www.westerncity.com/Western-City/July-2013/The-Bay-Delta-Conservation-Plan/</a> -- Mark Cowin, Director DWR: "The Bay Delta Conservation Plan (BDCP), seven years in the making, would prevent water delivery disruption by constructing three new screened intakes along the Sacramento River 35 miles north of the existing pumping plants. Twin tunnels buried up to 150 feet beneath the Delta's peat soil would carry the water south, ensuring that water supplies could be delivered even if climate change and other forces re-sculpt the interior Delta." "A new Delta water conveyance system would safeguard the water delivery system. But the ecological imperative for such an improvement is as compelling as the economic reasons." "To upgrade fish screens here would cost a lot of money and yield minimal benefit," "Reducing reliance on the south Delta pumps would also allow for more natural east-west flows in the tidally influenced south Delta. That would minimize the extent to which reverse flows caused by pumping may draw migratory fish off course." "There's another reason to build a northern diversion point: Threatened delta smelt rarely venture so far north in the Sacramento River. Generally, delta smelt avoid the stretch of the river where the federal and state governments propose to build new intakes. In comparison, delta smelt frequent the south Delta. Rules to protect the smelt frequently force shutdowns of the south Delta pumps." "New pumping plants outside the zone of prime delta smelt habitat would have helped both fish and people this year. But delta smelt, salmon, sturgeon, sandhill cranes, Swainson's hawks and dozens of other kinds of Delta wildlife need more than relocated pumping plants." "Such habitat would serve not only to shelter fish and wildlife, but also to boost food production across the aquatic system." "Intakes of 9,000 cubic feet per second would allow the federal and state water projects to take a "big gulp" of winter storm flows, when pumping causes minimal ecological harm." "Doing nothing will cost future Californians a lot more someday."</p>	Please see response to Comment 1601-1000 above.
1601	1006	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:</p>	Please see response to Comment 1601-1000 above.

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		<p><a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.recordnet.com/apps/pbcs.dll/article?AID=/20130519/A_OPINION06/305190304/-1/a_news13">http://www.recordnet.com/apps/pbcs.dll/article?AID=/20130519/A_OPINION06/305190304/-1/a_news13</a> -- "The Bay Delta Conservation Plan is, after all, one of the most important and visionary public works projects ever conceived. The health of 25 million Californians, the productivity of farms throughout the Central Valley and businesses statewide, the uninterrupted functioning of our economy, and ensuring a more reliable source of water for generations to come depend on its success." "Lastly, the plan will produce many jobs for Stockton residents and others throughout the region. In all, the construction, operations and maintenance, and the habitat restoration work are expected to create 136,723 jobs over the next 50 years. Surely, that's something the newspaper can support."</p>	
1601	1007	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:</p> <p><a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.sacbee.com/2013/04/14/5338213/the-big-divide-over-water-plan.html">http://www.sacbee.com/2013/04/14/5338213/the-big-divide-over-water-plan.html</a> -- "California has an extraordinary opportunity to make its water supplies safer and more secure. We can avoid the devastating economic impacts of a natural disaster. We can restore the ecological health of the Sacramento-San Joaquin Delta and enhance Delta communities. We are, at last, positioned to achieve these significant benefits through the Bay Delta Conservation Plan." "Having new water intakes 35 miles from the existing pumps would improve the ability of California's major water projects to divert water when and where it does the least ecological harm. This is the Bay Delta Conservation Plan proposed project." "...the Bay Delta Conservation Plan will not impair the water rights of those using water upstream." "An investment of only \$15 billion -- the estimated cost of a new Delta conveyance system -- would secure these supplies from disaster and prevent an economic calamity, as well as secure the health of the Delta ecosystem." "With an improved Delta, millions of working families will be able to turn on a tap and have water, farmers will irrigate the fields that produce our food, our high-tech economy will continue to grow jobs, and native salmon and smelt will thrive."</p>	Please see response to Comment 1601-1000 above.
1601	1008	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy</p>	Please see response to Comment 1601-1000 above.

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		<p>for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:  <a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://www.youtube.com/watch?feature=player_embedded&amp;v=q6eHdY2HgKE">http://www.youtube.com/watch?feature=player_embedded&amp;v=q6eHdY2HgKE</a>. This video is an advocacy piece for the project which is in direct conflict with the independent objective environmental review required by NEPA and CEQA. DWR and Reclamation need to retract these advocacy materials as they are in direct conflict with their responsibilities as lead agencies. Since DWR and Reclamation have demonstrated their bias on this project, they should hand over lead agency responsibilities to other agencies.</p>	
1601	1009	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:  <a href="http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Securing_California_s_Water_Supplies.sflb.ashx">http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Securing_California_s_Water_Supplies.sflb.ashx</a></p> <p>Comment:</p> <p>"The BDCP would modernize the heart of California's aging water supply network, while balancing environmental and water supply considerations". "Using gravity to transport water would save tremendous amounts of energy and reduce greenhouse gas emissions over time." Commenter note: not as compared to the existing condition, No Project or No Action conditions. "The proposed tunnel and intake facilities will: Protect the state's most critical water delivery system by ensuring that the new facilities have 200-year flood protection, Protect against sea level rise and flooding due to climate change by building intakes upstream in the north Delta, and Protect against earthquake damage by using the latest seismic criteria and design methodologies in the tunneling industry."</p>	Please see response to Comment 1601-1000 above.
1601	1010	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of</p>	Please see response to Comment 1601-1000 above.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:  <a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/5-22-13_Congressional_letter_of_support_for_BDCP.sflb.ashx">http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/5-22-13_Congressional_letter_of_support_for_BDCP.sflb.ashx</a> -- "Thirteen California members of the U.S. Congress today sent a letter to U.S. Secretary of the Interior Sally Jewell and California Gov. Edmund G. Brown, Jr., expressing "continued strong support" for the Bay Delta Conservation Plan."</p>	
1601	1011	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:  <a href="http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Overview_Brochure_3-14-13.sflb.ashx">http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Overview_Brochure_3-14-13.sflb.ashx</a></p> <p>Comment:</p> <p>"The BDCP Can Solve the Delta's Problems and Provide Reliable Water Supply, Economic Sustainability and Jobs" "...the BDCP will: Provide water managers with a reliable and predictable amount of water; Protect against water supply disruptions for 66 percent of the state's population; Protect water supplies from catastrophic failure due to earthquakes or failed levees; Boost the state's ability to respond to drought and climate change; Create 137,000 jobs; Isolate water supplies from increasingly stressed Delta levees; Implement ecologically friendly ways to move California's drinking and irrigation water under the Delta to secure water supplies for California homes, businesses, and farms; Improve the overall ecological health of the Delta; Reverse the trend of habitat loss and help recover declining populations of native species; Address habitat needs for 11 fish species and 46 wildlife and plant species; Improve natural flow conditions for fish and wildlife; Implement an accelerated habitat restoration program by creating 30,000 acres of aquatic habitat in the next 15 years; Reconnect floodplains and rivers; Return degraded riverbanks to a more natural state; Improve water quality; Control invasive species"</p>	Please see response to Comment 1601-1000 above.
1601	1012	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and</p>	Please see response to Comment 1601-1000 above.

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		<p>objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:</p> <p><a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Overview_Brochure_3-14-13.sflb.ashx">http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Overview_Brochure_3-14-13.sflb.ashx</a> "As the Delta ecosystem improves in response to BDCP implementation, water operations will become more reliable and secure." "The direct benefits of the BDCP to water users -- reliable export volume, reduced regulatory and legal uncertainty, improved water quality, reduced seismic risk to water supplies -- exceed the costs of BDCP." "BDCP would environmentally retrofit, modernize, and restore greater flexibility to the state's water system."</p>	
1601	1013	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP EIS/EIR Lead Agencies (DWR, Reclamation, National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS)) have engaged in a campaign of advocacy for the BDCP project utilizing the official EIR/EIS website for public promotion in favor of the project which is in direct violation of NEPA and CEQA requirements for neutrality and objectivity in the environmental evaluation of the project. Here is an example of inappropriate project advocacy from the EIS/EIR lead agencies taken from the BDCP EIR/EIS website on November 19, 2013:</p> <p><a href="http://bayDeltaconservationplan.com/News/OpinionArticles.aspx">http://bayDeltaconservationplan.com/News/OpinionArticles.aspx</a></p> <p>Comment:</p> <p><a href="http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Facts.sflb.ashx">http://bayDeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Facts.sflb.ashx</a> - "The BDCP Would Benefit Millions of Californians" "The BDCP Would Benefit the Delta Ecosystem"</p>	Please see response to Comment 1601-1000 above.
1601	1014	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>Public Comments of Lead Agency Staff that Direct the EIR/EIS show biases and pre-decision on the outcome of the project prior to the completion and certification of the environmental documents.</p> <p>Comment:</p> <p>Jerry Meral, California Department of Natural Resources (DNR) (in charge of the BDCP EIR for DNR and directing DWR in the preparation of the EIR/EIS) -- Retirement letter to Jerry Brown 12/13/13 -- published quote in Sacramento Bee: "While additional permits will be required," Meral said in the letter, "it is virtually certain that the plan will be implemented."</p>	Please see Master Response 4 (Alternatives Development) for information on how the proposed project is not pre-decisional.
1601	1015	Document Section: Chapter 31 - NEPA/CEQA Requirements	This comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.

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		<p>Issue:</p> <p>The BDCP Federal Lead agencies, Reclamation, U.S. Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) have violated their contracting regulations with how the originally contracted consultant team was replaced.</p> <p>Comment:</p> <p>The following companies included in the EIR/EIS List of Preparers were not part of the consultant team selected to develop the EIR/EIS: Fehr &amp; Peers, SAIC, Black &amp; Veatch, ICF International, Apple One, Egret, Inc. and Estep Environmental Consulting. The federal agencies did not participate in the selection process for these contractors and no selection process adhering to state contracting standards was used by DWR.</p>	
1601	1016	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP Federal Lead agencies, Reclamation, U.S. Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) have violated their contracting regulations with how the originally contracted consultant team was replaced.</p> <p>Comment:</p> <p>The originally selected BDCP EIR/EIS Prime Contractor, HDR Engineering, does not have a single staff member identified as a contributing author in the EIR/EIS. HDR is not even identified as part of the consultant team prior to 2011. The consultant team preparing the EIR/EIS was effectively completely replaced without the lead agencies conforming to contracting regulations. The contract was not re-noticed in the Federal Register, a Request for Proposals was not circulated, Proposals were not evaluated and scored using an accepted system, qualified teams were not interviewed and a winning proposal team was not selected. ICF International replaced the consultant team that was selected that conformed to contracting regulations without the ICF International team going through any of the contracting approval process and procedures. The Lead Agencies have violated their contracting rules by replacing the originally selected and contracted consultant team. As a result of these contracting illegalities, the work product produced by this unauthorized group should be set aside by the agencies and unauthorized fees paid to these contractors should be recovered. The environmental review consultant team contracting process should be restarted to properly conform to contracting regulations and once selected that team should review and revise the developed materials into a suitable and appropriate informational and decision document.</p>	This comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.
1601	1017	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP Federal Lead agencies, Reclamation, U.S. Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) have violated their contracting regulations with how the originally contracted consultant team was replaced.</p> <p>Comment:</p>	The Federal lead agencies did not directly contract with a consultant for preparation of this environmental analysis therefore there is no violation of contracting regulations. DWR followed appropriate procurement regulations for any consultants contracted for with federal financial assistance.

