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1650	1	<p>The Draft EIR/EIS does not consistently address the Delta Wetlands Project as part of its cumulative impacts analysis. An EIR must discuss a cumulative impact if the project's incremental effect combined with the effects of other projects is "cumulatively considerable." (14 Cal.Code.Reg. [Section] 15130(a).) This determination is based upon an assessment of the project's incremental effects "viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (Id. at [Section] 15065(a)(3).) An EIR's evaluation of cumulative impacts may be based upon a list of past, present, and probable future projects producing related impacts. (Id. at [Section] 15130(b)(1)(A).) Probable future projects include projects for which environmental review has begun. (See, <i>San Franciscans for Reasonable Growth v. City &amp; County of San Francisco</i> (1984) 151 Cal.App.3d 61, 74; <i>Friends of the Eel River v. Sonoma County Water Agency</i> (2003) 108 Cal.App.4th 859, 870.)</p> <p>Appendix 3D of the Draft EIR/EIS states that its cumulative impact assumptions include the programs, projects and policies included in the existing conditions, the no-action alternative, the no-project alternative, and reasonably foreseeable probable future programs and projects. (Draft EIR/EIS, App. 3D, [Section] 3D.3.4, at p. 3D-24.) The Draft EIR/EIS also states that "programs with specific plans identified in draft environmental and engineering documents without subsequent approvals were included in the Cumulative Impact Assumptions as reasonably foreseeable, as shown in Table 3D-6. A more comprehensive table is included at the end of this Appendix in Table [sic][footnote 1: The reference should be to "Attachment 3D-A," not "Table 3D-A." ] 3D-A." (Id.) The Delta Wetlands Project is not included in Table 3D-6 but is included in Attachment 3D-A. (See, Id. at pp. 3D-54, 3D-83.) While Attachment 3D-A is titled "Descriptions of Programs, Projects, and Policies considered for Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Analysis for the BDCP EIR/EIS," the information in the table indicates that the Delta Wetlands Project is not included in the existing conditions, the no-action alternative, the no-project alternative, or the cumulative impacts analysis. (Id.) This is inconsistent with the fact that the Draft EIR/EIS discusses the Delta Wetlands Project in the cumulative impacts analysis for various resource sections. (See, Id. at Ch. 9, [Section] 9.3.3.17, Table 9-31, p. 9-260 [Geology and Seismicity]; Ch. 11, [Section] 11.3.5, Table 11-13, p. 11-3009 [Fish and Aquatic Resources]; Ch. 12, [Section] 12.3.3.17, Table 12-8, p. 12-3234 [Terrestrial Biological Resources]; Ch. 14, [Section] 14.3.4, p. 14-189 [Agricultural Resources]; Ch. 17, [Section] 17.3.3.17, Table 17-2, p. 17-298 [Aesthetics and Visual Resources]; Ch. 18, [Section] 18.3.5.17, Table 18-2, p. 18-207 [Cultural Resources][footnote 2: Note that Chapter 18 also discusses the Delta Wetlands Project under the no-action alternative. (Draft EIR/EIS, Ch. 18, [Section] 18.3.5.17, Table 18-1, p. 18-47.); Ch. 25, [Section] 25.4.1.1, Table 25-10, p. 25-47 [Public Health][footnote 3: Note that Chapter 25 also discusses the Delta Wetlands Project under the no-action alternative. (Id. at Ch. 25, [Section] 25.3.3.1, Table 25-9, p 25-47.).]) Further, even where the Draft EIR/EIS discusses the Delta Wetlands Project with regard to cumulative impacts, the discussion is minimal and in places inaccurate.</p> <p>The environmental impact report for the Delta Wetlands Project was certified in September 2011 and was upheld following a legal challenge in October 2012. Thus, at a minimum, the Delta Wetlands Project is a reasonably foreseeable probable future project that must be included in the cumulative impacts analysis of the Draft EIR/EIS. The Draft EIR/EIS should: (1) include the Delta Wetlands Project in its cumulative impact analysis, (2) be clear that the Delta Wetlands Project is included in the cumulative impact analysis, and (3) substantively address impacts to the Delta Wetlands Project and avoidance measures associated with the BDCP alternatives.</p>	<p>Delta Wetlands is correctly excluded from Table 3D-6. Table 3D-6 was intended to show only the USFWS/NMFS BiOp RPAs which were integrated into the BDCP (Alternative 4)—of which the Delta Wetlands Project was not one. Attachment 3D-A in Appendix 3D of the Final EIR/EIS has been revised to reflect that the Delta Wetlands Project is not included in existing conditions, but is considered for the No Action Alternative and Cumulative Impact analyses. Nevertheless, the EIR/EIS No Action Alternative and Cumulative Impact analyses take into consideration this potential project for the purpose of addressing possible effects on Delta resources.</p>

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1650	2	<p>Project Description for the Delta Wetlands Project:</p> <p>The Draft EIR/EIS includes a number of sections that describe the Delta Wetlands Project. (See, Draft EIR/EIS, App. 3D, [Section] 3D.3.4, at pp. 3D-54, 3D-83; Ch. 11, [Section] 11.3.5, Table 11-13, p. 11- 3009; Ch. 12, [Section] 12.3.3.17, Table 12-8, p. 12-3234; Ch. 14, [Section] 14.3.4, p. 14-189; Ch. 25, [Section] 25.3.3.1, Table 25-9, p 25-47; Ch. 25, [Section] 25.4.1.1, Table 25-10, p. 25-47.) However, some of the descriptions are inaccurate and/or do not represent the current description for the Delta Wetlands Project. The description of the Delta Wetlands Project set forth below and as further detailed in the 2010 Draft Delta Wetlands Place of Use Environmental Impact Report should be used for describing the Delta Wetlands Project in the Draft EIR/EIS.</p> <p>The Delta Wetlands Project involves the construction of a new water diversion and storage system on two islands in the Sacramento-San Joaquin River Delta (Delta) - Bacon Island and Webb Tract (Reservoir Islands). The Reservoir Islands provide for a total estimated storage capacity of 215 thousand acre-feet. The Delta Wetlands Project would increase the availability of high-quality water in the Delta for export or outflow through the following: (1) diversion of water on to the Reservoir Islands during high-flow periods (i.e., December through March); (2) storage of water on the Reservoir Islands; (3) mitigation for wetland and wildlife effects of the water storage operations on the Reservoir Islands by implementing a habitat management plan on Bouldin Island and Holland Tract; (4) supplemental water storage in Semitropic Groundwater Storage Bank and the Antelope Valley Water Bank; (5) discharging water for export to designated south- of-Delta users when excess CVP or SWP pumping capacity is available (i.e., typically July through November); and (6) releasing water for water quality and outflow enhancement in the Bay-Delta Estuary typically from September through November.</p>	<p>The suggested change has been made to the project description across the referenced appendices and chapters of the Final EIR/EIS.</p>
1651	1	<p>The Sacramento Regional County Sanitation District (Regional San) appreciates the opportunity to comment on the Draft Bay Delta Conservation Plan (BDCP, or Plan) and associated Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS). Regional San owns and operates the Sacramento Regional Wastewater Treatment Plant (SRWTP) in Elk Grove in accordance with its National Pollutant Discharge Elimination System (NPDES) permit. Many of the NPDES permit requirements are tied to Sacramento River conditions and the Delta ecosystem. Changes in those conditions can affect Regional San adversely by leading to modifications of the permit that impose costs on the region that would not otherwise occur. In addition, significant environmental effects can result from construction and operation of new or modified facilities to meet permit requirements. Because of these connections to our NPDES permit and the interests of our region, we are concerned with the large-scale changes that BDCP is proposing for the Sacramento River and the Delta.</p>	<p>This is an introduction to Regional Sanitation's comment letter, which identifies broad concerns that Regional San has with the proposed project. Comments that raise specific issues regarding how the project would adversely affect Regional Sanitation, and the responsibility of the project to address those effects, are addressed in subsequent responses.</p>
1651	2	<p>The Sacramento Regional County Sanitation District's (Regional San) previous comments on early versions of BDCP focused on: the need for BDCP to use the best-available sound science; all BDCP-related impacts on Regional San need full mitigation; and, that a robust and inclusive governance structure be created for all phases of BDCP. Unfortunately, the Plan is compromised by inaccuracies in the modeling of the BDCP's impacts in key areas, such that Regional San is unable to assess the Plan's impacts to its operations or the Delta ecosystem. Significant problems with the technical analyses in the BDCP and EIR/EIS render these documents inadequate under CEQA and NEPA. Errors and other deficiencies, including flaws in modeling of temperature impacts to the Sacramento River, not only undermine the EIR/EIS's adequacy, but also render the BDCP inadequate as a Habitat Conservation Plan</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>Regarding temperature modeling errors, please refer to response to comment 1651-12 within this comment letter.</p>

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		under the federal Endangered Species Act.	
1651	3	<p>BDCP and the associated EIR/EIS documents are confusing, preventing a clear understanding of the project impacts.</p> <p>BDCP is an ambitious project with a 50-year timescale for project implementation. The scale of the project is huge, as are the potential changes to the Delta and its ecosystem. The BDCP and EIR/EIS documents amount to nearly 40,000 pages. Both the scope of the documents and poor organization make it impossible for the public to understand the project and its impacts. In this regard, the Delta Science Program (DSP) was tasked with conducting an independent review of Chapter 5 (the Effects Analysis) of the BDCP, and their first comment on this section was that it was long and difficult to comprehend. We submit that the public cannot be expected to provide meaningful review of BDCP if a group of expert scientists has a difficult time understanding the section of the Plan that lays out the scientific basis for the project.</p>	<p>For more information regarding document length and complexity please see Master Response 6. The Draft EIR/EIS is the result of many years of collaboration and analysis necessary to review a project that would impact the Delta and water supplies for millions for Californians. The size and complexity of the document reflect an unprecedented effort to analyze a proposed project and 18 alternatives under both state and federal laws for special status species protection. In addition, as explained in Master Response 6, the lead agencies attempted to balance readability with the need for accurate and thorough technical analysis.</p> <p>Please see Master Response 57 regarding the length of the public review period.</p>
1651	4	The use of two different baselines for the CEQA and NEPA elements results in increased confusion. With multiple baselines, it is virtually impossible for the public to discern the incremental impacts of the proposed project. Additionally, the decision to incorporate hypothetical future conditions (projected to the year 2060) into one of the baselines introduces such variability and uncertainty as to effectively render the impact analysis impossible to interpret or understand.	The rationale for the Draft EIR/EIS analysis baselines is presented in Chapter 4, Approach to the Environmental Analysis, Section 4.2.1.1, CEQA and NEPA Baselines. CEQA normally requires existing conditions at the time of the NOP as the baseline from which to analyze project impacts. CEQ's Forty Most Asked Questions Concerning CEQ's NEPA Regulations provides that the no-action alternative may be used as a "benchmark, enabling decision makers to compare the magnitude of environmental effects of the action alternatives." Under NEPA, federal agencies have the discretion to define the point of comparison for assessing environmental effects of the alternatives as the no action alternative. Accordingly, the NEPA portion of this EIR/EIS uses the No Action Alternative (as described in Chapter 3, Description of Alternatives, Section 3.5.1) as the point of measurement for determining impacts of the federal action under NEPA. The No Action Alternative, sometimes referred to as the future no action condition, considers No Action to include continuation of operations of the SWP and CVP as described in the 2008 USFWS and 2009 NMFS BiOps and RPAs and other relevant plans and projects that would likely occur in the absence of BDCP actions. This analysis approach ensures that adequate CEQA and NEPA conclusions are disclosed that reflect reasonable starting conditions under these two laws. The RDEIR/SDEIS presents an additional No Action Alternative for purposes of NEPA that provides a reasonable benchmark from which to evaluate effects of Alternatives 4A, 2D and 5A. Every effort has been made to explain the methodologies and assumptions for each of resource chapters to help clarify the analyses approaches. The Draft EIR/EIS and RDEIR/SDEIS also include executive summaries and the Final EIR/EIS includes additional alternatives comparison summary tables to aid in explaining the variation in environmental effects across the project alternatives. Please also refer to Master Response 1, which addresses the approach to CEQA and NEPA baseline conditions.
1651	5	CEQA dictates that the "existing conditions" should normally be the baseline for the impact analysis. In fact, under CEQA, the use of a future baseline is only permissible under specific conditions, i.e., where use of an existing conditions analysis would be misleading or without informational value (as stated on Page 3D-2 in Section 3 of the subject document). As a result, the BDCP impact analysis under CEQA is purportedly based on existing conditions. However, since numerous assumptions about the impacts of a multitude of other ongoing programs were made, the existing conditions baseline is not distinct and is not a helpful basis for the assessment of incremental changes.	Please refer to response to comment 1651-4.
1651	6	Under NEPA guidelines, there is no requirement to use a baseline other than the existing conditions. However, a decision was made to select a baseline for impact analysis based on the "No Action" alternative, which includes projected future conditions in the year 2060. No information is presented to defend or rationalize this decision. Instead, text is provided to state that "nothing in NEPA or NEPA case law precludes NEPA lead agencies...from including	Please refer to response to comment 1651-4.