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		<p>The Hallmark Group, directed work on the development of the EIR/EIS, but was also not part of any team reviewed or selected by the Federal Lead Agencies or that conformed to their contracting regulations. Hallmark materially directed the EIR/EIS project schedule, policy and technical issue resolution, and content reviews in the EIR/EIS. All work for the EIR/EIS conducted under their direction and review of Hallmark should be discarded and redone in conformance with approved Federal Agency EIS development guidelines.</p>	
1601	1018	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP Federal Lead agencies, Reclamation, U.S. Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) have violated their contracting regulations with how the originally contracted consultant team was replaced.</p> <p>Comment:</p> <p>NEPA EIS contractors must execute a disclosure statement, prepared by the lead agency, specifying that the contractor has no "financial or other interest in the outcome of the project." 40 CFR 1506.5(c). The companies identified above were not part of the EIR/EIS consultant team, so disclosure statements submitted by the original HDR Engineering team do not apply to these companies. These companies and the Federal Lead Agencies are in violation of NEPA regulations if they did not submit disclosure statements prepared by the lead agencies prior to them engaging in developing work products for the EIS.</p>	<p>The Federal lead agencies did not directly contract with a consultant for preparation of this environmental analysis therefore there is no violation of contracting regulations. DWR followed appropriate procurement regulations for any consultants contracted for with federal financial assistance.</p>
1601	1019	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP Federal Lead agencies, Reclamation, U.S. Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) have violated their contracting regulations with how the originally contracted consultant team was replaced.</p> <p>Comment:</p> <p>Since the companies identified above were not contracted to prepare the EIR/EIS, the materials developed by these companies violate the Federal Advisory Committee Act (FACA). Paid third party advocates prepared critical elements of a decision document which is supposed to be independent and unbiased and which may result in them getting privileged information and/or an unfair advantage in future contracting. The EIS is required to be an objective, good faith attempt at full disclosure, and could be invalidated in court if it is found to be biased. See Project Advocacy related comments in this section.</p>	<p>The Federal lead agencies did not directly contract with a consultant for preparation of this environmental analysis therefore there is no violation of contracting regulations. DWR followed appropriate procurement regulations for any consultants contracted for with federal financial assistance.</p>
1601	1020	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP Federal Lead agencies, Reclamation, U.S. Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) have violated their contracting regulations with how the originally contracted consultant team was replaced.</p>	<p>This comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S.</p> <p>The Federal lead agencies did not directly contract with a consultant for preparation of this environmental analysis therefore there is no violation of contracting regulations. DWR followed appropriate procurement regulations for any consultants contracted for with federal financial assistance.</p>

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		<p>Comment:</p> <p>In addition to the Federal Advisory Committee Act (FACA) violations of the environmental consultants, materials prepared for the BDCP Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) that were developed by the project proponents, e.g. Metropolitan Water District, Kern County Water Agency, etc. were used wholesale and verbatim in the EIR/EIS. Since the entities that prepared these materials for the HCP/NCCP were not contracted to develop the EIR/EIS, these materials also violate FACA.</p>	
1601	1021	<p>Document Section: Chapter 31 - NEPA/CEQA Requirements</p> <p>Issue:</p> <p>The BDCP Federal Lead agencies, Reclamation, USFWS, and NMFS have violated their contracting regulations with how the originally contracted consultant team was replaced.</p> <p>Comment:</p> <p>The Biological Assessment (BA) for the BDCP was not in the scope of the original Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) or EIS/EIR contract, so ICF International's Federal Advisory Committee Act (FACA) violations on the BDCP project should conflict them out of potential contention for future contracting of the BA or any future BDCP contracts.</p>	<p>This comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/S. The Federal lead agencies did not directly contract with a consultant for preparation of this environmental analysis therefore there is no violation of contracting regulations. DWR followed appropriate procurement regulations for any consultants contracted for with federal financial assistance. For more information regarding the biological assessment (BA), please see Chapter 1 of the FEIR/EIS.</p> <p>Reclamation would be the lead federal action agency for Section 7 compliance where a non-HCP alternative is selected. Reclamation's Section 7 compliance would be expected to also address the Section 7 compliance needs for the USACE permit actions. In cooperation with DWR, Reclamation would prepare a BA for submission to the USFWS and NMFS requesting formal consultation under ESA Section 7.</p> <p>A biological opinion is not required prior to the release of the Draft BDCP/California WaterFix EIR/EIS. For the Proposed Action, the USFWS and NMFS will conduct an internal ESA Section 7 consultation prior to issuance of an Section 10(a)(1)(B) permit for the Proposed Action. These federal agencies will coordinate the ESA consultation process and other environmental review processes, such as NEPA compliance, consistent with federal regulations. In addition, the USFWS and NMFS will consult with Reclamation to complete biological opinions or a joint biological opinion prior to federal action to carry out the proposed project.</p>
1601	1022	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>Alternatives identified in public scoping were not evaluated and/or not given adequate consideration in the alternatives screening and development process.</p> <p>Comment:</p> <p>Alternatives identified, but not considered or not given adequate consideration in the alternative development process include: Sacramento Deep Water Ship Channel as a conveyance; additional south of water storage; additional north of Delta storage; enhancements to south Delta pumping facilities and operations; distributed intakes; and combinations of north and south of Delta storage, modification of south Delta pump facilities and operations and distributed intakes.</p>	<p>See Master Response 4 (Alternatives Development) for discussion of the scope of the proposed project and alternatives (such as water storage) that were not carried forward for analysis in this document due to the fact that these required actions are beyond the scope of the proposed project. The alternatives included in the FEIR/EIS represent a legally adequate reasonable range of alternatives, and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals that were considered, but ultimately rejected by the Lead Agencies, are discussed in Appendix 3A, Identification of Water Conveyance Alternatives, CM1. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS, including the Natural Resources Defense Council Portfolio-Based Proposal, Congressman John Garamendi's Water Plan, and other similar concepts that would require actions that are beyond the scope of the proposed project.</p>
1601	1023	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>The public should have a comment period duration that is sufficient to allow review and comment on the entire document.</p> <p>Comment:</p>	<p>In order for the Lead Agencies to effectively communicate with the public, several different types of summary documents and presentations on the BDCP, Draft EIR/EIS, and related documents were made available on the BDCP website. For instance, lay-friendly highlight documents for both the BDCP and the EIR/EIS were published to provide summary information about the documents and to help readers get acquainted with the documents. The BDCP Highlights and the EIR/EIS Highlights were posted online at <a href="http://baydeltaconservationplan.com/AboutBDCP/InformationalMaterials.aspx">http://baydeltaconservationplan.com/AboutBDCP/InformationalMaterials.aspx</a>. Short one-page factsheets on the BDCP and EIR/EIS, as well as California Water Fix, were also provided online and by request. In addition, 17 narrated informational webinar episodes were posted to the website for both the BDCP and</p>

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		<p>Some members of the public are only concerned with portions of the document, but land owners and members of the Delta communities are concerned with every aspect of the potential impacts of the project. The document identifies (or at least it should) significant impacts to the Delta for virtually all of the 25 resource categories analyzed in the documents. In order for the Delta land owners and communities to understand and comment on the project impacts to their livelihoods and quality of life, the review period needs to be extended so that the public has the opportunity to provide the essential public participation in the project to avoid and minimize those impacts to the greatest extent feasible and practicable. The current review period duration in combination with the document size effectively forces the public to pick and choose what sections of the document that they will have the opportunity to review and comment on which unfairly diminishes their role in the environmental review process as defined and protected by NEPA and CEQA regulation.</p>	<p>EIR/EIS. These webinars were developed to provide short, easy to understand summaries of key elements of the BDCP and EIR/EIS. Background documents, additional factsheets, and FAQs continue to be available on-line.</p> <p>Please see Master Responses 38 regarding the length and complexity of the documents and 39 for information concerning the adequacy of the public review periods.</p>
1601	1024	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>The current review period of 180 days is too short.</p> <p>Comment:</p> <p>At approximately 40,000 pages of materials to review, the 180-day public review period requires a person to review and comment (with supporting analyses, references, etc.) on over 220 pages a day including weekends and holidays. There are 6 holiday days during the review period and over 45 days that are weekends, so excluding those a person would need to review and comment on 310 pages per day. This pace of public review opportunity does not stand the test of reason. CEQA guidance says a large complex project EIR should be less than 300 pages. At the estimated 40,000 pages, the BDCP documents are over 130 times larger than CEQA guidance recommends. A 300-page document and a standard 60-day review period per CEQA guidance result in an average of 50 pages per day for review and comment. 50 pages per day for review and comment is what we are requesting from the BDCP to allow an appropriate opportunity for public comment. 50 pages/working day (excluding weekends and holidays) for review and comment is the maximum that could be considered reasonable and not exclusive of the opportunity for the public to participate. At the current 40,000 pages and 50 pages per day review (excluding weekends and holidays), the public review and comment period should be well over 1,100 days.</p>	<p>See response to Comment 1601-1023, above.</p>
1601	1025	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>The documents are unnecessarily long.</p> <p>Comment:</p> <p>The documents include substantial amounts of material that are redundant or not necessary to include in the document. This makes the document much larger than it needs to be to communicate the essential information to the public and agency personnel using this as a decision document. The inclusion of such large volumes of redundant and unnecessary materials, we consider a strategy on the project's part to make the environmental</p>	<p>Some sections or chapters of the EIR/EIS may appear to be redundant because NEPA requires an equal level of analysis of all alternatives, and the BDCP contains 15 action alternatives in addition to the No-Action Alternative.</p> <p>The Lead Agencies did not maintain a strategy to inhibit public review and comment on the EIR/EIS. Rather, the Lead Agencies undertook numerous steps to encourage public review and comment. The Lead Agencies posted online documents highlighting important aspects of the BDCP and the EIR/EIS. They produced 17 informational webinar episodes regarding the BDCP and EIR/EIS that were available online, and they distributed one-page factsheets throughout the comment period. In addition, both the BDCP and EIR/EIS contain executive summaries, and the most complex EIR/EIS chapters contain reader guides and summaries of impacts. For more information regarding document length and complexity, please see Master Response 38 (Length of Environmental Document).</p>

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		document so large and onerous that the public will not be able to get through it and substantively comment on it. Judging by our brief review of the document so far, there are literally thousands of pages of materials that are redundant and or unnecessary.	
1601	1026	Document Section: Chapter 32 - Public Involvement  Issue:  The document is poorly organized.  Comment:  Information that is necessary as context to evaluate one topic, i.e. Water Supply, is not introduced until later in the document, i.e. Water Quality. How can you meaningfully discuss water supply impacts without the context of understanding changes that have occurred to water quality suitability for water supplies. Climate change affects most resources and is discussed in most chapters, but it is the second to last resource topic introduced in the document. The Proposed Action is the 4th alternative. The Proposed Action is obviously one of the main focuses for the public in the review and comment. Making the Proposed Action the 4th alternative makes comparison and evaluation of the Proposed Action more difficult and cumbersome for the review and comment process.	The size and complexity of these documents reflect an unprecedented effort to analyze a proposed project under both state and federal laws along with 17 other action alternatives. The Lead Agencies thoroughly and extensively sought to facilitate accessibility of the analyses, in part through the use of document summaries and comparison tables, as described in Master Response 38 (Length of Environmental Document).
1601	1027	Document Section: Chapter 32 - Public Involvement  Issue:  The table that summarized the changes to the EIR/EIS between the Administrative Draft and the Public Draft is substantially misleading.  Comment:  Substantive changes to the text and wording of the document have been made throughout the document. The summary of changes table comes nowhere near encompassing or correctly characterizing the magnitude and extent of substantive changes that have occurred to the document. The opportunity for the public to review the Administrative Draft version of the document in advance of the Public Draft version and the inclusion of a misleading table summarizing changes between the two versions does not reduce the large burden placed on the public for commenting on this ridiculously large size, high complexity, overly technical, poorly organized, redundant material laden document.	The summary tables were developed to help readers identify major changes and provide a reference guide to the chapters and topics that were changed from Administrative Draft BDCP EIR/EIS to the Public Draft EIR/EIS. Please see Master Response 38 (Length of Environmental Document) for more information on the ways in which the document was made accessible for meaningful public review.
1601	1028	Document Section: Chapter 32 - Public Involvement  Issue:  In addition to the time extension to provide an adequate opportunity for public input we request several additional responses from the project to reduce the current onerous and unreasonable burdens on the public review process.  Comment:  These requests include: Remove all of the redundant and unnecessary materials from the public draft. This will shorten the length of the document, and therefore reduce the public	In 2014, the proposed project (Alternative 4) was replaced with a new sub-alternative, Alternative 4A, based on public and agency comments received on the Draft BDCP and associated EIR/EIS. In 2015, the Recirculated Draft EIR/Supplemental Draft EIS, which evaluated Alternative 4A, along with two other sub-alternatives, was circulated for public review and comment. Appendix A of the 2015 RDEIR/SDEIS was provided in red-line strike-out format to help reviewers clearly see what changes had been made to the Draft EIR/EIS.  As state agencies, DWR and the California Natural Resources Agency have an obligation to provide the public with educational information that is rooted in fact, based on reasonable assumptions supported by facts and expert opinions substantiated by facts. Doing so for a project of large scale and complexity can be a challenge. The BDCP/California WaterFix website, blog, Your Questions Answered, and social media platforms have been the primary vehicle for communicating important project information and correcting

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		<p>review burden by at least several thousand pages. Provide a red-line strikeout version of the public draft showing all of the changes that were made from the administrative draft. This allows people who invested substantial amounts of time to review the administrative draft to understand the changes that have been made and provides a partial remedy for the misleading summary table of changes in the public draft. Reorganize the document so that there is a more logical sequence of presentation of information. At the very least the Proposed Action should be organized as the first alternative.</p>	<p>misinformation. Brochures, factsheets, webinars, and videos are other tools the state has employed to educate the public about the proposed project and the EIR/EIS process. State representatives have also held numerous meetings and briefings around the state to educate stakeholders and provide them with critical information about project developments and the EIR/EIS process. Brochures, factsheets, webinars, reports, and other information is kept on the project website, <a href="http://www.BayDeltaConservationPlan.com">www.BayDeltaConservationPlan.com</a>, and is available for review. Historical materials remain available for review and are labeled as achieved or superseded. For more information on the public outreach efforts made during the BDCP and EIR/EIS process, please see Master Response 40 (Public Outreach Adequacy).</p> <p>The Lead Agencies believe that the 2013 Draft EIR/EIS and 2015 RDEIR/SDEIS are complete in their evaluation of impacts (using the best available science and modeling), direct and cumulative; that the project description is complete and satisfies the requirements of NEPA; and that the project objectives are also precise and complete and satisfy the requirements of CEQA. The Lead Agencies believe that the 2013 Public Draft EIR/EIS and 2015 RDEIR/SDEIS provided the public and decision makers with sufficient information on which to make informed comments that have been considered and incorporated into the Final EIR/EIS.</p>
1601	1029	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>As final evidence of how cumbersome the document is to review, has any individual staff member (including the decision makers that authorized the release of the document) of the lead agencies read and commented on every single page of the document?</p> <p>Comment:</p> <p>The answer is "no", because that is not a humanly doable task. The agency staff members have not had enough time to review the entire document and neither have we, the public.</p>	<p>The Lead Agencies went to great lengths to encourage public review and comment on the EIR/EIS. The lead agencies posted online documents highlighting important aspects of the BDCP and the EIR/EIS. They produced 17 informational webinar episodes regarding the BDCP and EIR/EIS that were available online; they distributed one-page factsheets throughout the comment period; and they conducted open house meetings throughout California. In addition, both the BDCP and EIR/EIS contain executive summaries, and the most complex EIR/EIS chapters contain reader guides and summaries of impacts. Furthermore, many documents have been available to the public online since 2010. For more information regarding the public review period, please see Master Response 39 (Public Review Period).</p>
1601	1030	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>The public must get enough detail in Notice of Intent (NOI)/Notice of Preparation (NOP) to determine if the project is relevant to them. Landowners and the public did not get enough detail to determine if they are potentially affected or not.</p> <p>Comment:</p> <p>The footprint of potential construction or habitat location was not specific enough for landowners to determine if they were potentially affected or not. The magnitude of land seizure/conversion (25% of the statutory Delta) was not disclosed so that the communities could determine the potential magnitude of the project. The tunnel conveyance was not one of the project options originally disclosed in the NOI/NOP. The scale of facilities (300' tall surge towers, three 160 acre diversion pump facilities, security lighting and noise level of the diversion facilities, three diversion structures that are up to a half mile long each), rerouting of state highways), was inadequately described such that the nature and potential magnitude of effect on adjacent properties from facilities and habitat could be determined by the public and surrounding communities.</p>	<p>The issue raised by the commenter addresses the adequacy of the NOI/NOP. The Lead Agencies have provided all public notices required by law under CEQA and NEPA in the preparation and publication of the Public Draft EIR/EIS and RDEIR/RSEIS. Additional public notice to potentially interested stakeholders, beyond what is required by law, was also provided through an extensive scoping and public review process on the Draft EIR/EIS and RDEIR/SDEIS. More information about the public outreach conducted during the comment review periods for the DEIR/EIS and RDEIR/SDEIS is provided in Master Response 40 (Public Outreach Adequacy).</p>

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1601	1031	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>During the EIR/EIS public scoping the lead agencies promised the public that the project would not condemn private lands for habitat restoration. Now the project is condemning lands for habitat restoration.</p> <p>Comment:</p> <p>The public was not given an opportunity to comment on the condemnation process for habitat restoration in the project scoping. Further, this important change in the scope and impacts of the project was never noticed in the Federal Register. The BDCP should re-notice the NOP and redo scoping so that this important change in the aspect of the project is disclosed to the public.</p>	<p>The RDEIR/SDEIS, released in 2015, introduced a new preferred alternative, 4A, which does not include a HCP or conservation measures. The alternative implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Therefore, the restoration to which the commenter is referring no longer applies. Please refer to Chapter 3, Alternatives, for additional detail about the habitat restoration proposed under Alternative 4A.</p>
1601	1032	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>The BDCP public meetings during the public review period of the draft EIR/EIS failed to disclose any of the conclusions reached in the draft document analysis.</p> <p>Comment:</p> <p>A series of posters were presented to the public. The content of the posters only covered basic aspects of what the NEPA and CEQA process is intended to address and existing conditions information. The BDCP specifically withheld from the public and presentation or discussion of the conclusions reached from the DEIR/EIS document.</p>	<p>Since 2006, DWR has sought to include as many voices in the planning process as possible and has demonstrated that commitment with an unprecedented level of public involvement. More information on how DWR has developed the project in an open and transparent manner is provided in Master Response 41 (Transparency). More information about the public outreach conducted during the comment review periods for the DEIR/EIS and RDEIR/SDEIS is provided in Master Response 40 (Public Outreach Adequacy).</p>
1601	1033	<p>Document Section: Chapter 32 - Public Involvement</p> <p>Issue:</p> <p>The BDCP EIR/EIS fails to analyze all aspects of the alternatives at an equal level of detail as CEQA requires.</p> <p>Comment:</p> <p>The description and analysis (as flawed as it is) of tunnel muck in the Reusable Tunnel Material Testing Report addresses only the Proposed Project alternative 4 alignment. There are other alternatives that also require tunneling, pipeline, tributary bypass culverts, levee setbacks, habitat restoration land forming, levee laybacks for the bypass inundation, levee breaching, and other actions that will generate large volumes of soil and spoils to be disposed of. The BDCP EIR/EIS did not sample, characterize or analyze these other spoils disposals at the same level of detail as provided in the analysis of alternative 4, the proposed project. This unequal level of analysis must be corrected, the document revised and recirculated for public comment after these new sets of information and disclosure have been changed.</p>	<p>Please refer to comment letters 1448 and 2546 (see tables in EIR/EIS) to see responses to the Delta Stewardship Council Independent Science Board's comments. Please refer to Master Response 2 (Project Level v. Program Level) for more information about project vs. program level reviews.</p> <p>Design information for the restoration and conservation strategies for aquatic and terrestrial habitat and other stressor reduction measures in CM2–CM21 is currently at a conceptual level. Accordingly, the analyses in this EIR/EIS address the effects of typical construction, operation, and maintenance activities that would be undertaken for implementation of CM2–CM21 at a program level of analysis, describing what environmental effects may occur in future project phases.</p> <p>Additional project-level environmental review will be completed as necessary prior to implementation of specific conservation measures other than CM1. For additional discussion of the other conservation measures which may require additional environmental review, see Appendix 31A of the 2013 Draft EIR/EIS, BDCP Later CM Activity Environmental Checklist.</p>
1601	1034	<p>Document Section: Chapter 33 - List of Preparers</p>	<p>Chapter 33, List of Preparers of the EIR/EIS, accurately reflects those individuals who substantively</p>

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		<p>Issue:</p> <p>Inclusion of contractors as preparers of the EIR/EIS document that were not part of the selected or approved EIR/EIS consultant team demonstrates that DWR, Reclamation, U.S. Fish and Wildlife Service (FWS), and National Marine Fisheries Service (NMFS) violated state and federal contracting regulations.</p> <p>Comment:</p> <p>Companies (and their staff) identified in the List of Preparers that were not on the selected EIR/EIS consultant team include: SAIC, Fehr &amp; Peers, Black &amp; Veatch, Apple One, Egret, Inc., Estep Environmental Consulting and ICF International. Everyone that directly contributed materials that resulted in the final formulation of the document (whether their specific materials were included or not), should be included in the list or preparers. We believe that materials that were written by the water contractors staff and their agents and representatives were directly incorporated into the EIR/EIS document which was not disclosed and is a violation of NEPA and CEQA development guidance and lead agency policies. These water contractor contributing authors should also be disclosed in the list of preparers.</p>	<p>contributed to preparation of the EIR/EIS.</p>
1601	1035	<p>Document Section: Chapter 33 - List of Preparers</p> <p>Issue:</p> <p>90+% of the original EIR/EIS contracting team is not included in the List of Preparers. According to the Draft EIR/EIS List of Preparers, there is no content in the document that was contributed to by the originally selected EIR/EIS contractor team other than CH2M HILL and AECOM. The rest of the originally selected EIR/EIS contractor team apparently contributed no content to the document including: HDR Engineering, Hansen Environmental, Tulley and Young, MBK, Western Resource Economics, ESA Associates, Davis Group, Jack Benjamin &amp; Associates, Kroen Consulting, Lorren Bottonoff, Robertson-Bryan, William Lettis &amp; Associates, Ron Ott or Resource Management Associates.</p> <p>Comment:</p> <p>At the time that ICF was brought in to complete the EIR/EIS (in violation of State (DWR) and Federal (Reclamation, FWS and NMFS) contracting regulations) more than two years after the original EIR/EIS consultant team (HDR) was under contract, the original team had completed and submitted for review preliminary draft sections of the EIR/EIS, e.g. environmental settings, regulatory background, methodologies, preliminary environmental impact analyses, reference materials, etc. DWR and Reclamation spent two years and tens of millions of dollars (estimated at over \$50,000,000) on those original environmental team EIR/EIS draft documents. The List of Preparers identifies that none of those materials made it into the Public Draft EIR/EIS and that DWR and Reclamation wasted 2 years and tens of millions of dollars on the environmental review process. Are there really no materials in the EIR/EIS document from the originally contracted team with the exception of CH2MHILL and AECOM?</p>	<p>Chapter 33, List of Preparers of the EIR/EIS, accurately reflects those individuals who substantively contributed to preparation of the EIR/EIS.</p>
1601	1036	<p>Document Section: Chapter 33 - List of Preparers</p> <p>Issue:</p>	<p>Chapter 33, List of Preparers of the EIR/EIS, accurately reflects those individuals who substantively contributed to preparation of the EIR/EIS.</p>