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		anticipated future conditions in the impact assessment."	
1651	7	Given an opportunity to provide clarity and simplicity (in terms of providing an impact analysis that can be understood), a choice was made to go in the opposite direction -- i.e. to choose to use different baselines for CEQA and NEPA, which reflect different time frames with different sets of assumptions used to define baseline conditions. This choice greatly impedes the public's ability to understand the impact of the proposed project. The use of a future baseline for assessing operational impacts to the Sacramento River is especially problematic given that BDCP impacts will occur immediately upon initiation of diversions at the north Delta intakes, against conditions likely to be much more similar to those existing today than those that may or may not occur decades in the future. While the use of a future baseline might be illustrative of the BDCP's effects 50 years from now, it does not accurately represent impacts that are likely to occur in the near term. Rather than improving the quality of information provided in the EIR/EIS, the BDCP's choice of a far future baseline has resulted in confusion and a failure to satisfy CEQA and NEPA's informational purposes.	Please refer to response to comment 1651-4.
1651	8	The Sacramento Regional County Sanitation District attempted to quantify the BDCP-related impacts to its operations and facilities but could not complete the analysis because there is too much ambiguity in the EIR/EIS and Plan itself, or the available information provided by BDCP was incorrect. The BDCP needs to be clarified, but we do not believe clarification would result from including additional sections or appendices to the nearly 40,000 page Plan. BDCP proponents should consider simplifying the project by reducing the 50-year permit timeframe or possibly separating the Plan into discrete projects that are phased, (i.e., complete the restoration elements before requesting permission for new water conveyance facilities).	Please note that the preferred Alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP, and thus no longer includes a 50 year permit term. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives; including Alternative 4A. California WaterFix will follow the Section 7 Process for federal Endangered Species Act compliance, which does not have a "permit term." Instead the authorization and management of actions under the permit relate to the triggers for re-initiation of consultation with permitting agencies.  Please see Master Response 38 for information on document length and complexity.
1651	9	Fundamental errors in the modeling that form the basis for the impact analyses require that the EIR/EIS be revised and re-circulated for public review.  Two BDCP-related changes to the Sacramento River and Delta that could adversely impact the Sacramento Regional County Sanitation District (Regional San) and its operations are Sacramento River flows and temperature. As to these parameters, there are critical errors in the modeling that formed the basis for the EIR/EIS's impact analyses. Regional San has also identified flaws in the failure to account for the BDCP-related depletion of upstream sediment supply, which undermines the accuracy and reliability of the EIR/EIS's analysis of BDCP impacts to delta and longfin smelt. The effect of these errors and omissions is that the EIR/EIS does not rely on substantial evidence to support its impact determinations in numerous areas, including the BDCP's impacts on listed fish species. The modeling and analytical errors and omissions must be corrected, and the EIR/EIS impact analyses that depend on these models must be revised and re-circulated for public review and comment.	Please refer to responses to comments 1651-11 and 1651-12 within this comment letter related to comments on Sacramento River flows and temperature.  Reduction of sediment through removal by the north Delta intakes has been identified as a potential impact of the alternatives and sediment reintroduction is included in the project description.
1651	10	Flow-Related impacts to Regional San must be fully mitigated.  The Sacramento Regional County Sanitation District (Regional San) currently discharges secondary treated effluent into the Sacramento River at Freeport, which is approximately 2 to 12 miles upstream of the proposed new water intakes. Because there is a lack of clarity and information regarding BDCP related river flow changes, it is difficult to assess the potential impacts BDCP will have on Regional San's operations, future water quality standards and/or National Pollutant Discharge Elimination System permit obligations. For instance, Regional San's wastewater treatment plant is required to maintain a minimum of 14:1 ratio between the Sacramento River flow at Freeport and Regional San's treated	Please refer to response to comment 1651-11.

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1651	11	<p>Flow Science, Inc., recognized experts in hydrodynamic modeling, evaluated BDCP's flow-related impacts on the Sacramento Regional County Sanitation District (Regional San). Flow Science used BDCP model data to determine how the proposed BDCP alternatives would impact Regional San's ability to discharge effluent, and if the discharge disruptions would require upgrades to the emergency storage basins (ESBs). (Flow Science's technical memorandum can be found in Appendix B [ATT2].) For this analysis, Flow Science used simulated Sacramento River flow rates (at Freeport) from BDCP DSM2 modeling obtained from the California Department of Water Resources (DWR). For each of the seven scenarios evaluated -- EBC1, EBC2, NAA-LLT, Alt4H1, Alt4H2, Alt4H3, and Alt4H4 -- a Matlab code was used to calculate an hourly time series of required ESB volume corresponding to the 16-year BDCP modeling period (Water Years 1976-1991).</p> <p>Flow Science concluded that the assumptions included in the BDCP model regarding future effects of sea level rise and BDCP habitat restoration seemed to mask the effects that the new BDCP export facilities would have on Sacramento River flows and our ESBs. However, BDCP lacks detail on exactly where and when habitat restoration would occur, thus the evidence supporting the model output is lacking, or not evident. Moreover, any assumptions about effects of sea level rise are merely hypothetical and cannot be considered facts. Due to these substantial uncertainties, it is equally plausible that operation of the north Delta water intake facilities will not only effect water quality, but will also increase diversion events at Regional San and effect discharge and NPDES permit requirements. CEQA requires that an EIR be based on substantial evidence. Substantial evidence is defined as facts, expert opinion supported by facts, and reasonable assumptions supported by facts. To the extent the model, and thus the EIR/EIS, relies on unsubstantiated assumptions to support a determination regarding the BDCP's effects on river flows, those determinations are not based on substantial evidence, and the model, and EIR itself, are inadequate.</p> <p>Because the EIR/EIS has not adequately demonstrated that the BDCP will not have significant adverse flow-related impacts to Regional San, the EIR/EIS must be revised and re-circulated for public review. Prior to revising the EIR/EIS, BDCP must clarify the modeling to include reasonable and identifiable assumptions for a realistic habitat restoration schedule, and any assumptions about the effect of sea level rise must be supported by substantial evidence and analysis. If habitat restoration timing and acreage are critical for avoiding impacts to Regional San, then the operational plan for the north Delta intakes must be modified to reduce these impacts by guaranteeing that any necessary habitat restoration has been completed and that the postulated effects on flows demonstrated, prior to the commencement of diversions from the new north Delta intakes. If this cannot be done, BDCP must mitigate the significant impacts to Regional San's operations or National Pollutant Discharge Elimination System permit obligations that would not otherwise occur. This would include funding an ESB capacity analysis and funding any required changes to the</p>	<p>As indicated in Tables C-20-14 through C-20-25 of Appendix 5A, Section C, of the EIR/EIS, the average flows in the Sacramento River at Freeport are less than under the No Action Alternative. These comparisons reflect changes under the action alternatives as compared to the No Action Alternative without the effects of climate change, sea level rise, and population growth. The average monthly flows can be used to compare the potential for changes in discharge patterns for the Sacramento Regional Wastewater Treatment Plant.</p> <p>The Final EIR/EIS includes model results for Alternatives 2D, 4A, and 5A as compared to the No Action Alternative and Existing Conditions in Appendix 5A, Section C, in addition to the model results previously provided in the Draft EIR/EIS. The modeling for these new alternatives does not include habitat restoration. The comparative results between Alternatives 2D, 4A, and 5A and the No Action Alternative and the Existing Conditions are generally consistent with the impact analysis results presented in the RDEIR/SDEIS. The model results include monthly flow data along the Sacramento River near Freeport based on the CALSIM II model results. Disaggregated data was calculated during preparation of the EIR/EIS using the DSM2 model to indicate changes during tidal cycles.</p> <p>Additionally, a new commitment has been added to the Final EIR/EIS to develop North Delta intake operations protocols to reduce reverse flow effects at Regional San Outfall (see Appendix 3B). Modeling shows that operation of Alternative 4A does not increase the frequency of reverse flow events in a manner that would impact Regional San. Regardless, DWR has added this commitment because minor reverse flow events may increase in frequency in the lower Sacramento River at Freeport, relative to the No Action Alternative, based on certain low flow conditions and flood tides.</p> <p>Under this commitment, in consideration of tides and river flows, DWR, in consultation with Regional San, will develop a rule curve and/or operating protocols for the North Delta Intake diversions that will account for peak flow periods within the tidal fluctuations of the Sacramento River to ensure that Reginal San operations will remain consistent with facility storage capabilities and thus not adversely impact Sacramento Regional Wastewater Treatment Plant operations.</p>

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1651	12	<p>ESBs (including any required supplemental environmental review) due to BDCP impacts.</p> <p>Another potentially adverse effect of the BDCP on the Sacramento Regional County Sanitation District (Regional San) is a change in ambient river water temperature. Regional San currently operates under National Pollutant Discharge Elimination System (NPDES) permit requirements that allow it to discharge treated effluent based on a temperature schedule approved by the Central Valley Regional Water Quality Control Board (Regional Board). The temperature schedule is based on river and effluent temperatures, and any changes to either could affect Regional San's ability to comply with the thermal discharge requirements in its NPDES permit. If the changes in river temperature cause Regional San to be noncompliant with thermal requirements applicable to the discharge, or lead to modification of permit requirements, there is a possibility that Regional San would be required to build cooling towers to cool its effluent before it is discharged to the Sacramento River. The capital cost of cooling towers is expected to be tens of millions of dollars. The construction and operation of the cooling towers would also have associated environmental impacts that are not considered in the BDCP EIR/EIS. Given that the EIR/EIS did not specifically evaluate BDCP's potential temperature impacts to Regional San's operations, we requested that Flow Science conduct this analysis. (Flow Science's technical memorandum on temperature impacts can be found in Appendix C [ATT3].)</p> <p>Flow Science reviewed the California Department of Water Resources (DWR) DSM2 model input and output files (for 24 scenarios) used in the EIR/EIS analysis of the BDCP. For all scenarios, DWR provided Flow Science with 15-minute interval output data for water years 1976-1991. Following the release of these modeling data, DWR informed Flow Science of inaccuracies in the temperature modeling runs that were the basis for the EIR/EIS's assessment of BDCP effects on Sacramento River temperatures, and thus temperature-related effects on sensitive fish species. Specifically, the temperature boundary conditions used in the EIR/EIS modeling (Reclamation et al., 2013) for the early late-term (ELT) and late late-term (LLT) runs were incorrect. DWR stated that the problem with these temperature boundary conditions was related to an error in applying climate-change corrections in modeling. The error affected almost all of the 24 scenarios. This error in temperature boundary conditions made the modeling data useless for determining temperature impacts in the Delta and Sacramento River.</p> <p>As a result, Flow Science asked DWR for corrected boundary conditions. DWR gave Flow Science the updated input data, but the DWR modelers themselves did not rerun the model with the corrected data inputs. Flow Science compared the old and corrected input boundary temperatures and re-ran the DSM2 model for two scenarios. They found high variability and large differences in output temperatures between the results that were based on the incorrect data relied on in the EIR/EIS and the corrected results produced by Flow Science.</p> <p>The BDCP's use of inaccurate data is a fatal flaw in the modeling of temperature impacts that invalidates both the model results and the temperature impact analysis in the BDCP and the EIR/EIS. Due to these flaws in the model, there is no substantial evidence to support the EIR/EIS's analysis of temperature effects to fish and there is no way for Regional San to evaluate impacts to its operations. Even the Delta Independent Science Board noted that the Water Quality analysis in Chapter 8 of the EIR/EIS is "not very informative" and is overly-reliant on unvalidated models. [Footnote 1] Regional San shares this concern.</p> <p>Water temperatures in the Sacramento River and Delta are too critical for the BDCP to</p>	<p>In-Delta water temperatures are primarily affected by atmospheric conditions such as solar radiation, air temperature, and wind. Water temperatures are typically in thermal equilibrium with atmospheric conditions and would not be strongly influenced by the flow changes under the preferred Alternative (4A). Project effects on temperature are assessed in Chapter 11, given the importance of temperature in the Delta for fish and aquatic resources. The modeling results indicate no biologically significant changes in water temperature within the Delta under the preferred Alternative. Refer to Chapter 11, attachment 11D, for detailed modeling results concerning the effects of temperature on Delta fish species.</p> <p>It is acknowledged that the temperature modeling used in the public draft BDCP and EIR/S were incorrect. Revised modeling was undertaken for the Biological Assessment of the preferred Alternative (Alternative 4A, California WaterFix), which corrected the error included in the temperature modeling for the public draft EIR/S. This showed little effect of the preferred Alternative on temperature, reflecting the main influence of atmospheric conditions as opposed to water operations.</p> <p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>