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		<p>The originally selected BDCP EIR/EIS Prime Contractor, HDR Engineering, does not have a single staff member identified as a contributing author in the EIR/EIS. HDR is not even identified as part of the consultant team prior to 2011.</p> <p>Comment:</p> <p>The list of preparers is obviously in error and is misleadingly incomplete. Disclosure of who prepared the document is an important set of information for the public to judge the credentials of those who prepared the document. These omissions to the list of preparers warrant recirculation of the draft once the list has been corrected.</p>	
1601	1037	<p>Document Section: Chapter 34 - References</p> <p>Issue:</p> <p>In general, the document was poorly supported by references.</p> <p>Comment:</p> <p>The document contained very few references for a document of this type and size. Many bald statements of fact or condition are included in the EIR/EIS that do not have supporting references. An example of this is the description of the volumes of storage in the various CVP/SWP reservoirs. No references are provided as the source of this information. The BDCP certainly did not do these measurements themselves so they are using third party information without providing appropriate references. Many other statements of conditions or claims of resource relationships or sensitivities or impacts are identified in the document that do not have appropriate supporting references, e.g. thermal tolerances of fish. Without the appropriate supporting references, these statements should not be accepted as providing any evidence of benefits. The document should be reviewed and revised to provide supporting references to all currently unsupported statements.</p>	<p>The Public Draft EIR/EIS cites more than 2,000 source documents and personal communications, which are listed at the end of each chapter and compiled in Chapter 34. The Public Draft BDCP cites more than 500 source documents and personal communications, which are listed at the end of each chapter. In addition, the appendices that provide much of the supporting technical background and analysis for the EIR/EIS and BDCP contain their own thorough lists of references.</p> <p>The conclusions in the EIR/EIS are supported by references, data, and scientifically sound methodologies for analysis of environmental impacts as required by CEQA and NEPA. The Lead Agencies have made every effort to ensure that all statements are substantiated by references, data, or relevant analysis. The Recirculated Draft EIR/Supplemental Draft EIS and Final EIR/EIS include corrections to errors and omissions that were discovered in the Public Draft EIR/EIS.</p>
1601	1038	<p>Document Section: Appendix 1B - Water Storage</p> <p>Issue:</p> <p>This appendix does not belong in the EIR/EIS.</p> <p>Comment:</p> <p>Many of the statements in this appendix are untruthful in the context of NEPA and CEQA requirements. The appendix repeatedly claims that the project does not need to consider storage. That is true of the HCP as they are defining the proposed project. This claim that the project does not have to consider storage is very untrue with regards to NEPA and CEQA. If you review the Purpose and Need and Project Objectives chapter 2, you will see that storage meets almost every identified need, purpose and objective. Storage may or may not be a viable stand-alone alternative, but the BDCP EIR/EIS did not even analyze or screen this option. Storage accomplishes most of the purpose, need and objectives better than the proposed project. Storage should also have been considered a component of an alternative and combined in several alternatives with other viable concepts. Storage could have been upstream for additional water supply, in-Delta operating buffer to manage water quality and upstream water supplies more efficiently, and downstream storage for increased capacity and operational flexibility, e.g. timing of Delta water diversions. An</p>	<p>The proposed project is a joint RDEIR/SDEIS prepared in compliance with the requirements of CEQA and NEPA. Before the selection and approval of an alternative considered, the Lead Agencies must comply with the necessary state and federal environmental review requirements. This document and expected Final EIR/EIS are intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives for either compliance strategy.</p> <p>While water storage is a critically important tool for managing California's water resources, it is not a topic that must be addressed in the EIR/EIS for the proposed project. This is because the proposed project does not, and need not, propose storage as a project component. Although the physical facilities contemplated by the proposed project, once up and running, would be part of an overall statewide water system of which new storage could someday also be a part, the proposed project is a stand-alone project for purposes of CEQA and NEPA, just as future storage projects would be. Appendix 1B, Water Storage, of the 2013 Public Draft EIR/EIS, describes the potential for additional water storage.</p> <p>Please see Master Response 4 (Alternatives Development) regarding the development of alternatives. Please see Master Response 6 (Demand Management) for information on demand management. Please see Master Response 37 (Storage) regarding water storage.</p>

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		<p>example alternative that should have been evaluated by the BDCP, but was not, would be an alternative that combined new upstream (e.g. Sites Reservoir AKA NODOS), in-Delta (e.g. Sacramento Deep Water Ship Channel with locks at the Cache Slough end) and downstream storage (e.g. San Luis) with no new conveyance (e.g. through Delta) and substantially reduced habitat restoration. Instead of evaluating and screening these different types of storage, all of which were introduced in the scoping process, the BDCP decided not to evaluate or screen them at all and they have provided no consistent rationale for not considering these options other than their patently false claims that they don't have to consider storage if they do not want to. It is particularly important that storage is given full and appropriate consideration as an alternative or an alternative component as the environmental impacts and footprint of storage would be orders of magnitude smaller than the proposed project so the storage option would undoubtedly become the Least Environmentally Damaging [Practicable] Alternative (LEDPA). The project proponents know that a storage based project alternative would become the LEDPA and therefore be the mandated alternative by the U.S. Environmental Protection Agency (EPA) and U.S. Army Corps of Engineers (USACE), so that is why they have worked to discredit the storage alternative without giving it due or consistent consideration in the screening process. The appendix is so in conflict with NEPA and CEQA that the lead agencies should be embarrassed to have included this wholly inappropriate appendix in their EIR/EIS. The EIR/EIS should be revised to omit this appendix, the lead agencies should publish a retraction and clarification regarding the presentation of the appendix materials to the public and the option of each type of storage and their combinations with each other and other alternative components should be given full consideration consistent with all other concepts introduced in scoping. Once storage has been integrated into one or several alternatives, the EIR/EIS should be revised and recirculated for public comment.</p>	
1601	1039	<p>Topic:</p> <p>Failure of federal co-lead agencies to address lack of original scientific data and the subsequent lack of baseline data</p> <p>Comments:</p> <ul style="list-style-type: none"> <li>- Key quote: Appendix 4A, p. 4A-1, beginning at line 7:</li> </ul> <p>Under CEQA and NEPA, state and federal lead agencies are required to undertake a certain amount of original research and analysis in order to obtain the information required to prepare legally sufficient environmental impact reports (EIRs) and environmental impact statements (EISs).</p> <ul style="list-style-type: none"> <li>- Key quote: Appendix 4A, p. 4A-1, beginning at line 22:</li> </ul> <p>DWR has taken actions to obtain access to land in the Delta for the purpose of gathering information to be used in environmental review. DWR, however, has not been able to get access [to] a substantial number of the private properties that would yield relevant information. The problem repeatedly faced by DWR in such efforts has been the unwillingness of private property owners to allow entry onto their properties. Many landowners have gone to court to prohibit access. This appendix describes the actions taken by DWR to gain access to properties within the Delta as needed to fulfill the requirements of CEQA and NEPA and federal permits (i.e., Sections 408 and 404(b)) for the BDCP.</p>	<p>While state and federal efforts to access private property for the purpose of conducting field surveys have continued, sufficient data were gather through document research, observation from the public right-of-way, and other sources to support a sufficient level of NEPA and CEQA analysis. For more information on project vs program level of detail/analysis in the EIR/EIS, including the level of detail necessary for sufficient impact analysis, please see Master Response 2.</p>

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		<p>- Key quote: Appendix 4A, p. 4A-11, beginning at line 2:</p> <p>As the preceding discussion shows, DWR has been unable, despite diligent efforts, to gain access to all of the private properties within the Delta on which it would like to conduct ground surveys, Environmental Site Assessments, and engineering, biological, geotechnical, archaeological, floral and faunal studies. Although DWR has been able to conduct some of the geotechnical studies it contemplated originally, it has not been able to conduct all such studies because of the court order issued April 8, 2011. DWR has challenged that court decision and is currently seeking access to land in the Delta for the purpose of conducting the geotechnical activities through the use of eminent domain. In short, DWR has done all that is reasonably feasible under the circumstances to conduct thorough investigation of the impacts of all of the BDCP alternatives.</p> <p>DWR's best efforts failed even after serving land owners with TEP's and offering compensation. Appendix 4A describes the steps taken by DWR to gain access to private land and the chronology of court decisions resulting from various legal actions. Final court decisions are pending.</p> <p>Appendix 4A opines that despite all of the good and well meaning efforts of DWR, the State was not able to collect baseline environmental and geotechnical data on numerous privately owned lands because land owners would not allow access. DWR admits that lack of access prevented the collection of original data along alternative conveyance routes. Therefore, DWR was not able to collect baseline data along alternative conveyance routes. This failure to collect and analyze baseline data affects several key NEPA guidance elements, including alternative analysis.</p> <p>Analysis:</p> <p>None of the three co-lead federal agencies, or their NEPA guidance requirements, is mentioned in Appendix 4A. However, one issue that arises from the federal requirements is the need to establish baseline conditions so that those conditions can be evaluated against the "no-action" alternative in an EIS. Since NEPA refers to "alternative analysis" as the heart of an EIS, it seems reasonable to assume that baseline data is critical to the federal analysis.</p> <p>In some cases, the EIS data is incomplete or not available. When this situation occurs, the Council on Environmental Equality (CEQ) directs the agency to obtain the information if the cost to do so is not exorbitant. If collecting the data is not possible, the EIS must disclose what information is not available and identify the relevance of the information.</p> <p>We cannot identify in Appendix 4A where any federal agency has addressed the CEQ guidance for missing data or data gaps.</p>	
1601	1040	Because land owners have denied access there are data gaps, the National Historic Preservation Act Section 106 consultation requirements cannot be met.	This comment regarding Section 106 consultation was addressed in the RDEIR/RDEIS through the addition of Section 18.2.1.3, which provides information on Section 106 consultation and development of a Programmatic Agreement as part of a phased approach to identifying cultural resources. Sensitivity assessments also address impacts to unknown (or unevaluated) cultural resources.
1601	1041	In analyzing a proposed project in a joint CEQA/NEPA format all of the federal agencies must distinguish the scientific and analytical basis for its decisions separately from the CEQA lead agency decision. Fundamental to this analysis is establishing the NEPA baseline. The NEPA baseline for determining the significance of impacts is the set of conditions defined by	The EIR/EIS provides baseline data based on the best available existing information which was collected and included in the GIS data set for applicable resource areas. The GIS tool was then used to estimate the footprint impacts of the action alternatives. Where access to Plan Area properties was allowed, the baseline information was updated to include the most accurate information possible. Operational effects on water

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		<p>examining the full range of construction and operational activities that the project proponents could implement.</p> <p>Unlike the CEQA baseline, which is defined by conditions at a point in time, the NEPA baseline is not bound by statute to a "flat" or "no-growth" scenario. The significance of impacts associated with implementation of the proposed Project or alternative is defined by comparison to impacts that would occur under NEPA baseline conditions (i.e., the increment). Based on DWR's admission that no baseline data was collected on numerous private properties, virtually the entire length of all tunnel alignments, the federal agencies have not established a baseline data set from which to compare the impacts of the project alternatives. Therefore, there is no basis from which federal agencies can make decisions regarding environmental consequences.</p> <p>Federal lead agencies responsible for the preparation of an EIS under NEPA must examine the full range of construction and operational activities that the project proponents could implement. Therefore, the BDCP (the plan not the EIS) must provide enough information to allow the federal agencies to fully evaluate construction and operational impacts. The BDCP EIS must then provide baseline data from which the agencies make their determination of project-related impacts.</p>	<p>supply, surface water, groundwater, water quality, and fish and aquatic resources were estimated using CALSIM, DSM2 and other biological models. The approach and assumptions used in the modeled baseline conditions are presented in Appendix 5A of the EIR/EIS. Please also refer to Master Response 1 (Environmental Baselines) addressing the environmental baseline.</p>
1601	1042	<p>Chapter 7</p> <p>Topic:</p> <ul style="list-style-type: none"> <li>- Incorrect use of groundwater modeling</li> <li>- Omits published data which contradicts or calls into question groundwater modeling data</li> <li>- Fails to meet the requirements set forth in 40 CFR Section 1502.15 Affected Environment</li> </ul> <p>Comment:</p> <p>Throughout EIR/EIS Chapter 7 and Appendix 7A a groundwater model is used to attempt to describe the environmental setting/affected environment and the environmental consequences on groundwater resources. The groundwater model used throughout the document to assess groundwater conditions in the plan area and upstream and service export areas is based on one developed by the US Geological Survey, referred to as CVHM. The application and limitations of CVHM are described in US Geological Survey Professional Paper 1776 (2009).</p> <p>The consulting firm, CH2MHill, listed on as one of the document preparers modified the CVHM model to assess groundwater conditions (environmental setting) and environmental consequences in the plan area (Delta) and renamed that modified model "CVHM-D", where the nomenclature "D" represents the Delta. Most of the groundwater section descriptive text and the data used as input to the CVHM and CVHM-D models were extracted from the State of California, Department of Water Resources publication, Bulletin 118-03 (February 2004). Groundwater modeling, the project (alternatives) impacts on groundwater and the cumulative effects of the project (alternatives) on groundwater do not meet the requirements set forth in NEPA, nor does Chapter 7 or Appendix 7A of the Draft EIR/EIS identify all potential effects likely to impact groundwater resources.</p>	<p>The description of the development of CVHM by the U.S. Geological Survey is consistent with information presented in Chapter 7, Groundwater, of the Draft BDCP EIR/EIS. As described in Appendix 7A, Groundwater Model Documentation, CVHM-D was developed by CH2M HILL in coordination with the U.S. Geological Survey.</p>

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1601	1043	<p>Chapter 7</p> <p>Topic:</p> <ul style="list-style-type: none"> <li>- Fails to meet the requirements set forth in 40 CFR Section 1502.15 Affected Environment</li> <li>- Fails to provide site specific groundwater details</li> <li>- Fails to meet the requirements set forth in 40 CFR Section 1502.15 Affected Environment and Section 1502.16 Environmental Consequences</li> </ul> <p>Comment:</p> <p>NEPA guidance requires that the EIS "...succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration." The EIS does not provide site-specific groundwater or aquifer data along the proposed conveyance routes or at the intake locations. The EIS uses only generalized data from published reports, primarily DWR Bulletin 118-2003. Bulletin 118-2003 provides generalized area information. No detailed groundwater or aquifer characteristic data are available for most of the project area within the Delta. The data necessary for a comprehensive, analysis of the groundwater setting along the alternative conveyance routes and intake locations are not available to a reviewer.</p> <p>Section 7.1.1, Potential Environmental Effects Area, provides only regional generalized descriptions of the groundwater settings, and devotes significant discussion to regional groundwater conditions outside of the Delta. There are no specific discussions about groundwater or aquifer conditions in the Delta or that describe environmental and specific groundwater conditions within the alternative alignments. However, Section 7.3, Environmental Consequences, attempts to "describe[s] the potential groundwater-related effects that could result from project construction, operation, and maintenance." Regional groundwater data extracted from Bulletin 118-2003, the primary reference used in EIS Chapter 7, provides virtually no specific groundwater or aquifer data for project alternatives locations and site-specific groundwater data. The EIS avoids reference to existing groundwater data as published in DWR Bulletin 118-3, Evaluation of Ground Water Resources: Sacramento County, 1974, which provides geologic data for superjacent stream channel deposits which cross-cut the northern Delta and which will affect and be affected by proposed dewatering and construction activities.</p> <p>Furthermore, the EIS makes no attempt to describe the sedimentary textures or aquifer characteristics along the alignment alternatives, instead relying on groundwater modeling as described in and derived from USGS Professional Paper 1766, Groundwater Availability of the Central Valley Aquifer, California. However, according to USGS Professional Paper 1766, the groundwater aquifer-systems in the Central Valley used to model groundwater availability, including the Delta, are derived from "the, lithologic data from approximately 8,500 drillers' logs of boreholes ranging in depth from 12 to 3,000 feet below land surface were compiled and analyzed to develop a 3-D texture model. The lithologic descriptions on the logs were simplified into a binary [two textures] classification of coarse- or fine-grained. The percentage of coarse-grained sediment, or texture, then was computed from this classification for each 50-foot depth interval of the drillers' logs. A 3-D texture model was developed for the basin-fill deposits of the valley by interpolating the percentage of coarse-grained deposits onto a 1-mile spatial grid at 50-foot depth intervals from land</p>	<p>The groundwater analysis presented in the EIR/EIS was developed to provide and disclose a comparison of regional conditions under the action alternatives as compared to the Existing Conditions and the No-Action Alternative; therefore, the CVHM model was selected for this analysis. Well logs near the construction sites or throughout the SWP and CVP service areas are not publicly available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed at a regional level for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals. The EIR/EIS analysis recognized the limitations of a regional evaluation. It identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8, as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that, even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p>

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		<p>surface to 2,800 feet below land surface."</p> <p>This modeling approach which is poorly described in the EIS ignores that only about 500 well logs were used to determine groundwater levels and only about 200 well logs out of 8,500 were used to describe aquifer textures (clay, silt, sand, gravel, etc.) for the entire Central Valley of California. The EIS describes how the USGS model, called CVHM, was modified (CVHM-D) from one-square mile modules to ¼ mile modules to analyze groundwater conditions in the project area. However, the modified model, CVHM-D, adds no new data, relies on essentially two wells in the Delta (nearly 800,000 acres) and provides no site specific groundwater data that describes the environmental setting along the alternative conveyance alignments.</p> <p>On February 12, 2014 at a public open-house meeting held for the BDCP EIR/EIS in Clarksburg, California this reviewer talked with Gwendolyn Buchholz, PE, Vice President, CH2M-Hill. Ms. Buchholz is listed as a preparer of Chapter 7. Ms. Buchholz said that she was responsible for groundwater modeling for the BDCP EIR/EIS and that the groundwater models used to evaluate the environmental setting, and the project impacts on the groundwater were lacking in site-specific data and that their usefulness was very limited. Ms. Buchholz was also unaware of geologic data acquired by CH2M-Hill from six-boring along a portion of the southern proposed alignment of one tunnel alternative which contradicted modeling data input and which called into question the conclusions reached in the EIS regarding tunnel impacts on groundwater.</p> <p>Based on the absence of groundwater data as required by 40 CFR Section 1502.15, it is not possible for a reviewer to independently understand the environmental setting for the alternative alignments or at the intakes along the Sacramento River.</p>	
1601	1044	<p>Chapter 7</p> <p>Comment:</p> <p>The EIS must be revised to provide site specific groundwater and aquifer data along the alternative conveyance routes and at the proposed intake locations so that a reviewer can understand the environmental setting for groundwater resources, and evaluate project impacts and mitigation measures and assess the likelihood that the EIS has failed to address other impacts and mitigation measures. Section 7.3 Environmental Consequences, states that, "The potential for interaction between the canal alignments and the underlying aquifer system in the Delta Region was evaluated using a numerical model, Central Valley Hydrologic Model-Delta (CVHM-D), described in subsection 7.3.1.2, Analysis of Groundwater Conditions due to Construction and Operations of Facilities in the Delta."</p> <p>The EIS does not include an analysis of the environmental consequences to groundwater resources from the construction or operation of any of the proposed tunnel alignments, even though it appears that a tunnel, rather than a canal, is the preferred alternative. The EIS must be revised to address environmental consequences of the construction and operation of twin tunnels on groundwater resources.</p>	<p>The groundwater analysis presented in the EIR/EIS was developed to provide and disclose a comparison of regional conditions under the action alternatives as compared to the Existing Conditions and the No-Action Alternative; therefore, the CVHM and CVHM-D models were selected for this analysis. Well logs near the construction sites or throughout the SWP and CVP service areas are not publicly available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals. The EIR/EIS analysis recognized the limitations of a regional evaluation. It identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8, as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that, even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p> <p>The EIR/EIS also indicates that there would be additional groundwater impacts associated with operation of canals due to seepage into the canal from surrounding groundwater, or seepage from the canals into the surrounding groundwater, as described in Chapter 7.</p>
1601	1045	<p>Chapter 7</p> <p>Topic:</p>	<p>The EIR/EIS evaluates the changes in the SWP and CVP water contract deliveries under the alternatives as compared to the Existing Conditions and the No-Action Alternative within the upper limits of the contract amounts. As described in Chapter 5, Water Supply, and Appendix 3A, Identification of Water Conveyance Alternatives CM1, the ability of the SWP and CVP to deliver water contract amounts has been modified over</p>

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		<p>Contradicts the purpose statement</p> <p>Comment:</p> <p>Section 7.3.1.1 Analysis of Groundwater Conditions in Areas that Use SWP/CVP Water Supplies states that, "It is assumed that in areas that experience increased SWP/CVP water supplies, groundwater withdrawals would decline, and depending upon the local groundwater characteristics, groundwater elevations may rise. It is further assumed that if SWP/CVP water supplies decrease in areas that have historically relied upon groundwater for major portions of the water supply, groundwater withdrawals would increase to replace the reduction in SWP/CVP surface water supplies."</p> <p>This statement contradicts the Purpose Statement (Chapter 2, Section 2.4) which states that, "The ... Purpose Statement reflects the intent to advance the coequal goals set forth in the Sacramento-San Joaquin Delta Reform Act of 2009 of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem."</p> <p>The above phrase -- restore and protect the ability of the SWP and CVP to deliver up to full contract amounts -- is related to the upper limit of legal CVP and SWP contractual water amounts and delineates an upper bound for development of EIR/EIS alternatives, not a target. It is not intended to imply that increased quantities of water will be delivered under the BDCP. As indicated by the "up to full contract amounts" phrase, alternatives need not be capable of delivering full contract amounts on average in order to meet the project purposes. Alternatives that depict design capacities or operational parameters that would result in deliveries of less than full contract amounts are consistent with this purpose."</p> <p>Therefore, how can the project proponents assume that increased deliveries will be forthcoming under BDCP? Increased exports to supplement groundwater withdrawals should not be considered unless the BDCP EIS Purpose and Need is modified to reflect the need. Additionally, the EIS offers no evidence that increased groundwater withdrawals within the export service area will occur. The assumption used in the BDCP EIS that increased water exports with mitigate groundwater withdrawals in the export service areas is unfounded and should not be used as a justification for the BDCP, and without supporting evidence the assumption is not a legitimate direct, indirect or cumulative effect; therefore not an environmental consequence.</p>	<p>the past 60 years due to increased use of senior water rights upstream of the SWP and CVP water service area and regulatory criteria. The alternatives, including the No-Action Alternative, were developed to deliver SWP and CVP water up to the upper limit of legal SWP and CVP contractual water amounts, with the understanding that full contract amounts would not be delivered on average for the alternatives considered in the EIR/EIS, as described in Chapter 2, Project Objectives and Purpose and Need.</p>
1601	1046	<p>Chapter 7</p> <p>Topic:</p> <p>Groundwater modeling for Delta impacts includes no data from Delta aquifers</p> <p>Comment:</p> <p>Section 7.3.1.2 Analysis of Groundwater Conditions Associated with Construction and Operations of Facilities in the Delta.</p> <p>In the Central Valley Hydrologic Model-Delta Methodology portion of 7.3.1.2, the EIS lists five modifications to the CVHM for application to the project, to create model CVHM-D. One model modification reduced the grid-cell size from 1 mile square to ¼ mile square in order to provide more Delta-specific detail. "This modification allowed for greater precision in model output in the Delta Region." However, this modification relies on the assumption that</p>	<p>As defined in Appendix 7A, Groundwater Model Documentation is a calibrated regional model. CVHM-D was developed using the information in the CVHM model to provide a method to evaluate potential groundwater changes at a smaller scale than was provided by the larger cells in CVHM. This was useful in evaluating potential impacts of groundwater dewatering activities at specified intake locations. However, the EIR/EIS analysis recognized the limitations of such an evaluation with limited site-specific hydrologic data. It identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8, as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that, even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p>