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		<p>proceed with this much uncertainty and error in the models. BDCP must investigate this error and make the appropriate corrections to its model and rerun the analysis. All elements of the BDCP and EIR/EIS that rely on the river temperature modeling can then be revised in light of the corrected data, and the analysis must be re-circulated for public review and comment. The revised analysis must evaluate not only temperature impacts to fish, but also potential impacts to Regional San's operations and discharge requirements. Any impacts identified to Regional San's facilities or operations as a result of BDCP must be fully mitigated.</p> <p>[Footnote 1: "Review of the Draft BDCP EIR/EIS and Draft BDCP," Delta Independent Science Board, App. B [ATT2] at page B-22. (Hereafter, "ISB Review.") ("There is a noted lack of emphasis on validating model outputs with observational data, as well as a lack of any presentation or discussion of the uncertainties associated with the models. It is also unclear whether the models were run under likely scenarios of future conditions in the Delta (e.g., changing precipitation patterns, decreased snow pack, changes in timing and amount of freshwater delivery, higher temperatures, etc.).")]</p>	
1651	13	<p>BDCP does not meet the requirements of the Delta Reform Act.</p> <p>The Delta Reform Act states that the BDCP will not be incorporated into the Delta Plan unless it meets specific requirements. The Act also establishes other conditions that relate to BDCP. The BDCP and EIR/EIS fail to adequately address the Act's requirements.</p>	<p>For more information on compliance with the Delta Reform Act, please refer to Master Response 31, and Appendices 3I and 3J of the Final EIR/EIS.</p>
1651	14	<p>The [Delta Reform] Act requires a comprehensive analysis of a reasonable range of flow criteria, rates of diversion, and other operational criteria to identify the remaining water available for export and other beneficial uses. The BDCP and EIR/EIS fail to include this analysis or an evaluation of the range of the flows necessary to recover the Delta and restore fisheries under a reasonable range of hydrologic conditions.</p>	<p>Regarding compliance with the Delta Reform Act, please refer to Master Response 31, and Appendices 3I and 3J of the Final EIR/EIS.</p> <p>In response to a provision in the Delta Reform Act, the State Water Resources Control Board published the 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem. As described in Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, of the EIR/EIS, the range of alternatives provides a range of flow criteria, rates of diversion, and operational criteria. One of the potential alternatives considered in Appendix 3A was based upon the State Water Resources Control Board 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem. This potential alternative was not evaluated in detail because the flow recommendations in the 2010 report could not be achieved without adverse impacts to cold water management for fisheries in the Sacramento, Feather, and American rivers, and without reductions in non-SWP and non-CVP water rights diversions. The purpose and need of this EIR/EIS would not allow changes to non-SWP and non-CVP water rights. However, Alternatives 7 and 8 in the EIR/EIS reflect similar flow criteria in a manner that would only affect SWP and CVP water rights.</p> <p>As described in Section 6.3.4 of Chapter 6, Surface Water, of the EIR/EIS, the State Water Resources Control Board is conducting a current program to update the Bay-Delta Water Quality Control Plan. Since this program is still under development and the potential outcomes are not known at this time, this program is not included in the analysis. Following completion of the updated Bay-Delta Water Quality Control Plan, SWP and CVP operations would need to be reviewed to determine if the operations continued to comply with the new regulations.</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. The EIR/EIS analyzes all alternatives, including Alternative 4A. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.</p>
1651	15	<p>The [Delta Reform] Act requires that construction of a new Delta conveyance facility shall not be initiated until arrangements have been made to pay for the cost of mitigation</p>	<p>As described in the 2013 public draft BDCP in Chapter 8, all mitigation associated with the proposed water conveyance facility would be paid for by the participating state and federal water contractors, consistent</p>

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		<p>required for construction, operation and maintenance of any new Delta conveyance facility. However, the BDCP and EIR/EIS do not clearly specify the mitigation measures needed; nor do they plainly identify the linkages to impacts of the proposed project so that the financial obligations are apparent.</p>	<p>with the Delta Reform Act. All mitigation measures necessary are described in the public draft EIR/EIS and revised as necessary for the new proposed alternative (Alternative 4A) in the RDIER/SDEIS and Final EIR/EIS. The costs of these mitigation measures will all be paid by the participating state and federal water contractors.</p>
1651	16	<p>The Delta Reform Act also requires that the EIR/EIS provide special attention to water quality impacts. A number of water quality impacts identified in the EIR/EIS are deemed to be significant and unavoidable. Such impacts include increased levels of Electrical Conductivity (EC), chloride, and methylmercury and increased violations of water quality objectives. Moreover, as noted above, the project may have a significant impact to the Sacramento Regional County Sanitation District's operations and National Pollutant Discharge Elimination System permit compliance requiring construction of cooling towers, new or expanded emergency storage basins, and/or other facility enhancements as a result of project-related river temperature and flow changes. The EIR/EIS does not provide or describe specific and effective mitigation to avoid or substantially lessen such impacts. More troubling, as the Delta Independent Science Board (ISB) found, "There is a general lack of knowledge displayed by the authors of this chapter about certain water quality constituents." [Footnote 2: ISB Review, App. B [ATT2] at page B-22.]</p> <p>In addition, many of the proposed water quality mitigation measures are non-specific, are not clearly enforceable and are deferred to the future. For instance, the EIR/EIS does not identify the number of acres of farmland in the Delta that would be impacted by water quality (e.g. EC) degradation associated with the project. The absence of such information prevents a meaningful assessment of the scope of the potential impact or the development of definitive mitigation. Instead, the EIR/EIS relies on vague statements and does not include actual commitments. For example, the proposed mitigation measure for salinity (WQ-11) states "proposed mitigation requires a series of phased actions to identify and evaluate existing and possible feasible actions, followed by development and implementation of the actions, if determined to be necessary." This is not a clear commitment to mitigate the significant impacts that the proposed project will create on Central and West Delta salinity.</p>	<p>For more information on compliance with the Delta Reform Act, please refer to Master Response 31 and Appendices 3I and 3J of the Final EIR/EIS.</p> <p>Alternative 4A would have substantially less effect on Delta water quality than the former preferred Alternative (Alternative 4), such that significant impacts were only identified for electrical conductivity (EC) at Emmaton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based. For specific mitigation measures proposed under the preferred Alternative to address EC effects at Emmaton and Prisoners Point, refer to Chapter 8, Water Quality, Section 8.3.4.2.</p> <p>The Mitigation Monitoring and Reporting Plan (MMRP) details how each mitigation will be carried out and which parties are responsible for monitoring and reporting on its success, as well as the success criteria.</p> <p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1651	17	<p>Overall, the EIR/EIS, by omission and by lack of specificity, does not address the major requirements of the Delta Reform Act. In addition, the failure to propose and commit to implement definitive mitigation measures that would clearly offset the BDCP's numerous adverse impacts is a significant flaw in the EIR/EIS and contradicts the Legislature's mandate under the Delta Reform Act. The BDCP as circulated cannot be incorporated into the Delta Plan.</p>	<p>Please refer to response to comment 1651-16.</p>
1651	18	<p>BDCP and associated EIR/EIS ignore the State Water Resources Control Board's Delta flow objectives.</p> <p>In all the assumptions listed to "describe" the baseline conditions (e.g. in Table 3D-2 and 3D-4), at least one major ongoing effort was noticeably absent -- the State Water Resources Control Board (SWRCB) efforts to adopt Delta flow objectives, which in turn may affect Delta exports through the proposed BDCP project. These tables in the EIR/EIS do not mention the August 2010 Delta flows report that was issued by the SWRCB in specific response to a mandate under the Delta Reform Act of 2009. The EIR/EIS also does not mention the multiple workshops that have been held by the SWRCB to develop scientific information that will be used in the final adoption of Delta flow requirements or the schedule for adoption of Delta flow standards by the SWRCB.</p>	<p>Please refer to response to comment 1651-14.</p>

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		<p>In a July 2013 letter by Delta Stewardship Council (DSC) staff and consultants, the requirements in the Delta Reform Act of 2009 to address Delta flow requirements in the EIR/EIS were re-emphasized, having been previously raised in letters submitted in April 2012 and June 2010. The DSC's letter states that the Delta Reform Act requires that the EIR/EIS include a comprehensive analysis of a reasonable range of flow criteria, rates of diversion, and other operational criteria to meet the requirements for approval of a Natural Communities Conservation Plan (NCCP). The 2013 letter also reiterated that the EIR/EIS must take into account the SWRCB's August 2010 "Development of Flow Criteria for the Sacramento/San Joaquin Delta Ecosystem." The Delta Reform Act intended that the results of that 2010 SWRCB study would be used to inform planning decisions for the BDCP. The DSC's 2013 letter asked that the SWRCB's 2010 flow criteria be addressed directly in the EIR/EIS.</p> <p>Review of the EIR/EIS indicates that the SWRCB 2010 Delta flow criteria were mentioned in Section 3 and that one alternative (Alternative 8) considered a "version" of the recommendations that the SWRCB made in its report. However, it is not clear that the evaluation of Alternative 8 was adequate to meet the requirements of the Delta Reform Act. The EIR/EIS must be revised to describe how it provides the comprehensive analysis required under the Act.</p> <p>In February 2014 the Delta Science Program held a workshop to identify the best available science to inform the State Water Resources Control Board's (State Water Board) decisions regarding Delta outflow requirements included in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan). In May 2014 the Delta Science Program released a Delta Outflow and Other Stressor report to the SWRCB that was written by an expert panel with the charge of:</p> <p>"...reviewing and assessing the provided written materials and oral presentations in order to identify the best available science to inform the State Water Board's decisions on Bay-Delta Plan requirements related to Delta outflow and related factors (Delta outflow requirements)."</p> <p>A similar report will be released before the end of 2014 on Delta Inflow and Other Related Stressors. The BDCP proponents should also review both of these reports and incorporate, as appropriate, the most current best available science into the Plan and EIR/EIS related to the SWRCB flow objectives.</p>	
1651	19	<p>BDCP and the EIR/EIS fail to properly consider the Federal Antidegradation Policy.</p> <p>The use of two different baselines (the CEQA and NEPA baselines) and, the evaluation of water quality impacts in 2060 yield information that is extremely difficult to understand or verify. An analysis of near-term water quality changes from existing ambient water quality is needed to provide the public with understandable information and to provide context/grounding for the long-term impacts that are presented. These analyses will also allow a proper assessment of compliance with state and federal antidegradation policies.</p> <p>The EIR/EIS states, in various places (e.g. in Section 8 and in Table 31-1), that significant unavoidable increases in salt as measured by electrical conductivity (EC) (and/or total dissolved solids--TDS) and methylmercury will occur in the Delta as a result of the BDCP (Alternative 4) as embodied in CM 1, the Water Facilities and Operations control measure evaluated in the BDCP Effects Analysis. The EIR/EIS predicts significant increases in current ambient concentrations of EC and methylmercury at various Delta locations. The Delta is</p>	<p>Alternative 4A would have substantially less effect on Delta water quality than the former preferred Alternative (Alternative 4), such that significant impacts were only identified for electrical conductivity (EC) at Emmaton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based.</p> <p>Regarding consideration of the Federal Antidegradation policy, degradation was assessed via reduction of assimilative capacity with respect to regulatory objectives. The potential for each alternative to cause water quality degradation was addressed for each constituent of concern identified in Chapter 8, Water Quality. Please refer to Master Response 14 for more information regarding Water Quality analysis and antidegradation.</p> <p>Regarding the use of two different baselines, please refer to response to comment 1651-4.</p>

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		<p>currently 303(d)-listed for EC and methylmercury, a federal Clean Water Act listing which is made when water quality objectives are not attained. The projected increased concentrations associated with CM 1 represent significant degradation in water quality and further impairment of already impaired beneficial uses in the Delta.</p> <p>Under the federal antidegradation policy, "major federal actions" that affect water quality (pursuant to NEPA and the Endangered Species Act) trigger the application of the federal antidegradation policy and requirements. Those requirements prohibit actions that would lower water quality in areas where existing water quality objectives are not attained (e.g. Tier I waters) [USEPA, Region 9, 1987, Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12, June 3].</p> <p>The EIR/EIS does not adequately articulate or address the federal antidegradation requirements, which place significant constraints on the proposed project and associated mitigation. The "key questions" to be addressed by the surface water quality impact assessment (Section 8.4.1, page 8-127, lines 37-40 and page 8-128 lines 1-4) do not adequately address the requirements of the federal antidegradation policy. The "key questions" add a threshold consideration ("to cause or substantially contribute to significant adverse effects on the beneficial uses of water in these areas of the affected environment") which does not exist in the federal antidegradation policy. As such, the evaluation in the EIR/EIS does not properly address the fact that significant degradation of water quality in 303(d)-listed waters is prohibited under the federal policy. The acknowledged degradation of EC which will occur in 303(d)-listed areas such as Suisun Bay and portions of the Delta is not allowed under the federal policy. The proposed EC mitigation measures (WQ-11, WQ-11a and WQ-11b) described in the EIR/EIS are inadequate in that they will not ensure that the EC levels will be maintained in 303(d)-listed waters.</p> <p>The same considerations apply to the "significant and unavoidable" degradation of methylmercury levels that will occur in the 303(d)-listed Delta as a result of implementing "habitat restoration projects" associated with the BDCP. The Delta is 303(d) listed for mercury -- actions which cause significant degradation of mercury levels in the Delta are prohibited. CM12, the proposed control measure for mercury, does not adequately assure the prevention of unallowable degradation of mercury levels in the Delta.</p>	
1651	20	<p>BDCP proposes large-scale changes to existing governance structures with inadequate local representation.</p> <p>The governance of BDCP is an important element of the plan because all of the important decisions (i.e., adaptive management, facility design and construction, habitat restoration, conservation measures, research, public outreach, land acquisition, etc.) will be made under the governance framework proposed by BDCP. On a plan so far-reaching and consequential as BDCP, it is important that governance be as representative as possible. Unfortunately, the BDCP proposed governance structure gives great authority to water exporter interests, but does not provide local entities (such as local government and special districts such as the Sacramento Regional County Sanitation District (Regional San)) any official voice in future BDCP actions or adaptive management decisions. As described in Chapter 7 of BDCP, key decisions associated with implementation of the BDCP are deferred to the Implementation Office, which will be lead by a Program Manager to be selected by, and report to, the Authorized Entity Group. The Authorized Entity Group will be established to provide program oversight and general guidance to the Program Manager regarding implementation of the Plan. The Authorized Entity Group will consist of the Director of</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, and 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> <p>Please see Master Response 5 for a discussion of the governance structure proposed in the 2013 public draft BDCP.</p> <p>Please see Chapter 3 in the Final EIR/EIS for an updated description of the Collaborative Science and</p>