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		<p>spatial information, such a groundwater levels and aquifer texture characteristics are available within the original one-square mile grid-cell. According to Professional Paper 1766, Figure C15, Distribution of Calibration Data, in the case of the Delta region, there are no data points. That is, the US Geological Survey did not use any data from the Delta in CVHM.</p> <p>How then does the EIS use CVHM and CVHM-D to calibrate and model groundwater conditions in the Delta or specifically, along the alternative conveyance alignments if there are no data? Dividing one-mile square grid cells into ¼ mile grid cells does not improve model precision if there are no data.</p> <p>The EIS must explain how subdividing one-mile square grid cells devoid of data into ¼-mile grid cells, also devoid of data, improves the model precision and how these data-less grind-cells provide meaningful input to model groundwater conditions along the alternative alignments.</p>	
1601	1047	<p>Chapter 7</p> <p>Topic:</p> <p>Fails to meet the requirements set forth in 40 CFR Section 1502.22 Incomplete or Unavailable Information and Section 1502.24 Methodology and Scientific Accuracy</p> <p>Comment:</p> <p>The EIS fails to comply with NEPA at the most basic level, as set forth in 40 CFR Section 1502.22 Incomplete or Unavailable Information and Section 1502.24 Methodology and Scientific Accuracy. Chapter 7 is extremely difficult to objectively review and develop meaningful comments because there is virtually no data in the EIS which leads to conclusions that allows a reviewer to critically evaluate the impacts to groundwater or mitigation measures. At the Clarksburg BDCP open house (February 12, 2014) we asked several "BDCP Staff", all CH2MHill employees, if they could explain how they modeled groundwater conditions without any data -- literally only 2 data points in 400,000 acres. Gwen Buchholz, VP at CH2MHill and the lead modeler, said that she had no data and was compelled to create a model because they were under a time constraint to get the EIS out for public comment. She admitted that the groundwater model used to describe the affected areas was virtually useless. She told us that their assumption was that the tunnel would be bedded on a sand layer they saw in one boring at about 150 feet bgs. We told her that we had reviewed boring data (collected by CH2MHill) that clearly showed the tunnel invert would bed on fat clays. She said if that were true, it would change the analysis...it is true, but not evaluated in the EIS.</p> <p>At the same Clarksburg open house, we spoke with Praba Pirabarooban, DWR Supervising Water Resources Engineer. We asked him to explain how the tunnels are constructed: 3 boring machines working at once; each machine dropped to tunnel depth (about 150 feet) in an excavation; pre-cast concrete tunnel parts, each 10-feet long and representing 1/8 if the circumference (45 degrees), bolted and glued together (about 304,000 individual precast concrete pieces held together by about 12,000,000 bolts). Mr. Pirabarooban admitted he had virtually no data to inform the design of the tunnel and very limited data about construction of the intakes. For instance, he had data from one boring in the Sacramento River which showed a clay layer at 30 feet below ground surface (bgs). Therefore, the entire dewatering plan (sheet pile construction) and intake construction</p>	<p>The groundwater analysis presented in the EIR/EIS recognized that well logs near the construction sites or throughout the SWP and CVP service areas are not publicly available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals and to compare several intake locations. The EIR/EIS analysis recognized the limitations of a regional evaluation. It identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8, as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that, even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p>

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		<p>protocols in the EIS are based on one boring, he actually thought that clay layer in the Delta would be continuous for about one mile along the river and about 1000 feet east of the river. There are no data to confirm this assumption.</p> <p>According to the EIS, DWR relied on two technical memorandums prepared by DWR to estimate dewatering protocols. It took us about one month, but we finally obtained the Tech Memos. Mr. Pirabarooban was a quality control reviewer for one the memos which said, that to dewater the intake construction sites will require anywhere from 200 to 1,000,000 gallons per day (gpd).</p> <p>But that a final pumping protocol could not be determined without more data -- data DWR never acquired before they prepared the EIS. It makes it very difficult to review an EIS when there are no data from which we can reasonably evaluate any impacts. We asked Mr. Pirabarooban what percentage of data he had for the tunnel design; he said about 15% for one alignment. DWR probably had less than 5% of the necessary data when compared to the alternative alignments. Mr. Pirabarooban agreed with that. We asked him how long would it take to acquire and analyze enough data to design the tunnels, his answer- about 1.5 to 2 years and \$1.5 billion.</p> <p>According to Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering Evaluation, DWR 9AA-31-05- 145-002, Task Order No. WGI-15, Subtask 2, January 21, 2010, section 3.0 Approach:</p> <p>p. 3-1: Although several thousand borings have been drilled throughout the Delta, mostly for geotechnical evaluation of manmade levees, almost none of these borings are located in the immediate vicinity of proposed project facilities. More relevant data for this investigation was found in previous studies for the Peripheral Canal. In addition, the project database included data from numerous United States Geologic Survey (USGS) and DWR groundwater monitoring wells surrounding the Delta. However, none of these well were located in the immediate vicinity of proposed project features.</p> <p>p. 3-4: Although more than 100 groundwater monitoring wells were identified within the project area, the spatial distribution of these wells is not uniform across the project area. Additionally, the density of wells with respect to near surface hydrogeologic conditions is insufficient to produce a project-wide groundwater map detailed enough for site-specific dewatering analysis. Therefore, it is not possible to determine the site specific variation of initial depth to groundwater along each alignment.</p> <p>The EIS ignores these statements from a document upon which Chapter 7 relies for much of its credibility and scientific accuracy. The EIS must be revised to meet CFR 40 Section 1502.22 and include an explanation of the limits of available data and how those data gaps influence the usefulness of the CVHM-D groundwater model.</p>	
1601	1048	<p>Chapter 7</p> <p>Topic:</p> <p>Fails to meet 40 CFR Section 1502.24 for professional and scientific accuracy</p> <p>Comment:</p> <p>The EIS fails to meet the NEPA requirements of 40 CFR Section 1502.24. Professional and</p>	<p>The groundwater analysis presented in the EIR/EIS was developed to provide and disclose a comparison of regional conditions under the action alternatives as compared to the Existing Conditions and the No-Action Alternative; therefore, the CVHM model was selected for this analysis. The CVHM model is described in Appendix 7A, Groundwater Model Documentation, as a regional flow model to be used to compare alternatives in the BDCP EIR/EIS. The assumptions in CVHM are presented in the U.S. Geologic Survey 2009 Groundwater Availability of the Central Valley Aquifer, California paper (U.S. Geological 12 Survey Professional Paper 1766) which is incorporated by reference into the EIR/EIS.</p>

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		<p>scientific integrity is compromised throughout EIS Chapter 7 by citing only portions or sections of reference material which agree with the project proponents desired outcome. This selective data presentation violates Section 1502.24, and makes it impossible for comprehensive review of the proposed project's impacts and mitigation measures.</p> <p>Therefore, revise EIS Chapter 7 to meet the basic requirements of 40 CFR Section 1502.24 and to provide reviewers with a scientifically objective evaluation of the proposed project's impacts and relevant mitigation measures. Examples of the use of selective data include, but are not limited to:</p> <p>Comment A:</p> <p>Section 7.1.1.1 Central Valley Regional Groundwater Setting; p. 7-3, beginning line 4, Regional Hydrogeology Overview; The EIS ignores or uses only selected data from three Chapter 7 references which describe the complex stratigraphy and lithologic character of the Delta and the site-specific groundwater conditions affecting project alternatives. The EIS uses only selective data or ignores the limitations of California Department of Water Resources, 2003, California's Groundwater. Bulletin 118, Update 2003; California Department of Water Resources, 2010, Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering and Groundwater Evaluation. Delta Habitat Conservation and Conveyance Program, Document Number: 9AA-31-05-145-002, and California Department of Water Resources, 2010, Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, Delta Habitat Conservation and Conveyance Program, Document Number: 9AA-31-05-145-001. From Chapter 9, the EIS ignores significant portions of Norris, R. M., and R. W. Webb. 1990, Geology of California, Second Edition, New York: John Wiley &amp; Sons, Inc. which describes the complex geologic setting of the Delta because it does not fit the pre-determined, simplified lithologic conditions for project groundwater modeling (Norris and Webb, beginning on page 434).</p> <p>The EIS does not explain that Figure Number 9-3 used for groundwater analysis and geology which is adapted from Atwater (Atwater, B. F. 1982. Geologic Maps of the Sacramento-San Joaquin Delta, California: U.S. Geological Survey. (Miscellaneous Field Studies Map MF-1401, scale 1:24,000), Reston, VA) and that the Atwater map is essentially a surficial geology map that provides data to only a feet below the existing ground surface and therefore Atwater's geologic mapping cannot be projected to depths below 2 or 3 meters.</p> <p>Comment B:</p> <p>Section 7.3.1, Methods of Analysis. The EIS does not disclose that CVHM is a general, overall water balance tool model. CVHM specifies that groundwater water levels are generalized aquifer characteristics from selected wells and are culled to include just fine or coarse sand in 50 to 100 foot thick layers. This omission in the EIS prevents the reviewer from thoroughly understanding the implication of the dewatering and project construction impacts. Additionally, the "refinement of CVHM" to CVHM-D for the Delta only reduced the 1 sq. mi. grid to ¼ sq. mi. CVHM-D did not reduce the layer thickness to less than 50 feet; nor did it add additional texture (lithologic) descriptors.</p> <p>CVHM-D model calibration is critical to the evaluation and interpretation of project impacts on groundwater resources. Water level in wells is necessary for this calibration. No wells for calibration were used in the Delta area. A general water balance in the Delta has been produced by the model, but the EIS does not provide specifics for subsurface geology,</p>	<p>Figure 9-3 in Chapter 9, Geology and Seismicity, was not considered in the groundwater analysis in the EIR/EIS or in the U.S. Geological Survey's development of CVHM.</p> <p>CVHM-D also is described as a regional flow model to be used for planning purposes in a manner that compares conditions under the action alternatives with conditions under the Existing Conditions and the No-Action Alternative models. Well logs near the construction sites or throughout the SWP and CVP service areas are not publicly available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed at a regional level for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals. The EIR/EIS analysis recognized the limitations of a regional evaluation. It identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p>

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		<p>engineering characteristics, dewatering programs, or domestic well interference.</p> <p>Comment C:</p> <p>The EIS refers to existing ground water levels and flow directions (p. 7-40). None of the groundwater parameters necessary to evaluate existing conditions have been measured or calculated. The EIS only guesses at the groundwater elevations within one of two feet of depth and generalizes the groundwater flow direction based on topography and existing, present-day, drainage patterns. In the near-flat Delta terrain, surveys accurate to centimeters are necessary to accurately delineate the flow directions and head boundaries. The EIS fails to meet basic scientific standards.</p>	
1601	1049	<p>Chapter 7</p> <p>Topic:</p> <p>EIS fails to address dewatering effects to depths of 150 feet below the existing ground surface</p> <p>Comment:</p> <p>Section 7.3.1.2, p. 7-36, beginning line 19.</p> <p>The EIS states, "The parameters used to simulate the dewatering projects were obtained from two DWR technical memoranda: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering and Groundwater Evaluation (California Department of Water Resources 2010a) and Analysis of Dewatering Requirements for Potential Excavations (California Department of Water Resources 2010b). Each dewatering project was simulated using CVHM-D."</p> <p>However, according to Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, DWR Document Number 9AA- 31-05-145-001, Task Order WGI-15, February 28, 2010 (Technical Memo-1), section 1.1, p. 1-1: "Task Order WGI-15, Conveyance Canal and Construction Area Groundwater Evaluation, is designed to develop a more detailed understanding of the near-surface hydrogeologic regime and excavation dewatering requirements for proposed water conveyance options in the Sacramento River-San Joaquin River Delta ("the Delta")."</p> <p>The term "near-surface" refers to, "The pipeline excavation depth was assumed to be 30 feet below ground water surface (bgs). The dewatering target was assigned as 5 feet below the pipeline excavation depth (i.e. 35 feet bgs)." (Section 3.3.2, p. 3-7). Although the tunnel alignment per se will not be dewatered, there are numerous locations along the proposed tunnel alignment which are proposed to be dewatered to depths up to 150 feet below the existing ground surface. Therefore, project dewatering effects on groundwater, to tunnel alternatives invert depths from 36 feet to 150 feet below the existing ground surface are ignored in the EIS.</p> <p>Figure 3-3 (Technical Memo-1) shows one proposed tunnel alignment but does not show any alternative tunnel alignment, or Alternative 4, the preferred alignment and does not accurately show the proposed location of the intakes. Therefore, how can the EIS, which relies on Technical Memo-1, comply with 40 CFR Section 1502.14, Alternatives including the</p>	<p>The EIR/EIS analysis recognized the limitations of the preliminary dewatering analyses and identified that groundwater impacts due to conveyance construction may would not be able to be fully mitigated. Therefore, the analysis finds such impacts would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8, as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that, even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p>