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		<p>DWR, Regional Director for Reclamation, and a representative from both the State Water Contractors and Federal Water Contractors. Clearly, this is not configured as a robust public stakeholder process, as virtually all of the governance and implementation authority remains in the control of water supply interests.</p> <p>It is also unclear why there is no role proposed for either the State Water Resources Control Board (SWRCB) or the Delta Watermaster in any substantive oversight entity. The SWRCB will be setting new Delta flow standards in the coming few years, and will be responsible for ongoing water quality and water rights permitting and regulatory actions, which are likely to affect BDCP actions over the course of the 50-year permit. Similarly, the Delta Watermaster -- created by the Delta Reform Act -- has important authority to enforce the SWRCB's regulatory decisions affecting the Delta, and should also be part of any BDCP oversight entity.</p> <p>The proposed governance structure lacks any meaningful role for local stakeholders. Although there is a Stakeholder Council, which allows many stakeholders, including local counties and agencies, to convene and hold meetings on BDCP-related issues, this group has no authority in decision-making matters for BDCP -- even for issues that directly affect local counties and agencies. As currently structured, disputed matters will be raised to the Authorized Entity Group and the Permit Oversight group. However, there is a lack of balance between the two groups that could lead to an inherent bias towards water exporter interests. This imbalance must be corrected and could possibly be solved by adding local county representation on the Authorized Entity Group, thus making both groups have four members each.</p> <p>In summary, the governance structure of BDCP gives decision-making authority to water exporter interests and grants dispute resolution authority to water exporter interests. There must be a more balanced approach to governance that does not exclude local government or stakeholders (including Regional San). There needs to be a mechanism to allow these stakeholders an effective role in representing their interests in the decision-making process. [Footnote 3: Indeed, a review of the various NCCPs adopted and in the planning stages throughout California reveal that the vast majority of these plans are either lead by or include affected county and local governments or special districts within their governance structure. (See, <a href="https://www.dfg.ca.gov/habcon/nccp/status/index.html">https://www.dfg.ca.gov/habcon/nccp/status/index.html</a>.) If adopted, the BDCP would be unusual in California, in that it would enable parties not located within the affected geographical area of the NCCP to literally control most (if not all) of the day-to-day operations and decision-making relative to the NCCP.]</p>	<p>Adaptive Management Program (CAMP), including information on the CAMP structure and decision-making processes. Actions taken through the CAMP will be based on sound science and targeted research actions to improve our understanding of effects from CVP and SWP operations and other management actions on listed species and resolve key knowledge gaps on the Delta ecosystem. New science from the CAMP will help inform and improve future CVP and SWP operations to minimize potential effects to listed species. Additional details regarding Adaptive Management and Monitoring can be found in Master Response 33.</p>
1651	21	<p>Much of the BDCP and the EIR/EIS are scientifically suspect and cannot be legally supported.</p> <p>In its review dated May 15, 2014, the Delta Independent Science Board (ISB), while commending the document preparers for their efforts to assemble and analyze volumes of information, stated that "the science in this BDCP effort falls short of what the project requires." [Footnote 4: ISB Review, Cover Letter.] In its "Summary of Major Concerns" section, the ISB Review expressed very troubling conclusions regarding the BDCP and the supporting EIR/EIS:</p> <p>"Many of the impact assessments hinge on overly optimistic expectations about the feasibility, effectiveness, or timing of the proposed conservation actions, especially habitat restoration."</p>	<p>The Cumulative Impact Analyses that was written for the 2013 Public Draft EIR/EIS has been revised to include the impacts associated with the new proposed project alternatives and also updates past analyses. Environmental Commitments are to minimize effects to the Delta and its inhabitants and mitigate for loss of habitat to the ecosystem and its species. For more information please see Section 5 Revisions to Cumulative Impact Analyses, Appendix A Chapter 11 Fish and Aquatic Resources, Appendix A Chapter 12 Terrestrial Biological Resources, and Appendix 3B Environmental Commitments, AMMs, and CMs of the RDEIR/SDEIS.</p> <p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>

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1651	22	<p>Much of the BDCP and the EIR/EIS are scientifically suspect and cannot be legally supported.</p> <p>In its review dated May 15, 2014, the Delta Independent Science Board (ISB), while commending the document preparers for their efforts to assemble and analyze volumes of information, stated that "the science in this BDCP effort falls short of what the project requires." [Footnote 4: ISB Review, Cover Letter.] In its "Summary of Major Concerns" section, the ISB Review expressed very troubling conclusions regarding the BDCP and the supporting EIR/EIS:</p> <p>"The project is encumbered by uncertainties that are considered inconsistently and incompletely; modeling has not been used effectively to bracket a range of uncertainties or to explore how uncertainties may propagate."</p>	<p>The BDCP has been revised in the 2015 RDEIR/SDEIS to address comments provided by the Delta Independent Science Board, including the one cited by the commenter. Please see Appendix D of the RDEIR/SDEIS.</p> <p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1651	23	<p>Much of the BDCP and the EIR/EIS are scientifically suspect and cannot be legally supported.</p> <p>In its review dated May 15, 2014, the Delta Independent Science Board (ISB), while commending the document preparers for their efforts to assemble and analyze volumes of information, stated that "the science in this BDCP effort falls short of what the project requires." [Footnote 4: ISB Review, Cover Letter.] In its "Summary of Major Concerns" section, the ISB Review expressed very troubling conclusions regarding the BDCP and the supporting EIR/EIS:</p> <p>"The analyses largely neglect the influences of downstream effects on San Francisco Bay, levee failures, and environmental effects of increased water availability for agriculture and its environmental impacts in the San Joaquin Valley and downstream."</p>	<p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p> <p>The Draft EIR/EIS reflects seven years of collaboration, response to requests for additional information, careful thought, accumulation of the latest scientific information, and thorough analyses.</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 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 which have been considered and incorporated into the Final EIR/EIS.</p> <p>The 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 action alternatives would extend beyond the Plan Area. The analysis in the EIR/EIS includes impacts to Delta outflows, which ultimately reach the San Francisco Bay as well as impacts to Southern California and the San Joaquin Valley. More information on how the San Francisco Bay was considered in the EIR/EIS is provided in master response 26. The analysis of impacts of the proposed project in the study area can be found in the EIR/EIS chapters 5-30.</p>
1651	24	<p>Much of the BDCP and the EIR/EIS are scientifically suspect and cannot be legally supported.</p> <p>In its review dated May 15, 2014, the Delta Independent Science Board (ISB), while commending the document preparers for their efforts to assemble and analyze volumes of information, stated that "the science in this BDCP effort falls short of what the project requires." [Footnote 4: ISB Review, Cover Letter.] In its "Summary of Major Concerns" section, the ISB Review expressed very troubling conclusions regarding the BDCP and the supporting EIR/EIS:</p> <p>"Details of how adaptive management will be implemented are left to a future management team without explicit prior consideration of (a) situations where adaptive management may be inappropriate or impossible to use, (b) contingency plans in case things do not work as planned, or (c) specific thresholds for action."</p>	<p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546. Please also refer to Master Response 33, regarding the adaptive management and monitoring approach.</p>
1651	25	<p>Much of the BDCP and the EIR/EIS are scientifically suspect and cannot be legally supported.</p> <p>In its review dated May 15, 2014, the Delta Independent Science Board (ISB), while commending the document preparers for their efforts to assemble and analyze volumes of</p>	<p>The BDCP and EIR/EIS are based on 7 years of scientific collaboration and analysis and an accumulation of the latest scientific information. The chapters of each document provide exhaustive lists of references, and the reference material was made available electronically at the DWR document repository in West Sacramento. Combined, the BDCP and EIR/EIS also contain more than 100 technical appendices that help</p>

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		<p>information, stated that "the science in this BDCP effort falls short of what the project requires." [Footnote 4: ISB Review, Cover Letter.] In its "Summary of Major Concerns" section, the ISB Review expressed very troubling conclusions regarding the BDCP and the supporting EIR/EIS:</p> <p>"The presentation, despite clear writing and an abundance of information and analyses, makes it difficult to compare alternatives and evaluate the critical underlying assumptions."</p>	<p>provide the scientific basis for each document.</p> <p>The lead agencies made every effort to present the information in plain language and a clear format, with an emphasis on information useful to the public, agencies, and decisionmakers. The BDCP and EIR/EIS attempt to balance readability, thorough technical analysis, and responses to public and agency requests for information.</p> <p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1651	26	<p>The Important Regional Actions section is inappropriate and incorrectly characterizes the role of ammonia in the estuary.</p> <p>The Sacramento Regional County Sanitation District (Regional San) has previously commented on the "Important Regional Actions" section of BDCP, including a comment letter to Secretary Laird and Ms. Olson on September 6, 2013. (This letter is attached as Appendix D [ATT4].) We take exception to the fact that our suggested changes to the Important Regional Action section were not incorporated in this version of the BDCP.</p> <p>Section 3.5.1 of the BDCP lists ammonia load reduction as an Important Regional Action that must occur if BDCP intends to achieve its fish recovery targets. As described in our detailed comments in Appendix A [ATT1], there are a number of serious problems with this section: ammonia load reductions at Regional San are not among the activities that BDCP applicants plan to undertake in order to obtain their Incidental Take Permits; an incomplete scientific literature set is used; disputed scientific claims are used without regard to their merit; and increase in productivity claims are unsubstantiated.</p> <p>BDCP is being proposed by parties who wish to acquire long-term Incidental Take Permits under the Endangered Species Act (ESA) as a means to protect diversions of water from the Delta. Under section 10 of the ESA, a habitat conservation plan must specify actions that the permit applicants will take to avoid, minimize, or mitigate impacts of their take. Regional San is not an applicant for the BDCP; thus the BDCP must, and should, focus on the applicants' activities that will support their request for a permit that authorizes their take.</p> <p>The Federal Habitat Conservation Plan Handbook (HCP Handbook), "Habitat Conservation Planning and Incidental Take Processing Handbook," (U.S. Department of Interior, Fish and Wildlife Service, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, November 4, 1996) offers guidelines for Habitat Conservation Plans (HCPs); notably it does not authorize the reliance on unenforceable third party actions as a mitigation strategy. Inclusion of Section 3.5.1 in BDCP is neither required nor appropriate. Its inclusion is not insignificant to Regional San. There is no precedent for an "Important Regional Actions" section in an HCP and it prompts more questions than it provides answers. For example: Will it be contended that Regional San is now subject to the BDCP because it was specifically mentioned as an entity that is completing an action the BDCP believes is important? Just as concerning, however, is the mis-characterization of scientific "facts" in Section 3.5.1 -- which is not a fair representation of the current understanding of ammonia's role in the Delta and Suisun Bay. As described in detail in Appendix A [ATT1], this section of the BDCP overstates the magnitude and certainty of the effects of reduced ammonia loadings by including only a portion of the scientific literature on this topic. One of the most comprehensive scientific reviews of ammonia's role in the estuary, completed by the San Francisco Estuary Institute, was not even included as a reference in this section. (See</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, and 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> <p>Please refer to Chapter 8, Water Quality, Section 8.1.3.1, Ammonia, for an updated discussion of the various effects (toxic and beneficial) of nutrients and ammonia in the Delta, as well as Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success.</p>

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		<p><a href="http://www.sfei.org/sites/default/files/SuisunSynthesisI_Final_March2014_0.pdf">http://www.sfei.org/sites/default/files/SuisunSynthesisI_Final_March2014_0.pdf</a>)</p> <p>The section also relies on, and presents as fact, information that has not been peer reviewed and contains grossly deficient methods descriptions, and makes bold, unsubstantiated claims about increases in productivity due to ammonia load reductions. Accordingly, the Ammonia Load Reduction portion of the Important Regional Action section should be deleted because: it provides no useful benefit to BDCP; it perpetuates disputes that are now moot (since Regional San is approximately 1.7 billion dollars to upgrade its treatment plant (of which nearly a billion dollars of that is to significantly reduce ammonia and nitrate in its treated effluent); and as an action outside the authority of the permit applicants, it is not appropriately included in an HCP designed to authorize take occurring as a result of BDCP actions.</p> <p>BDCP further confuses the role of nutrients in the estuary by describing BDCP-related nutrients as beneficial while also claiming that nutrients from Regional San (and other sources) are harmful. It is disingenuous for BDCP proponents to argue that Regional San must remove nutrients from its discharge while simultaneously claiming that BDCP Conservation Measures will improve the Delta ecosystem by adding nutrients.</p>	
1651	27	<p>While appreciating the complexity and challenges associated with conducting proper analysis, the Sacramento Regional County Sanitation District believes that the BDCP and EIR/EIS have very fundamental deficiencies that must be addressed.</p> <p>Our additional detailed comments on the BDCP and EIR/EIS are presented in Appendix A [ATT1], two expert technical memoranda on flow and temperature impacts are included as Appendix B [ATT2] and C [ATT3], and a previous letter to Secretary Laird regarding Important Regional Actions is included as Appendix D [ATT4]. Because the BDCP states that the Plan and supporting documents are incorporated in the EIR/EIS, our comments on the BDCP should also be considered as comments on the EIR/EIS.</p>	No specific deficiencies are identified in this comment although the specific comments in the referenced attachments are addressed in other responses to this comment letter.
1651	28	[ATT1: Appendix A. The Sacramento Regional County Sanitation District Detailed Comments on BDCP and Associated Draft EIR/EIS.]	The comment describes the title of an attachment to the comment letter.
1651	29	<p>[From ATT1:]</p> <p>Page 2-15, lines 28-45:</p> <p>"In the absence of other factors such as Potamocorbula, nutrients do not limit the development of primary producers in the Delta; instead, light levels within the water column appear to control primary productivity (Cole and Cloern 1984; Kimmerer 2004). Light penetration through the water column has an inverse exponential relationship with suspended particulate matter at a given depth. Therefore, the large majority of phytoplankton production occurs near the surface. If the current pattern holds and water clarity continues to increase in the Delta as it has done over the past few decades (Lehman 2000), higher phytoplankton production is expected. However, the growth rate, depth distribution, and extent of Egeria and other nonnative invasive aquatic plants may respond positively to increasing water clarity due to reduced particulate matter concentrations and their dense and extensive canopies may drive down light levels (Kimmerer 2004). High concentrations of ammonia and ammonium, which are derived primarily from wastewater treatment plants, may also contribute to reduced productivity in the Delta and bays of the Plan Area by suppressing the uptake of nitrate by diatoms and phytoplankton (Dugdale et al. 2007; Dugdale 2008). Elevated ammonium concentrations may also directly impair primary</p>	<p>The last sentence is referring to functional groups of phytoplankton, whereas the first sentence refers to primary productivity. Parker et al.'s (2010) general conclusion was that SRWTP effluent had a potential negative impact on phytoplankton processes, including primary productivity.</p> <p>Please refer to Chapter 8, Water Quality, Section 8.1.3.1, Ammonia, for an updated discussion of the various effects (toxic and beneficial) of nutrients and ammonia in the Delta, as well as Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success.</p>

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		<p>productivity (Parker et al. 2010). Glibert (2010) has found evidence that spatio-temporal patterns in ratios of ammonia, nitrate, and phosphate concentrations can explain spatial and temporal patterns in algal functional groups (i.e., diatoms, and flagellates), and cyanobacteria in the Delta, and may also explain zooplankton and pelagic fish abundance."</p> <p>The first and last sentence in this passage contradict each other. Also, Parker et al. (2010) found that ammonia and effluent additions resulted in greater phytoplankton growth and added effluent resulted in increased primary productivity (14C-uptake rates) in many of the samples.</p>	
1651	30	<p>[From ATT1:]</p> <p>Page 2-15, line 15:</p> <p>"Return flows from wastewater treatment plants, island drainage, and groundwater seepage have introduced toxic substances into the Delta. Barriers and new channels that were constructed and are operated to maintain water quality (e.g., Head of Old River barrier, and Delta Cross Channel) have significantly altered flow, transport, and mixing of suspended particles, dissolved gases, and dissolved salts in the Delta."</p> <p>A discussion about "toxic substances" without regard to relevant concentrations gives the reader the impression that wastewater treatment effluent is toxic. This is not the case. A wastewater treatment plant's effluent must comply with its National Pollutant Discharge Elimination System permit, which does not allow for toxicity.</p>	<p>Updated discussion of the influence of wastewater effluent on water quality is provided in related sections of Chapter 8, Water Quality, of the Final EIR/EIS.</p>
1651	31	<p>[From ATT1:]</p> <p>Page 2A.1-21, line 31</p> <p>"A dynamic suspended sediment model of the Plan Area would be required to take into account the many interacting factors that may influence water clarity and to reduce uncertainty regarding the potential effects of the BDCP on water clarity."</p> <p>Turbidity is clearly important to delta smelt and is decreasing within the Delta for a number of reasons. The expected effects of BDCP on turbidity levels and indirect impact on delta smelt populations should be discussed in more detail, rather than just claiming a new model will be developed.</p>	<p>The analysis of effects on covered fish, insofar as it concerns suspended sediment as an element of habitat, has been revised. Among these revisions is a commitment to reintroduce to the water column suspended sediment diverted at the proposed North Delta diversions, and to do so in a manner that the fish and wildlife agencies agree results in beneficial outcomes for delta smelt and longfin smelt. With this avoidance and minimization measure, the proposed action has neutral effects upon turbidity, suspended sediment, and its function as a habitat element for Delta fishes. For more information please see Appendix 3B 3B.2.18 Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material of the FEIR/EIS.</p>
1651	32	<p>[From ATT1:]</p> <p>Page 2A.1-13 , line 40</p> <p>"The overbite clam, <i>Potamocorbula amurensis</i>, found in brackish areas, has had a dramatic effect on food resources in the western Delta, Suisun Bay, and Suisun Marsh (Kimmerer and Orsi 1996), while the effect of the freshwater Asian clam, <i>Corbicula fluminea</i>, are mainly limited to freshwater flooded island areas (Lucas et al. 2002; Lopez et al. 2006)."</p> <p>This statement is incorrect; <i>Corbicula</i> can be abundant at any freshwater location throughout the watershed (central Delta, north Delta, south Delta or river systems). [Footnote A-1: Lisa V. Lucas and Janet K. Thompson. 2012. Changing restoration rules: Exotic bivalves interact with residence time and depth to control phytoplankton productivity. <i>Ecosphere</i> 3: 1-26.]</p>	<p>Please refer to Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success, for an updated discussion of the overbite clam and Asian clam.</p>

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1651	33	<p>[From ATT1:]</p> <p>Page 2.A.1-14, line 22-34</p> <p>The results from the cited papers indicate that ammonia can reduce phytoplankton nitrate uptake, but the resulting effects on diatom growth are not well understood, especially since phytoplankton (including diatoms) will also grow using ammonia as their nitrogen source.</p>	<p>Updated discussion of the influence of ammonia on phytoplankton nitrate uptake as related to the EIR/EIS is provided in Chapter 8, Water Quality.</p>
1651	34	<p>[From ATT1:]</p> <p>Page 2A.1-14, line 40</p> <p>Warner et al. (2008) did not find evidence that ammonia from municipal wastewater treatment plants could cause delta smelt toxicity. The paper concluded that ""Based on test results obtained in this and related studies, we conclude that average ammonia/ium concentrations reported for the Sacramento River immediately below Sacramento Regional Wastewater Treatment Plant are about 3.6 times lower than the highest no observed effect concentration (NOEC) tested in this study, and are not likely to affect 7-d survival of 55-d old delta smelt larvae (Werner 2008)."</p> <p>This section suggests that ammonia is reducing food resources, but all the referenced papers investigate the effects of pesticides on zooplankton. This statement should begin "Pesticides may affect delta smelt indirectly by..."</p>	<p>Please refer to Chapter 8, Water Quality, Section 8.1.3.1, Ammonia, for an updated discussion of existing surface water quality with regard to ammonia.</p>
1651	35	<p>[From ATT1:]</p> <p>Page 2A.1-15, line 42</p> <p>"In an experiment where delta smelt were released into Clifton Court Forebay, recapture rates were very low due to prescreen losses attributed to increased residence time, which increased exposure to predators and other sources of potential mortality (Castillo et al. 2012)."</p> <p>This section dismisses the more detailed findings of the paper: the range of pre-screen losses was 94.3 to 99.9% (Castillo et al. 2012), indicating that most delta smelt drawn into Clifton Court Forebay, by water export procedures, die before reaching the Fish Protection Facilities, and over half of the delta smelt reaching the facility pass through undetected with the exported water.</p>	<p>Please refer to Chapter 11, Fish and Aquatic Resources, Section 11.1.5.1, Water Development and Conveyance, for an updated discussion of CVP and SWP South Delta entrainment and salvage operations.</p>
1651	36	<p>[From ATT1:]</p> <p>Page 2A.2-3, line 2</p> <p>Delta outflows are the primary factor regulating ammonia concentrations in the Sacramento River, and high Delta outflows (that reduce ammonia concentration) are well known to improve fish population abundance, including delta smelt. The exact reason for this benefit is not completely understood.</p>	<p>Please refer to response to comment 1651-11 for a discussion of commitments addressing flows in the Sacramento River.</p>
1651	37	<p>[From ATT1:]</p> <p>Chapter 3. General Comment</p> <p>Monitoring and research should be defined as conservation measures, so that they are</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</p>

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		<p>mandatory and permittees are accountable for their implementation. This is especially true because the probability of success of the BDCP is poorly gauged using current knowledge. In fact, one third of the species-specific biological objectives for covered fish have not been evaluated in the effects analysis, and the public is being asked to trust that the Adaptive Management Program (which will depend on monitoring and research) will be able to "figure out later" how BDCP will attain the objectives. If monitoring and research are inadequate or funding lapses, adaptive management will fail.</p>	<p>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, and 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>
1651	38	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Triggers for adaptive management are not articulated. No numeric or qualitative triggers or thresholds, or schedules, are defined for adaptive management for any of the goals and objectives. How long will poor performance or failure to achieve biological objectives be tolerated?</p>	<p>Please see response to comment 1651-37.</p> <p>Please see Chapter 3 in the Final EIR/EIS for an updated description of the Collaborative Science and Adaptive Management Program (CAMP), including information on the CAMP structure and decision-making processes. Actions taken through the CAMP will be based on sound science and targeted research actions to improve our understanding of effects from CVP and SWP operations and other management actions on listed species and resolve key knowledge gaps on the Delta ecosystem. New science from the CSAMP will help inform and improve future CVP and SWP operations to minimize potential effects to listed species. Additional details regarding Adaptive Management and Monitoring can be found in Master Response 33.</p>
1651	39	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Methods for assessing compliance with numeric objectives for smelt entrainment are not explained. The plan does not sufficiently explain how the permittees will demonstrate compliance with the numeric objectives for entrainment of delta and longfin smelt. The numeric objectives for entrainment of delta and longfin smelt are contained in the following two species-specific biological objectives:</p> <p>"Objective DTSM1.2: Limit entrainment mortality associated with operations of water facilities in the south Delta to ≤5% of the delta smelt population, calculated as a 5-year running average of entrainment for subadults and adults in the fall and winter and their progeny in the spring and summer. Assure that the proportional entrainment risk is evenly distributed over the adult migration and larval-juvenile rearing time-periods."</p> <p>"Objective LFSM1.2: Limit entrainment mortality associated with operation of water facilities to ≤5% of the longfin smelt population, calculated as a 5-year running average of entrainment for subadults and adults in the fall and winter and their progeny in the winter and spring. Assure that the proportional entrainment risk is evenly distributed over the adult migration and larval-juvenile rearing periods."</p>	<p>Please see response to comment 1651-37.</p> <p>Please refer to Chapter 11, Fish and Aquatic Resources, Section 11.1.5.1, Water Development and Conveyance, for an updated discussion of CVP and SWP South Delta entrainment and salvage operations. Also see Section 11.0.2.16, for details on the effects of the preferred Alternative to fish and aquatic species and associated Environmental Commitments, including Environmental Commitment 15: Localized Reduction of Predatory Fishes (Predator Control) and Environmental Commitment 16: Nonphysical Fish Barrier.</p>
1651	40	<p>[From ATT1:]</p> <p>No details are provided in Chapter 3 or Appendix 3.D. (Monitoring and Research) for how salvage data for delta smelt and data from the fish abundance trawls (fall midwater trawl and spring Kodiak trawl) will be combined to express delta smelt entrainment as a percentage of the delta smelt population. Section 3.3.7.1.3. Species-Specific Goals and Objectives reveals that there is great uncertainty surrounding the derivation of entrainment estimates from salvage data, and does not provide assurance that entrainment estimates reflect real take at the south Delta facility:</p> <p>"Different methods for estimation of past and future entrainment can produce significantly</p>	<p>Please refer to response to comment 1651-39.</p>

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		different entrainment level estimates (Miller 2011) as can different assumptions about cumulative predation loss prior to salvage (Kimmerer 2008; Castillo et al. 2012). However, as long as the entrainment target is projected and measured using the same method, the target can be compared relative to historical levels calculated with the same method." (p. 3.3-110, line 7)	
1651	41	<p>[From ATT1:]</p> <p>Section 3.4.1.6.3 (in which CM1 Water Facilities and Operation is related to associated Goals and Objectives) consists of four paragraphs. As acknowledged in this passage, Clifton Court Forebay is included as one of the potential hot-spots for predator reduction techniques in CM15 (Table 3.4.15-1). However, compliance and effectiveness monitoring specified for CM15 in Section 3.4.15.3 does not include measurement of pre-screen mortality for smelt, its contribution to total entrainment losses of smelt in the south Delta, nor any proposal for estimating pre-screen loss in Clifton Court Forebay as a percentage of delta smelt population. Finally, no information is provided on how entrainment of delta smelt at the north Delta intakes (less likely for longfin smelt) will be monitored, although delta smelt have been documented in the diversion reach of the Sacramento River. [Footnote A-2: Vincik, R.F., and J.M. Julienne. 2012. Occurrence of delta smelt (<i>Hypomesus transpacificus</i>) in the lower Sacramento River near Knights Landing, California. Cal. Fish Game 98: 171-174.] Methods for studying fish entrainment and impingement at the north Delta fish screens are detailed in Section 3.4.1.5.1 (Compliance and Effectiveness Monitoring Actions for CM1) and may apply to delta smelt and/or longfin smelt through use of "smelt proxy fishes" and (perhaps) through fyke net deployments behind the screens. In this section, trawl surveys are identified as a method to "calibrate density of entrained organisms", but a procedure for converting impingement and fyke net data into values that can be compared to the numeric objectives for smelt entrainment are not provided. Although direct entrainment of longfin smelt is less likely at either intake location, no details are provided in the plan for how entrainment of longfin smelt will be expressed as a percentage of the longfin smelt population.</p> <p>Finally, no explanation is provided regarding why larval, juvenile, and/or adult delta smelt are not (or cannot) be monitored in the canals between the Tracy and Skinner fish facilities and the export pumps, and behind the north Delta intake fish screens.</p>	Please refer to response to comment 1651-39.
1651	42	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a rationale for Objective L1.3: "Restoration of tidal wetlands is expected to improve habitat conditions for some native species, improve connectivity among habitat areas within Suisun Marsh and Suisun Bay, provide nutrients and food to adjacent subtidal aquatic habitat, and contribute to the long-term conservation of marsh-associated covered species." (p. 3.3-37, line 4-6)</p>	<p>Please refer to response to comment 1651-37.</p> <p>Nutrient loading can be both beneficial and detrimental to a water body, depending on environmental conditions. In nutrient-limited environments, additional loads of nitrogen or phosphorous would likely benefit the local food web and thus resident species, however in excess these constituents can lead to the overproduction of algae and/or invasive species, and eutrophication. As detailed under chapter 8 in the Final EIR/EIS, modeling results indicate that Alternatives 1-9, including the new Alternatives 2D, 4A, and 5A, will result in less-than-significant impacts to ammonia, nitrogen or phosphorous.</p> <p>Please refer to Chapter 8, Water Quality, Section 8.1.3.1, Ammonia, for an updated discussion of the various effects (toxic and beneficial) of nutrients and ammonia in the Delta, as well as Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success.</p>