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		proposed action, and with CFR 40 Section 1502.24 Methodology and scientific accuracy?	
1601	1050	<p>Chapter 7</p> <p>Comment:</p> <p>Section 7.3.1.2, p. 7-36, beginning line 23.</p> <p>The EIS, relying on Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, states that, "Each dewatering project was simulated using CVHM-D. The effects of each dewatering simulation were compared to the simulation of the No Action Alternative baseline conditions to obtain an estimate of the incremental impacts of dewatering activities." However, the EIS ignores Technical Memo-1 which states (Section 5.0 Data Needs, p. 5-1):</p> <p>A numerical model or analytical calculation could be employed to estimate the subsidence that might occur as direct result of dewatering. However, the usefulness of such a modeling/analysis effort would also depend on gathering site- specific thicknesses of potentially compressible units, values for inelastic and elastic storage coefficients. The estimates for pre- consolidation head are also needed to evaluate potential dewatering induced subsidence. The results of the subsidence assessments would be used to evaluate the potential for dewatering impacts to the surrounding topography, including nearby levee systems. The necessary data for this type of modeling/analyses could be acquired through geotechnical borings and acquisition of undisturbed core samples. However, dewatering of one or more test excavations as suggested ... would be necessary to confirm and refine the model's predictions.</p> <p>Section 5.0, Data Needs of Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, identifies "some data gaps" including dewatering analysis of peat, site specific aquifer parameters, installation of "numerous groundwater monitoring wells", collection of groundwater quality data and "Once site-specific data have been collected, it is recommended that previously created flow evaluations be updated to reflect these new data. Additional scenarios could then be created to optimize dewatering methods or to determine the feasibility of alternate methods." (p. 5-2) None of these data gaps are addressed in the EIS. How does the EIS comply with CFR 40 Section 1502.24 Methodology and scientific accuracy and 40 CFR 1502.22 Incomplete or unavailable information?</p>	<p>The EIR/EIS recognizes that the analysis does not include site-specific geotechnical and hydrogeological analyses which would be completed during the project design, as described in Appendix 3B, Environmental Commitments. This lack of data is also recognized in the impact analysis in Chapter 7, Groundwater, which states that the model results are only a forecast, and, therefore, groundwater impacts due to conveyance construction probably would not be able to be fully mitigated and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8, as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the BDCP EIR/EIS. However, the BDCP EIR/EIS stated that, even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p>
1601	1051	<p>Chapter 7</p> <p>Topic:</p> <p>Fails to accurately apply data to analysis</p> <p>Comment:</p> <p>Section 7.3.3, p. 7-39, beginning line 6</p> <p>The EIS states, "The assessment of effects resulting from implementation of the BDCP alternatives is complicated by the fact that locations and construction details for existing production wells in the vicinity of the project are unknown at this time." This statement is misleading and is contradicted by Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering Evaluation, DWR</p>	<p>The CVHM-D model did not modify the hydrogeologic data within the CVHM model because it was desired to use the calibrated model to provide the basis for comparison of alternatives. With respect to the comparison of alternatives in the EIR/EIS, the primary differences between the alternatives are related to the number of intakes and use of pipeline/tunnels and canals. Different alignments of the pipeline/tunnels or canals were not analyzed. The effects on groundwater conditions between pipeline/tunnels and canals are more generally related to the construction methods (e.g., tunnel construction only would require dewatering at the tunnel shafts, whereas canal construction would require dewatering along the alignment) and operational characteristics (e.g., pipeline/tunnels do not provide connectivity of the conveyed water and the groundwater, whereas groundwater would be affected by operation of the canals). The EIR/EIS analysis recognized the limitations of a regional evaluation and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8, as compared to the Existing Conditions and the No-Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each</p>

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		<p>9AA-31-05-145-002, Task Order No. WGI-15, Subtask 2, January 21, 2010, section 3.0 Approach, which states that, " Although more than 100 groundwater monitoring wells were identified within the project area, the spatial distribution of these wells is not uniform across the project area. Additionally, the density of wells with respect to near surface hydrogeologic conditions is insufficient to produce a project-wide groundwater map detailed enough for site-specific dewatering analysis. Therefore, it is not possible to determine the site specific variation of initial depth to groundwater along each ... alignment." (p. 3-4)</p> <p>Additionally, Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering Evaluation, DWR 9AA-31-05- 145-002, Task Order No. WGI-15, Subtask 2, states that, "Appendix A contains individual hydrographs of groundwater wells monitored by DWR within the project area." Appendix A contains 102 groundwater well hydrographs. The location of each hydrograph is known. Therefore, the EIS choose to ignore available groundwater data.</p>	<p>construction location, as described in MM GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.</p>
1601	1052	<p>Chapter 7</p> <p>Topic:</p> <p>Fails to assess the lithologic characteristics of aquifers at twin tunnel depths</p> <p>Comment:</p> <p>Section 7.3.3.9, p. 7-81, beginning line 25</p> <p>The EIS states, "Operation of the tunnel would have no impact on existing wells or yields given the facilities would be located more than 100 feet underground and would not substantially alter groundwater levels in the vicinity."</p> <p>The BDCP proposed two tunnels, not one; the EIS should be corrected. The EIS should be corrected to reflect a tunnel invert depth of 150 feet below the existing ground surface.</p> <p>The EIS offers no evidence or data to support the above statement. Throughout the EIS, the project proponents have stated that there are limited groundwater data available for analysis and that much of the Chapter 7 analysis of project impacts to groundwater resources is based on two technical dewatering memorandums prepared by DWR and the CVHM-D groundwater model, neither were used to evaluate groundwater resources to depths of 100 feet or greater. The construction and operation of two tunnels, each 44 feet in outside diameter, buried at 106 feet to about 150 feet below the surface could have significant impacts of groundwater resources.</p> <p>Based on geotechnical borings (dated April 2013) from Mandeville and Bacon Islands, acquired by DWR and CH2MHill for the tunnel alignments, but not used in the preparation of the EIS, the interbedded lithologic units at depths between 100 and 150 feet below the existing ground surface range in thickness from one foot to about 17 to 20 feet and include 30 or more lithologic types. Some of the lithologic units at the tunnel depths exhibit aquifer characteristics -- silty sand, fine grain sand, etc. The majority of lithologic units are clays which may act as aquitards or aquicludes. The EIS makes no attempt to assess the impacts of dual tunnel construction on groundwater resources at depths of 106 to 150 feet below the existing ground surface.</p>	<p>The text referred to in this comment is related to the construction and operation of both tunnel bores. The text also refers to a depth of more than 100 feet in Chapter 7, Groundwater, in the EIR/EIS. The actual dimensions and depths of the facilities under CM1 in the action alternatives are presented in Chapter 3, Description of Alternatives. As described in Appendix 3B, Environmental Commitments, detailed geotechnical evaluations will be conducted during the design phase. The geotechnical evaluations will be used to develop the final design criteria and determine the need to mitigate effects on agricultural land uses along the alignments (as described in Chapter 14, Agricultural Resources, Mitigation Measure AG-1. Additionally, Mitigation Measures GW-1 to maintain water supplies in areas affected by construction dewatering. The detailed analysis of groundwater impacts is provided in Chapter 7 of the EIR/EIS.</p>

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		<p>Based on DWR Bulletin 118-3, Evaluation of Ground Water Resources: Sacramento County, July 1974, reprinted April 1980, there are buried channels composed of permeable sand and gravels incised into less permeable silt and clay, resulting in a network of meandering tabular aquifers which are normal or near-normal to the proposed tunnels alignments. The buried channel aquifers represent the former locations of major rivers including the Sacramento, American and Cosumnes. These buried, highly permeable channels will be intersected by tunnel construction. It is likely, that in the north Delta, these buried tabular aquifers serve as drinking water and agricultural water supplies. However, the EIS does not address impacts to groundwater users who withdraw groundwater from these aquifers.</p>	
1601	1053	<p>Chapter 7</p> <p>Topic:</p> <p>Impacts to groundwater resources which are not addressed in the EIS</p> <p>Comment:</p> <p>Impact GW 7(1): Twin tunnel construction will intersect producing aquifers and reduce yield or interfere with pre-existing wells. The impact would result in lowered groundwater levels and reduced well capacities and discharge rates and would affect residential and agricultural available groundwater.</p> <p>Impact GW 7(2): Pumping pre-existing groundwater wells within the vicinity of the tunnel alignments will cause groundwater drawdown beneath the tunnels and may adversely affect the structural integrity of the dual tunnels. Pumping wells within the vicinity of the dual tunnels create radii of influence which lower groundwater levels. Withdrawing groundwater from beneath the dual tunnels will adversely affect the structural integrity of the lithologic units on which the tunnels are bedded.</p> <p>Impact GW 7(3): Pumping during dewatering activities at the intakes and at specific locations along the tunnels alignments, may cause reversals in groundwater gradients and groundwater flow directions. The shallow groundwater gradients are susceptible to alterations that would affect pre-existing domestic and agricultural water wells.</p> <p>Impact GW 7(4): Construction of the forebays, which intercept the unconfined aquifer, will change the gradient and depth to groundwater. Groundwater levels up-gradient of the forebays will be increased and depth to groundwater down-gradient of the forebays will be reduced and may cause extremely shallow ground conditions that will damage building foundations, roadways and irrigation canals.</p>	<p>Changes in groundwater elevations, including effects of reverse flows, are indicated in Section 7.3 of Chapter 7, Groundwater Resources, of the EIR/EIS. As discussed in Chapter 7, mitigation measures are available to reduce the effects; however, under specific conditions, the impacts may remain significant and unavoidable and adverse, as indicated in this comment.</p>
1601	1054	<p>Chapter 9</p> <p>Topic:</p> <p>Lack of detail on significant impact from surface settlement over twin tunnels</p> <p>Comment:</p> <p>The BDCP EIS relies exclusively on the twin tunnel concept to meet the purpose and need of the BDCP. However, there is virtually no detail and no significant discussion regarding the impacts of the tunnel construction on surface settlement. Therefore, a reviewer can not</p>	<p>Settlement calculations are typically carried out assuming the ground movement arising from tunnel construction can be calculated using a Gaussian methodology. This is described by ITA/AITES in their "Report on Settlements Induced by Tunneling in Soft Ground," Tunnelling and Underground Space Technology 22 (2007) 119-149.</p> <p>For assessing ground movements at the surface perpendicular to the tunnel alignment, the methodology proposed by O'Reilly and New in their 1982 article "Settlements Above Tunnels in the UK – Their Magnitude and Prediction" is commonly adopted.</p> <p>The methodology proposed by Attewell &amp; Woodman in "Predicting the Dynamics of Ground Settlement and Its Derivatives Caused by Tunnelling in Soil" (1982) is commonly used to describe the three-dimensional</p>