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1651	43	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a rationale for Objectives L1.4 and L1.7: "Restoring tidal freshwater marsh habitats along an environmental gradient extending from the subtidal perennial aquatic natural community to upland natural communities is expected to increase the abundance and distribution of associated native wildlife and plant species, provide nutrients and food to adjacent subtidal perennial aquatic habitat, and contribute to the long-term conservation of tidal freshwater marsh-associated covered species." (p. 3.3-69, line 18)</p>	Please refer to response to comment 1651-42.
1651	44	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a rationale for Objective L.2.7: "Tidal channels also convey marine nutrients into the marsh, and facilitate organic material produced in the marsh to be transported to the tidal perennial aquatic natural community and support the aquatic foodweb." (p. 3.3-59, line 17)</p>	Please refer to response to comment 1651-42.
1651	45	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a rationale for Objective TFEWMNC1.1 and TFEWNC1.2: "Restoring tidal freshwater marsh habitats along an environmental gradient extending from the subtidal perennial aquatic natural community to upland natural communities is expected to increase the abundance and distribution of associated native wildlife and plant species, improve connectivity among habitat areas within the Plan Area, provide nutrients and food to adjacent subtidal perennial aquatic habitat, and contribute to the long-term conservation of tidal freshwater marsh-associated covered species." (p. 3.3-64, line 27)</p>	Please refer to response to comment 1651-42.
1651	46	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p>	Please refer to response to comment 1651-42.

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		<p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a benefit of Objective L2.3 (Connect rivers and their floodplains to allow input of large woody debris, leaves, and other organic material to rivers): "Achieving this objective may also contribute to an increase in allochthonous inputs, such as terrestrial insects and plant matter, and provide additional nutrients and increase the productivity of aquatic systems, which may contribute to a more diverse and robust forage base." (p. 3.3-102, line 16)</p>	
1651	47	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a benefit of Objective TBEWNC1.3: "Achieving this objective is intended to increase the transport of food and nutrients from tidal marshes (main channel and off-channel) to areas occupied by green sturgeon. This is expected to increase available food to contribute to an increase in the survival of green sturgeon." (p. 3.3-189, line 3)</p>	Please refer to response to comment 1651-42.
1651	48	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a benefit of Objective TBEWNC1.4: "Achieving this objective is intended to promote effective exchange throughout the marsh plain to increase the transport of nutrients and food from restored wetlands to habitats in the low-salinity zone typically occupied by older (older than 1 year of age) juvenile green sturgeon." (p. 3.3-189, line 7)</p>	Please refer to response to comment 1651-42.
1651	49	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a conservation measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e., pelagic) habitat is an expected benefit of proposed habitat restoration and other conservation measures.</p> <p>As a benefit of Objective TFEWNC1.2: "Achieving this objective is intended to increase the</p>	Please refer to response to comment 1651-42.

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		transport of nutrients and food from restored wetlands to habitats in the low-salinity zone occupied by subadult and adult green sturgeon." (p. 3.3-189, line 15)	
1651	50	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a Conservation Measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e. pelagic) habitat is an expected benefit of proposed habitat restoration and other Conservation Measures.</p> <p>Regarding CM2 (Yolo Bypass Flows): "It will also provide additional nutrients and water surface area to increase biological productivity, which is expected to contribute to an increase in food for fish and other aquatic species. This increased productivity and nutrient loading will also potentially benefit other areas as it is transported off the floodplain and downstream within the Sacramento River." (p. 3.4-29)</p>	Please refer to response to comment 1651-39.
1651	51	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a Conservation Measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e. pelagic) habitat is an expected benefit of proposed habitat restoration and other Conservation Measures.</p> <p>In contrast, elsewhere in the Plan documents, where nutrient loading is attributed to anthropogenic sources (failing septic tanks, urban runoff, wastewater treatment plant), it is described as a detrimental pollutant.</p> <p>As a rationale for Objective WTST3.1: (related to CM19 Urban Stormwater Treatment): "Runoff from residential, agricultural, and industrial areas introduces pesticides, oil, grease, heavy metals, other organics, and nutrients that contaminate drainage waters and deteriorate the quality of aquatic habitats necessary for white sturgeon survival." (p. 3.3-201, line 9)</p>	Please refer to response to comment 1651-42.
1651	52	<p>[From ATT1:]</p> <p>Section 3.3. General Comment</p> <p>Section 3.3 displays an inconsistent and self-serving view of nutrient loading. Nutrient loading is described as beneficial when it is the presumed outcome of a Conservation Measure, but detrimental if produced by actions unrelated to BDCP. In multiple places in the Plan, BDCP states that provision of nutrients to subtidal (i.e. pelagic) habitat is an expected benefit of proposed habitat restoration and other Conservation Measures.</p> <p>In contrast, elsewhere in the Plan documents, where nutrient loading is attributed to anthropogenic sources (failing septic tanks, urban runoff, wastewater treatment plant), it is described as a detrimental pollutant.</p>	Please refer to response to comment 1651-42.

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		<p>Related to CM19: "Other urban pollutant sources, which can be transported directly or indirectly by stormwater runoff to the Delta, include nutrients from failing septic systems, and viruses and bacteria from agricultural runoff." (p. 3.3-43, line 18)</p>	
1651	53	<p>[From ATT1:]</p> <p>The contrasting treatment of nutrient loading (desirable if produced by Conservation Measures, but undesirable if coming from anthropogenic sources) conflicts with customary nutrient source assessments that take place, for example, in the context of total maximum daily load (TMDL) development, in which loads of particular nutrient compounds (e.g., phosphate, nitrate) from natural and anthropogenic sources are appropriately treated as equally available for microbial or plant uptake.</p> <p>Elsewhere in the Plan documents, hypothetical ecological detriments of anthropogenic nutrient loading (especially ammonia) are leveraged as "disclaimers" in case benefits are not produced from Conservation Measures:</p> <p>"The upgrade to the Sacramento Regional County Sanitation District, an important regional conservation action (i.e., an action not associated with the BDCP), may need to take place to fully realize the benefit of Conservation Measures for Delta smelt. These upgrades are designed to reduce ammonia discharges (detailed in Section 3.5, Important Regional Actions)." (p. 3.3-109, line 14)</p> <p>Given that ammonium and other nutrients will be generated in restored wetlands, the unequal treatment of nutrient loading is especially problematic.</p>	<p>Please refer to response to comment 1651-42.</p>
1651	54	<p>[From ATT1:]</p> <p>Page 3.4-13, line 13</p> <p>"The facility will, during operational testing and as needed thereafter, demonstrate compliance with the then-current National Oceanic and Atmospheric Administration and California Department of Fish and Wildlife fish screening design and operating criteria, which govern such things as approach and passing velocities and rates of impingement. In addition, the screens will be operated to achieve the following performance standard and will be deemed to be out of compliance with permit terms if the standard is exceeded: Maintain survival rates through the reach containing new north Delta intakes (0.25 mile upstream of the upstream-most intake to 0.25 mile downstream of the downstream-most intake) to 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>The new north Delta diversion facilities must be operated to maintain NOAA and CDFW fish screen criteria. No evidence is provided to suggest that fish survival can be maintained at 95% of the existing survival rate in this reach during operation. What happens if fish survival is reduced by more than 5% during operational testing, and the performance standard is deemed to be out of compliance with permit terms?</p> <p>Are larval fish included in the 95% survival standard? Larval fish would likely be undetected if they are entrained through the screens and small fish impinged on the screens may also be undetected if they are quickly consumed by predatory fish. Fish survival studies need to continue over the course of the project, because river hydraulics, predator abundance,</p>	<p>The intakes are designed as on-bank screens. Design and operational criteria supporting this concept included design constraints developed in collaboration with the fish and wildlife agencies (Fish Facilities Technical Team 2008, 2011), as well as minimum performance standards for bypass flows, sufficient to minimize the risk of covered fishes becoming entrained or impinged on the screens. Please also refer to response to comment 1651-39.</p>

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		channel margin enhancement, or other unforeseen factors may change over time and alter fish survival in the project area.	
1651	55	<p>[From ATT1:]</p> <p>Page 3.4-16, line 1</p> <p>"Low-level pumping maintained through the initial pulse period ... After pulse period has ended, operations will return to the bypass flows identified below under Post-Pulse Operations. These parameters are for modeling purposes. Actual operations will be based on real-time monitoring of fish movement."</p> <p>The actual parameters used to set operation need to be described in the plan. If actual operations would be based on fish monitoring results, the monitoring plan needs to be described in detail. The ability to continually and accurately monitor the number and species identity of fish swimming near the screens over a full range of hydraulic conditions should be clearly provided in the conservation plan.</p> <p>If the bypass flow is set to 5000 cubic feet per second (cfs) in July-September and 7000 cfs in October-November, it will provide drought-like flows into the Delta from the Sacramento River every year during these seasons. What scientific evidence indicates that maintaining annually low Sacramento River flows, during the warm summer months, will not significantly impair ecosystem health in the watershed? Would the lack in flow variability disrupt seasonal behavioral responses of native organisms?</p>	<p>Please see response to comment 1651-37. All of the current requirements under Decision 1641 and the current BiOps would occur under the BDCP and other action alternatives addressed in this Final EIR/EIS. These current requirements would continue to protect Delta beneficial uses contrary to the assertion in this comment.</p> <p>Note that many of the actions that are part of the BDCP conservation strategy but not proposed to be implemented under Alternative 4A would continue to be pursued as part of existing but separate projects and programs associated with the 2008 and 2009 USFWS and NMFS BiOps including Yolo Bypass improvements and habitat enhancements and 8,000 acres of tidal habitat restoration, in addition to actions under California EcoRestore and the 2014 California Water Action Plan. Those actions are now separate from, and independent of, the preferred Alternative (Alternative 4A).</p>
1651	56	<p>[From ATT1:]</p> <p>Page 3.4-30, line 15, Table 3.4.1-4</p> <p>Many factors regarding fish screen effectiveness at the proposed north Delta diversion facilities should be studied in controlled experiments before deciding to build these structures. Only plans for setting the proposed northern intakes operational standards are described in detail in the Draft BDCP. Greater evidence should be provided to determine if native fish can avoid impingement over the proposed length of screen and that out-migration juvenile salmonids will use the internal refugia and restored channel margins.</p> <p>"Confirm screen operation produces approach velocities no greater than 0.33 foot per second (fps) in daytime and 0.2 fps at night when delta smelt are present [indicator of smelt presence to be determined]."</p> <p>Water approach velocities at the new north Delta diversion facilities will be no greater than 0.33 foot per second (fps) in daytime and 0.2 fps at night when delta smelt are present, but the indicator of smelt presence had not been specified. Unless there is a reliable method to determine the absence of delta smelt, they should be assumed to be present at all times, and the approach velocities should remain at these specified levels continuously to be protective. Furthermore, water should only be diverted during positive river flows, because Delta smelt are more likely to pass the screen traveling upstream during reverse flow conditions.</p> <p>"Observe fish activity at screen face (using Didson cameras or other technology to be determined prior to facility operations) and use mark/recapture study of salmonid and smelt proxy fishes to evaluate impingement injury rate."</p>	<p>Please refer to response to comment 1651-54. Please also refer to Master Response 33, regarding adaptive management and monitoring which will apply to intake design and operation.</p>

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		<p>The potential impacts of fish screen impingement should be tested prior to project construction. Fish impingement potential is greatly unknown for screens as large as the ones proposed for the north Delta diversion facilities. Fish impinged on these screen would be easy targets for local predators. Predation events would occur quickly and infrequently, and therefore would be difficult to detect during occasional monitoring activities.</p> <p>Fish susceptibility to impingement can be measured in laboratory flumes where environmental conditions (flow, temperature, predator densities, etc.) can be controlled. Proxy fishes for Delta smelt need to have (1) similar swimming capacities and (2) similar fish screen avoidance ability, both of these behaviors can be measured in laboratory studies.</p> <p>"Monitor refugia to evaluate effectiveness relative to design expectations. Method is likely to entail use of a Didson camera to observe fish behavior within refugia, but more specific monitoring protocols and performance metrics are to be developed once refugia design has been completed, and prior to facility operation."</p> <p>The benefits of fish refugia are greatly unknown, untested and should receive further testing in laboratory and river settings prior to being constructed within these large intake structures. This new technology should be further refined prior to implementation, so it offers fish the greatest protection possible. The spacing and shape of predator exclusion bars, internal and approach velocities, size/shape of refugia areas, internal light levels, and acoustic vibrations during pump operations may significantly impact fishes' use of constructed refugia.</p> <p>Didson cameras are unable to determine the species of fish occurring near screen intakes so other monitoring techniques will be necessary and should be detailed in BDCP. Fish passage, impingement, and survival studies needs to be monitored over the course of the project and are not limited to the first 6 months to 5 years of facility operation.</p> <p>"Develop a physical hydraulic model to measure hydraulics and observe fish behavior in a controlled environment. Size/shape of refugia areas can be modified to optimize fish usage. Predators can be added to examine predation behavior near refugia."</p> <p>Predators should be tested in laboratory experiments and monitored at similar refuges built into other newly screened intakes in the watershed, well in advance of the new north Delta diversion facilities construction. These modeling and controlled laboratory experiments should be completed before accepting the BDCP as the effectiveness of these fish screens is a major portion of the conservation strategies.</p> <p>Didson cameras are unable to determine fish species, so other detection techniques will be necessary. It is important to monitor fish behavior in the refuges over time (not just in one study prior to facility operation) because small predatory fish may take up residence in the refuges, which may cause severe mortality to small fish entering the refuges over time.</p> <p>Therefore, refuges should be monitored quarterly until their long-term effectiveness is fully understood.</p>	
1651	57	<p>[From ATT1:]</p> <p>Page 3.4-140, Table 3.4.4-3, Goal L2, Objective L2.9</p> <p>"Increase the abundance and productivity of plankton and invertebrate species that provide</p>	<p>Please refer to Master Response 5 for an explanation of how the 2013 public draft BDCP planned to address the uncertainty of habitat restoration benefits to covered fish species.</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 non-HCP alternatives, including the preferred</p>

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		<p>food for covered fish species in the Delta waterways. Restoration of tidal natural communities is expected to improve some rearing habitat elements for Chinook salmon, Sacramento splittail, longfin smelt, delta smelt, sturgeons, and possibly steelhead."</p> <p>The likelihood of restored shallow water habitats becoming inhabited by non-native clams needs to be better understood before large scale tidal restoration projects are initiated. As explained in Table 3.4.4-2, clam grazing is poorly understood and can significantly reduce the amount of food available for covered fish by redirecting productivity into clam biomass. Clam foraging efficiency increases in shallow water habitats, and can cause net losses of phytoplankton (Lucas and Thompson 2012, and BDCP page 5.F-4, line 8).</p> <p>Experiments are needed to determine the environmental conditions that favor or limit clam abundance in shallow-water habitats before new habitats are constructed. Currently there is insufficient evidence to predict that newly restored shallow water habitats will increase phytoplankton and zooplankton abundance and provide food to covered fish species in the Delta waterways, instead of increasing clam biomass in the benthos and a further reduction of pelagic food abundance.</p>	<p>Alternative (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 the proposed project 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>
1651	58	<p>[From ATT1:]</p> <p>Page 3.4-157, line 25</p> <p>It is very important that these habitats project out into the water far enough to offer habitat and ecological function. Most shoreline restorations should be made with setback levees that allow for sizable shallow water habitat. These areas should have reduced flow velocities, proper substrate, habitat complexity, and native aquatic and native terrestrial vegetation, to support aquatic insect and juvenile fish growth with a transitional land-water interface. Fish are drawn to the biological community inhabiting natural shallow water habitats, not simply to the presence of a constructed bench on the edge of a levee that creates a shallow water area.</p> <p>Building a bench on the waterward side of a federal levee is unlikely to significantly enhance the littoral community. Typically rivers widen in shallow water areas and have a gradual transition from shallow water to riparian communities. Levee channels are very deep, so a large portion of the river would need to be filled in to create a large shallow water zone inside the levees. Filling in part of the river to create a bench will increase water velocities and erosion potential in the area, and will likely result in a steep bench that attracts predatory fishes.</p> <p>Channel margins should project to the water &gt;25 ft from the levee to provide adequate room for near-shore ecological processes. The scale on figure 3.4-21 is not to scale, but the scale shown is desirable (the floodplain bench should project into the waterway further than a tall tree would grow). This figure shows a levee that has been set back many yards with a gradual increase in depth in the adjacent waterway, to allow for emergent vegetation, large woody debris, and tree growth in moist soil.</p>	<p>Please see response to comment 1651-37.</p> <p>Please also refer to response to comment 1651-57 for references and information regarding the extent and effects of habitat restoration under the BDCP and the preferred Alternative. Additional detail regarding habitat restoration under the BDCP would be provided as each new restoration project is located and designed under the guidance of the conservation strategy and biological goals and objectives. Because the details and location of proposed restoration activities are unknown at this time specific design considerations will be considered but would need to be applied on a site specific basis to account for numerous site specific variables and the goals of the project. The need for additional environmental review prior to restoration project implementation would also be evaluated by DWR at that time.</p>
1651	59	<p>[From ATT1:]</p> <p>Page 3.4-301, line 9</p> <p>"The pilot program would begin with a preliminary assessment phase to compare two approaches for reducing local predator abundances: removal of predator hot-spot</p>	<p>Please refer to response to comment 1651-39. Implementation of predator reduction activities would be monitored and adaptively managed with the goal of improving covered fish species conditions as required under the BDCP conservation strategy.</p>

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		<p>structures (e.g., abandoned boats, derelict pier pilings) and general predator reduction in reaches with known high predation loss."</p> <p>Predator reduction would be most beneficial at hot-spots that lower the small fishes' ability to detect or escape from predators (such as being impinged on a large water intake screen, or passing over a weir). Other approaches in the pilot programs are unlikely to significantly reduce fish predation on delta smelt or out-migrating juvenile salmonids. The predator abundance in the watershed is likely controlled by prey abundance. Removal of many hotspots (abandoned boats, derelict pier pilings) will only disperse fish over a greater area, but will not reduce their population size or overall predation pressure. Targeted predator removals at hot-spots might temporarily reduce predation at a particular location, but predator removal efficiency and recolonization rates are unknown. Predator reduction techniques (including boat electrofishing, hoop net, fyke trap, trawl seine, beach seine) can stress, injure, or kill fish species of concern, and must be considered against the potential benefits of predator reductions.</p>	
1651	60	<p>[From ATT1:]</p> <p>Page 3.4-307, line 2 and 5.F-87, line 31</p> <p>"Periodic bass sportfishing tournaments are proposed under CM15 to achieve intensive removal efforts, while limiting program costs and potential by-catch issues. These efforts are expected to lower predation losses of entrained juvenile and adult delta smelt. However, sustaining reduced predator abundances in the forebay is expected to be difficult because of the large area, continual influx of predators through the radial gates, and incidental take of covered fish entrained into the forebay."</p> <p>A substantial reduction of large predatory fish in the system is likely to increase the number of smaller predatory fish, causing a net increase of predation on small salmonids and delta smelt. Fishing tournaments should return large-sized fish (&gt;3 years old) to the system, so they can continue to consume smaller-sized predatory fish (including conspecifics).</p> <p>In general, the presence of large-sized bass in the Delta reduce the total number of smaller-sized bass, which pose a greater cumulative predation risk to delta smelt and small salmonids (because smaller sized predators target smaller-sized fish as their food source).</p>	Please refer to responses to comments 1651-39 and 59.
1651	61	<p>[From ATT1:]</p> <p>Section 3.5.1 Ammonia Load Reduction</p> <p>Section 3.5.1 omits key publications that reveal (1) the lack of consensus and contrary opinions regarding alleged detrimental effects of ammonia/um on the lower food web of the Delta, (2) deficiencies in the experimental work to date that prevent conclusions about effects of ammonium on primary production, and (3) viable alternative interpretations of field data unrelated to ammonium/nitrate interactions. Examples of pertinent information from several key publications that are not currently acknowledged in any of the Plan's narratives on ammonia are provided.</p> <p>The San Francisco Estuary Institute (SFEI) published an 189-page synthesis report evaluating physiological and experimental evidence for postulated negative effects of ammonium on phytoplankton and zooplankton in the San Francisco Estuary [Footnote A-3: Senn, D. B. and Novick, E. (2014). Suisun Bay Ammonium Synthesis Report. Contribution No. 706. San</p>	Please refer to response to comment 1651-42.

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		<p>Francisco Estuary Institute, Richmond, California.] -- a draft of which was publicly available in 2012. Their conclusions regarding the three key elements of the "ammonia inhibition" hypothesis are summarized in their Executive Summary. [See ATT1:att1]</p> <p>In other words, although there is experimental evidence (from the Delta and elsewhere) that ammonium in culture experiments can delay the uptake of nitrate by phytoplankton, there is no scientific consensus or experimental basis from which to conclude that this phenomenon results in lower primary productivity in the Delta.</p> <p>An expert panel convened by the State Water Board to evaluate the effect of Delta outflows and other stressors on the Delta food web similarly found that (1) the ecological significance of ammonium/nitrate interactions for the Delta food web is not known, (2) experimental approaches used to date are not able to reveal the influences of ammonium/nitrate interactions on primary production rates in the field, and (3) that alternative hypotheses unrelated to ammonia inhibition may explain patterns in field data. In its May 5, 2014 report [Footnote A-4: Reed, D., J.T. Hollibaugh, J. Korman, E. Peebles, K. Rose, P. Smith, and P. Montagna. Workshop on Delta Outflows and Related Stressors. Panel Summary Report. Prepared for the Delta Science Program. May 5, 2014.], the expert panel makes the following conclusions:</p> <p>"There is a large body of work indicating that ammonium concentrations greater than some threshold inhibit the uptake of nitrate by phytoplankton. Because of these nutrient utilization dynamics, high ammonium concentrations and growth on ammonium will always correlate with low phytoplankton biomass, while growth on nitrate will always correlate with high biomass accumulation, i.e., blooms. If phytoplankton growth is truncated for reasons other than nitrogen limitation (e.g., light, grazing) prior to reaching "bloom" conditions, then no nitrate will be consumed and some ammonium will remain, which has been interpreted (we believe incorrectly) as evidence that ammonium had inhibited bloom formation." (Reed et al. 2014, p. 48, emphasis added)</p> <p>"...ammonium inhibition of nitrate uptake has been implied to be ammonium inhibition of phytoplankton productivity, and has been interpreted as the cause of lower phytoplankton biomass in the LSZ. There is an alternative explanation for these observations that considers the importance of other factors in truncating algal blooms, and the role of advection in creating "bloom-like" conditions the LSZ... Because of these nutrient utilization dynamics, high ammonium concentrations and growth on ammonium will always correlate with low phytoplankton biomass accumulation, while growth on nitrate will always correlate with high biomass accumulation. Thus, any "bloom" will have the appearance of "requiring" nitrate because all of the ammonium will be consumed while increasing phytoplankton biomass to the beginning of the "bloom" stage. Subsequent phytoplankton growth will then depend on the only remaining source of fixed N, which in this case is nitrate, and growth on nitrate will appear to have "caused" the bloom. Nitrate consumption is, in fact, simply a consequence of the bloom. Furthermore, if phytoplankton growth is truncated for reasons other than nitrogen limitation (e.g., light, grazing) prior to reaching "bloom" conditions, then no nitrate will be consumed and there may be some ammonium remaining, which could be interpreted (we believe incorrectly) as evidence that ammonium had inhibited bloom formation." (Reed et al. 2014, p. 49, emphasis added)</p> <p>"As mentioned above, ammonium inhibition of nitrate uptake has been interpreted as ammonium inhibition of phytoplankton growth. A critical question that has not been adequately addressed is whether or not phytoplankton grow "better" (faster, more</p>	

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		<p>efficiently) on nitrate than on ammonium." (Reed et al. 2014, p. 51)</p> <p>"Relatively poor photosynthetic performance of phytoplankton in mesocosms using Suisun Bay water was noted by Parker et al. (2012c) and attributed to ammonium toxicity; however, this could have resulted from sampling phytoplankton that had recently been advected into the estuary from fresher water, resulting in salinity-related stress. This seems a more likely explanation since a recent review (Collos and Harrison 2014) concludes that ammonium is only toxic to phytoplankton at concentrations much higher than those found in Suisun Bay, or even in the Sacramento River immediately downstream of the SRWTP (Sacramento Regional Wastewater Treatment Plant) ... Thus, the occasional "blooms" seen in the LSZ (low salinity zone) under higher flow conditions may well be the result of advection of phytoplankton from the Delta into the LSZ, and not from higher growth rates in the LSZ, regardless of the cause, including the release of putative ammonium toxicity." (Reed et al. 2014, p. 52)</p> <p>A recent comprehensive evaluation of hydrodynamics and the combined effects of grazing by all major consumer categories in the San Francisco Estuary (Kimmerer and Thompson 2014) ruled out a controlling role of ammonium -- or nutrient ratios -- on primary production rates:</p> <p>"Low primary productivity is clearly attributable to the combination of high turbidity and high grazing rate by zooplankton and clams, particularly <i>P. amurensis</i>. The putative contributions of nutrient concentrations or ratios in the low productivity of this region (Dugdale et al. 2007, Glibert et al. 2011) appear negligible compared to the large, direct effects of grazing." (Kimmerer and Thompson 2014)</p> <p>Novel large scale field experiments recently conducted by university and US Geological Survey researchers, in which SRWTP effluent was withheld to create large parcels of low ammonium water that were tracked for several days, showed that longitudinal patterns in phytoplankton biomass in the Sacramento River are independent of ammonium concentrations (results presented at the Delta Inflows workshop in April 2014; Grovhoug and Mussen, 2014). [Footnote A-5: Grovhoug, T., and T. Mussen. 2014. Presentation available at <a href="http://deltacouncil.ca.gov/delta-science-program-workshop-interior-delta-flows-and-related-stressors-presentations">http://deltacouncil.ca.gov/delta-science-program-workshop-interior-delta-flows-and-related-stressors-presentations</a>]</p>	
1651	62	[ATT1: att1: Table summarizing San Francisco Estuary Institute's conclusions about the key elements of the "ammonia inhibition" hypothesis.]	The comment describes a table that summarizes the ammonia inhibition hypothesis. 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.
1651	63	<p>[From ATT1:]</p> <p>Section 3.5.1.1.</p> <p>The Plan is misleading when it cites the toxicity study by Teh et al. (2011).</p> <p>"Ammonia may also have toxic effects on invertebrates that are prey items for covered fish species (Essex Partnership 2009; Teh et al. 2011). If food is limiting to delta and/or longfin smelt, a reduction in the abundance of prey could reduce the abundance of these fish species. A recent study of the nonnative copepod, <i>P. forbesi</i> (Teh et al. 2011) indicated that biota can be affected at concentrations as low as 0.38 mg/L of total ammonia nitrogen." (p.</p>	Please refer to response to comment 1651-42.