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		<p>reach any conclusion on the project's effects or mitigation measures. Although not specifically called out, Impact Geo-3 relies on "adaptive management" techniques and future engineering studies and design to allay any concerns regarding surface settlement, and ignores published data that provides methods to estimate surface settlement impacts. The BDCP EIS proponents and preparers clearly know that published data to estimate surface settlement is available because language within the BDCP EIS is very similar to, or nearly the same as, language in various professional publications that address surface settlement caused by tunnels in soft ground. However, the preparers have chosen not to cite any published design manuals or professional papers, probably because doing so would force the preparers to acknowledge that large scale surface settlement and significant adverse effects are likely to occur during the construction of the twin tunnels. Therefore, the BDCP EIS preparers should revisit available technical publications and fully disclose to the public an estimate of surface settlement and the likely impacts.</p>	<p>form of movement around an advancing tunnel.</p> <p>For calculating subsurface movements, the approach adopted by New &amp; Bowers in "Ground Movement Validation at the Heathrow Express Trial Tunnel" (1994) is commonly used.</p> <p>In addition to the diameter and depth of the proposed tunnels, the trough width parameter, K, and volume loss are input parameters used for these analysis. The volume loss and trough width are controlled by a number of factors including the ground/groundwater conditions and tunneling method.</p> <p>Previous tunneling projects adopting the same tunneling method in similar ground/groundwater conditions are used to understand the likely volume loss and trough width that are possible. Typically, a conservative estimate for the volume loss is adopted such that the calculations carried out using a Gaussian method represent a conservative evaluation of the likely movements.</p> <p>In a case study ("EPB Tunnelling in Deltaic Deposits: Observations of Ground Movements" by Gens, Di Mariano and Yubero) of excavating a 31-foot diameter tunnel using an earth pressure balance machine in soft deltaic deposits in Barcelona comprising interbedded layers of sand, silt and clay. Generally, the tunnels were constructed with around 16-meter soil cover from surface to the crown of the tunnel. Volume losses were generally in the range of 0.0-0.6 percent, although higher values were observed on occasion. Most of the larger volume losses were associated with the entrance to or exit from shafts used for maintenance purposes. The trough width parameter, K, that defines the width of the surface settlement trough was observed to have a value of about 0.5.</p> <p>The MPTO/CCO proposed tunnels are slightly larger in diameter than the case study described above and are slightly deeper. The tunneling was carried out using an earth pressure balance machine and ground conditions are similar in being recently deposited interbedded layers of sand, silts and clay derived from a deltaic environment. On this basis, volume losses and trough widths similar to those observed from the case study can be expected.</p> <p>Section 13.1 of the Conceptual Engineering report identifies the following locations that the MPTO/CCO alignment crosses or that potentially interferes with features that may be sensitive to settlement:</p> <ul style="list-style-type: none"> <li>• Overhead power/electrical transmission lines</li> <li>• Natural gas pipelines</li> <li>• Inactive and active natural gas and oil wells</li> <li>• EBMUD Mokelumne Aqueducts</li> <li>• Various structures</li> <li>• Agricultural delivery canals and drainage ditches</li> <li>• Local electrical distribution lines</li> <li>• Local telephone and communication lines</li> </ul> <p>In addition, a telecommunications mast and satellite dishes have been identified along the alignment.</p> <p>Satellite dishes in particular can be sensitive to movement, as they are directed towards geostationary satellites in orbit. Charles and Skinner (2004) provides permissible slope criteria for assessing movement;</p>

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			<p>these are given as 1:6000 imposed gradient.</p> <p>Impact GEO-3 has been revised to include a discussion of the professional publications and other literature that would be used to estimate the expected site-specific surface settlement. As now discussed in Impact GEO-3, preliminary settlement calculations have been carried out for critical cross sections along the tunnel alignment, and all show impacts within an acceptable range (a maximum settlement between 0 and 2.9 inches).</p>
1601	1055	<p>Chapter 9</p> <p>Topic:</p> <p>Impact Geo-3</p> <p>Comment:</p> <p>According to US Department of Transportation, Federal Highway Administration, Technical Design Manual for Design and Construction of Road Tunnels, and A Method of Estimating Surface Settlement Above Tunnels Constructed in Soft Ground, by R.K Rowe and K.Y. Lo (National Research Council of Canada, 1983) and Predicting the Settlements Above Twin Tunnels Constructed in Soft Ground by D. N. Chapman, C.D.F. Rogers and D.V.L. Hunt, University of Birmingham, U.K., estimating potential ground settlement above tunnels in soft ground can be accomplished with accepted mathematical formulas. However, in the EIS all methods to estimate potential ground settlement above the twin tunnels are ignored.</p> <p>The risk of ground settlement to cause personal injury above the tunnels may be low. However, the EIS ignores the potential for adverse impacts at the ground surface based on accepted soil mechanics applications. The Technical Design Manual for Design and Construction of Road Tunnels (US Department of Transportation, Federal Highway Administration) provides an approach to estimate ground surface settlement impacts above tunnels. Based on the design manual's mathematical formulas numbers 7-2, 7-3 and 7-4, it is possible to estimate the width and depth of a settlement trough. The design manual also states that, "In the case of parallel adjacent tunnels, surface settlement is generally assumed to be additive."</p> <p>Therefore, based on published data, accepted soil mechanic applications and the proposed BDCP tunnel geometry, known or estimated groundwater conditions and soil types as stated in other chapters of the BDCP EIS, a reasonable estimate of ground surface settlement can be determined. The BDCP EIS should be revised to include such an estimate to be used to evaluate surface impacts so that an informed reviewer can understand the surface settlement effects of the twin tunnels and determine the potentially significant impacts of surface settlement along all tunnel alternative alignments.</p>	<p>Please see response to Comment 1601-1054. The Rowe &amp; Lo reference discusses an approach to systematically identify the contribution of ground movements from a variety of different factors.</p> <p>This is considered to represent an equivalence to the technique described in response to question 1, where a similar case study is identified and used as the basis for subsequently selecting suitably conservative parameters to carry out the ground movement assessment.</p> <p>The Chapman, Rogers, and Hunt paper referred to in the comment describes how the effects of a second tunnel impacting the same section of ground as the first can result in larger movements being observed from the second tunnel. It is considered that these factors are captured by making a suitably conservative assumption on the input volume loss. In the case of the calculation a value of 1 percent is proposed.</p>
1601	1056	<p>Chapter 9</p> <p>Topic:</p> <p>Impact Geo-3</p>	<p>An estimate of the width of the settlement trough can be made from the methods described in response to comment 1601-1054. The width is dependent on the alignment and depth of tunnels and ground/groundwater conditions. Calculations for the width and depth of the settlement trough have been made and are included in that response. The response to comment 1601-1054 also considers the impact of settlement on highways/roads/streets and buried utilities.</p> <p>The effect of the settlement on surface streams, rivers, and agricultural land is considered to be negligible.</p>

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		<p>Comment:</p> <p>The EIS's failure to estimate potential ground surface settlement above the twin parallel tunnels ignores potential surface impacts which include:</p> <ul style="list-style-type: none"> <li>- An estimate of the width of the settlement trough which could be several hundred feet or more in width and extend the entire 35-mile length of the tunnels and how the width could vary depending on geologic and groundwater conditions,.</li> <li>- An estimate of the depth of the settlement trough which could be minimal to tens of feet or more in depth and extend the entire 35-mile length of the tunnels and how the depth could vary depending on geologic and groundwater conditions.</li> <li>- Effect of highways, roads, and streets from settlement.</li> <li>- Effect on buried utilities.</li> <li>- Effect on surface streams and rivers.</li> <li>- Effect on agricultural lands and access to agricultural lands.</li> <li>- The withdrawal of additional agricultural land from production within the trough.</li> <li>- The requirement to purchase additional right-of-way to prevent encroachment onto land affected by settlement, and the additional costs to do so.</li> </ul> <p>The effect of flooding within the trough and how flooding could affect surrounding land uses.</p>	<p>Therefore, there would be no need to purchase additional rights-of-way to prevent encroachment or likelihood that additional flooding would be expected or consequent need to change land use.</p>
1601	1057	<p>Chapter 9</p> <p>Topic:</p> <p>Misleading geologic descriptions</p> <p>Comment:</p> <p>Figure 9-3 does not show the location of the Alternative 4 tunnel alignment. Therefore, the reference to Figure 9-3 is confusing and should be corrected. Alternative 4 is not located west of the community of Locke and the location shown in Figure 9-3 should not be considered in the vicinity of the Alternative 4 alignment.</p> <p>Table 9-26, Surficial Geology Underlying Alternative 4/ Modified Pipeline/Tunnel Alignment by Segments, lists only surficial deposits. A surficial deposit is defined by the American Geological Institute (Dictionary of Geologic Terms, 1983) as, "Pertaining to or lying in or on a surface, specifically, the surface of the earth". Surficial geology is not a term that is applied to geologic deposits or geologic units at depth. The Atwater (1982) report cited in the BDCP maps surficial deposits and specifically identifies those deposits as shallow, near surface deposits, based largely on soil types; not 150 feet deep, the depth of the tunnel inverts. Therefore, the EIS should be revised to eliminate references to surficial geology as an indicator of potential ground surface settlement. Additionally, the title of Table 9-3 should be changed to "Surficial Geology Overlying Alternative 4/ Modified Tunnels Alignment by</p>	<p>Figure 9-3 shows the Alternative 4 tunnel alignment in green, as represented by the Modified Pipeline/Tunnel Alignment on the map. The alignment is shown correctly. However, to ensure clarity, the color of the Modified Pipeline/Tunnel Alignment will be enhanced to illustrate the alignment more clearly.</p> <p>Additionally, the last sentence on Page 9-196 will be revised to refer to the area east of Locke, as follows: "Segments 1 and 3, located in the Clarksburg area and the area east of Locke, respectively, contain higher amounts of sand than the other segments, so they pose a greater risk of settlement."</p> <p>Regarding the part of the comment pertaining to geologic terminology, where describing the potential for ground surface settlement at depth, the EIR/EIS will be revised to eliminate references to surficial geology. Additionally, the title of Table 9-26 will be changed to "Surficial Geology Overlying Alternative 4/Modified Pipeline/Tunnel Alignment by Segments."</p>

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		Segments".	
1601	1058	<p>Chapter 9</p> <p>Topic:</p> <p>Misleading statements regarding impacts and mitigation measures</p> <p>Comment:</p> <p>The title of Impact Geo-3 is "Loss of Property, Personal Injury, or Death from Ground Settlement during Construction of Water Conveyance Features" (section 9.3.3.9). Therefore, it is misleading why the impact refers to:</p> <p>The results of the site-specific evaluation and the engineer’s recommendations would be documented in a detailed geotechnical report prepared in accordance with state guidelines, in particular Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Geological Survey 2008).</p> <p>It is not clear from the EIS how surface settlement impacts from twin tunnels can be mitigated using Guidelines for Evaluating and Mitigating Seismic Hazards in California. Therefore, the BDCP EIS must clarify how these guidelines are applied to surface settlement impacts and what those impacts could be.</p> <p>Impact Geo-3 seems to assume that surface settlement from twin tunnels is akin to slope stability issues associated with landslides and that all risks from surface settlement will be addressed in the design phase of the project. Impact Geo-3 concludes:</p> <p>Conformance to these and other applicable design specifications and standards would ensure that construction of Alternative 4 would not create an increased likelihood of loss of property, personal injury or death of individuals from ground settlement. Therefore, there would be no adverse effect.</p> <p>At best, the EIS vague about design specifications and gives no hint of what "other applicable design specifications and standards" might be. The EIS does not cite any technical manuals or professional papers regarding methods to estimate ground surface settlement and asks the public to trust that the a qualified tunnel engineer and operator will be retained to construct twin 44-foot diameter tunnels in soft ground, entirely within groundwater aquifers, at tunnel invert depths of 150-feet for a distance of 35-miles. The EIS should be revised to take a hard look at its conclusion that the twin tunnels would have no adverse effect.</p>	<p>Please refer to response to comment 1601-1054. For mitigation of settlements, the design methodology laid out by the International Tunneling Association will be followed (ITA/AITES "Report on Settlements Induced by Tunneling in Soft Ground," Tunneling and Underground Space Technology 22 [2007] 119–149).</p> <p>Regarding the part of the comment pertaining to Guidelines for Evaluating and Mitigating Seismic Hazards in California, that reference has been deleted, and the Impact GEO-3 text has been revised to reflect design codes and standards that are relevant to settlement.</p>