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		<p>3.5-3, line 14)</p> <p>Teh et al. (2011) is a report to the Central Valley Regional Water Quality Control Board that has not been peer reviewed and contains extremely deficient methods descriptions. The chronic toxicity test endpoints (NOEC, LOEC; 0.38 mg/L total ammonia) reported by Teh et al. for the single copepod species <i>Pseudodiaptomus forbesi</i> were not reproducible when the raw data provided in report appendices were analyzed using standard statistical software designed for aquatic toxicity data (CETIS) (Pacific EcoRisk 2011) [Footnote A-6: Pacific EcoRisk, Inc. 2011. A Critical Review of: Full Life-Cycle Bioassay Approach to Assess Chronic Exposure of <i>Pseudodiaptomus forbesi</i> to Ammonia/Ammonium - Final Report Dated August 31, 2011. Prepared for Larry Walker Associates and Central Contra Costa Sanitary District.]; the correct toxicity thresholds may be more than twice as high as those reported in Teh et al. Several other issues regarding use of the data are raised in the Pacific EcoRisk critique, including the possibility that toxicity test data was tabulated improperly before statistical analysis.</p>	
1651	64	<p>[From ATT1:]</p> <p>Section 3.6. General Comment.</p> <p>Reversibility is presented as a basic principal enabling adaptive management, but the reversibility of project elements and Conservation Measures is not evaluated. Section 3.6 is a complicated description of processes, responsible parties, and decision and review criteria that would constitute the BDCP Adaptive Management Program. Among the principles listed to guide the development of the adaptive management program for the BDCP are (emphasis added):</p> <ul style="list-style-type: none"> <li>- "The scope and degree of reversibility of each conservation measure and other factors determine the form of adaptive management that should be applied (e.g., "active" or experimental adaptive management versus "passive" adaptive management)." (p. 3.6-1, line 34)</li> <li>- "Prioritization and sequencing of conservation measures should be assessed at multiple steps in the adaptive management cycle. Specifically targeted institutional arrangements are required to establish effective feedback mechanisms to inform decisions about whether to retain, modify, or replace conservation measures." (p. 3.6-2, line 12)</li> </ul> <p>Sections 3.6.4.3 - 3.6.4.5 (monitoring and research) list myriad parameters (environmental and programmatic) that would be monitored to gauge "effectiveness" and would presumably serve as principal bases for adaptive management decisions. However, reversible elements of conservation measures are not described in the Plan documents, and no clues are provided about how BDCP plans to prioritize or sequence conservation measures at the outset. The documents are lacking concrete examples of adaptive management, so that the reader is left with optimistic theory about adaptive management, but no way to gauge its feasibility given the types of water operations, flow criteria, and conservation measures proposed. Habitat restoration is not inherently "reversible," nor is the construction of a new conveyance. However the operation of water facilities is reversible, including the abandonment of water facilities if need be. This important distinction should be explained to the Plan audience, because it affects policy and governance and views about costs and benefits.</p>	<p>Please refer to response to comment 1651-38. Please also refer to Master Response 33, which addresses adaptive management and monitoring to adjust operation of the conveyance facilities.</p>

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1651	65	<p>[From ATT1:]</p> <p>Section 3.6 General Comment.</p> <p>No concrete examples (scenarios) of adaptive management are provided, pairing plausible deleterious developments and plausible resultant management actions. Regarding habitat restoration and adaptive management, it is stated (in Appendix 5E):</p> <p>"Due to the scale of restoration and the complexities of the Delta foodweb, this restoration should be approached in an experimental (i.e., adaptive) manner to ensure that lessons learned on early restoration projects are incorporated into subsequent projects. Using this approach, the effectiveness of restoration actions is expected to increase over time." (p. 5E.0-4)</p> <p>This passage implies that mistakes or unintended consequences at one restoration site will inform steps taken at other sites, but what can be done to repair damage already done? Concrete hypothetical examples of adaptive management should be provided in the Plan documents. For example, in realistic terms, what can the Implementing Office do if it is found that DO (dissolved oxygen) is unacceptably low in a restored marsh, or Corbicula has colonized a restored site, or Egeria colonies are replaced by another invasive species after herbicide treatment? Will breached levees be resealed if a restored habitat proves to be detrimental to covered fish or their food supplies? Would salinity modification or temporary draining be considered? Will flows be increased to new tidal marsh somehow if monitoring indicates a deficiency? Will that be legally possible? Can the depth of a restored site be altered mechanically if it proves to be too deep or too shallow for intended ecosystem functions? Without concrete examples, how can the public gauge the probability that adaptive management will be meaningful, practical, or within the realm of regulatory or legal possibility?</p> <p>In their February 25, 2014 draft cover letter for comments on the BDCP EIR/EIS [Footnote A-7: Available at <a href="http://deltacouncil.ca.gov/event-detail/10304">http://deltacouncil.ca.gov/event-detail/10304</a>], the Delta Independent Science Board commented on this lack of concrete forethought:</p> <p>"Because it is unlikely that all the actions and measures in BDCP will play out as planned, it would seem prudent to have contingency plans generally outlined before discovering that things aren't working, yet such contingency plans are rarely mentioned. As a consequence, we have misgivings about how well the adaptive management process proposed will actually function as a key component of BDCP." (Feb. 25, 2014 Draft Cover Letter, ISB)</p> <p>To help clarify the adaptive management process, BDCP should also include a review of the FLASH (Fall Low Salinity Habitat Studies) program in Section 3.6.3, revealing the governance structures, time frames for planning, experimentation, monitoring, data evaluation, and reporting, and the demonstrated level of ability of management to reach conclusions to date. This is a real-world example of research-oriented multi-agency adaptive management in the Delta and will help stakeholders understand the realities and limitations of adaptive management of legally, hydrologically, and biologically complex systems.</p>	<p>Please refer to response to comment 1651-20. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1651	66	<p>[From ATT1:]</p> <p>Section 3.6.4. General comment.</p> <p>Monitoring and research should be identified as conservation measures. To reduce</p>	<p>Please refer to response to comment 1651-38 and Master Response 33, which explains the logic and approach for the adaptive management and monitoring program.</p>

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		uncertainty associated with achieving biological objectives, compliance and effectiveness monitoring and research to reduce uncertainty associated with achieving biological objectives should be identified as conservation measures. These conservation measures should also be a condition of the permit.	
1651	67	[From ATT1:]  Section 3.6.4. General comment.  Many success criteria, as stated, are not quantitative or qualitative. Many "Success Criteria" as stated in Table 3.D-2 are actually just names of parameters or landscape features, with no quantitative or qualitative values associated.	Please refer to response to comment 1651-37.  All mitigation proposed as compensatory mitigation would be subject to specific success criteria, success monitoring, long-term preservation, and long-term maintenance and monitoring pursuant to the requirements of the Mitigation Rule. For more information regarding mitigation measures please see the MMRP.
1651	68	[From ATT1:]  Section 3.6.4. General comment.  Much of the monitoring is inadequate to measure compliance or effectiveness of Conservation Measures over the permit term. As stated in Table 3.D-2, much of the monitoring is insufficient to provide for adaptive management or gain proper understanding of the effects of Conservation Measures.	Please refer to response to comment 1651-67.
1651	69	[From ATT1:]  Lack of baseline monitoring: the monitoring of plankton and invertebrates for CM4 (restored tidal habitat) is partially aimed at quantifying the export of plankton from restored tidal habitat to adjacent open water habitat. However, the monitoring is slated to begin 5 years following restoration until end of permit term. Zooplankton population sizes are very dynamic interannually and at short time scales (i.e., weeks to months) (Kimmerer 2004). Areas downstream of anticipated restoration sites need to have abundant, temporally dense, baseline data prior to restoration in order to demonstrate later whether the hypothesized benefit of plankton export from restoration areas actually occurs.	Please refer to response to comment 1651-37.
1651	70	[From ATT1:]  Inadequate frequency: monitoring of short-lived organisms such as plankton is specified as "annual" in several cases rather than as monthly (or more frequent) within monitoring years. A notable exception is the monitoring of plankton abundance for CM6: Channel Margin Enhancement.	Please refer to response to comment 1651-37.
1651	71	[From ATT1:]  Inadequate duration: Monitoring is frequently truncated after a small number of years (e.g., 3-5). This short timespan will not capture the effect of climate change, or other longer-term phenomena, on the performance of the project.	Please refer to response to comment 1651-37.
1651	72	[From ATT1:]  Monitoring schemes do not consider water-year types: arbitrary intervals (e.g., every 5 years) are indicated for most parameters, and will therefore prevent evaluation of the effectiveness of Conservation Measures during different water-year types with substantially different flows and flow-related factors.	Please refer to response to comment 1651-37.

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1651	73	<p>[From ATT1:]</p> <p>Monitoring of delta smelt fecundity is missing. Objective DTSM1.1 is stated as follows: "Increase fecundity of delta smelt over baseline conditions as measured through field investigations and laboratory studies conducted through year 10 and refined through adaptive management." No effectiveness monitoring of delta smelt fecundity is indicated in Section 3.4.1.5.1 (Compliance and Effectiveness Monitoring Actions for CM1), nor in Appendix 3.D.</p>	Please refer to response to comment 1651-37.
1651	74	<p>[From ATT1:]</p> <p>Entrainment of plankton should be directly monitored: Phytoplankton, zooplankton, and larval fish should be monitored in the canals between the Tracy and Skinner fish facilities and the export pumps to quantify entrainment of plankton. Plankton concentrations should be monitored behind the fish screens in the north Delta intakes.</p>	Please refer to Chapter 6 of the CWF Biological Assessment for details on the food web entrainment analysis. Under the Proposed Project, reduced pumping in the south Delta would generally be expected to have beneficial effects to fish species, as it relates to entrainment of food web materials at the south Delta under current operations. However, operations at the north Delta diversions (NDD) would create an additional site for entrainment, although the benefits of reduced pumping in the south Delta likely outweigh the potential negative effects at the NDD, given a large fraction of Delta phytoplankton is derived from in situ production within the Delta. Increased contributions from the highly productive San Joaquin River under the Proposed Project (as a result of less south Delta pumping) could also provide a mechanism for increased transport of food web materials to downstream areas.
1651	75	<p>[From ATT1:]</p> <p>Monitoring required to gauge quality of restored habitat is missing: Several types of monitoring are omitted that will be required to gauge the benefit of protected or restored aquatic sites and to perform adaptive management. For example, there is no provision for monitoring of invasive aquatic vegetation inside restored sites. There is no mention of monitoring clam abundance and filtering capacity at restored sites. There is no mention of monitoring of primary production rates in restored habitat. The only way to understand whether the restored habitats are providing postulated primary productivity benefits will be to determine net primary production after accounting for grazing rates of consumer categories. OC (organochlorine) pesticides and OP (organophosphate) pesticides should be monitored in restoration areas and downstream from them during site preparation, because site disturbance will mobilize sediment-bound contaminants.</p>	Please refer to response to comment 1651-67.
1651	76	<p>[From ATT1:]</p> <p>No monitoring of algal toxins is indicated: The project's effect on residence time, and the predicted increases in Delta water temperatures (the latter were not correctly modeled) may encourage the growth of toxic algae. No monitoring of microcystins or other algal toxins is listed for any of the conservation measures. Although plankton counts may provide an indication of the occurrence of cells or colonies of hazardous algae, it will not indicate whether they are producing toxins (they do not always produce toxins) or whether the toxins are exceeding health standards.</p>	Please refer to response to comment 1651-37.
1651	77	<p>[From ATT1:]</p> <p>No monitoring of primary production rates is indicated for CM2 or CM4, or CM6--despite the fact that a postulated increase in local primary production is used as a rationale for all three conservation measures, as follows:</p> <ul style="list-style-type: none"> <li>- Regarding purpose of CM2 (Yolo Bypass). "Increased frequency of inundation will enhance existing connectivity between the Sacramento River and Yolo Bypass floodplain habitat. Also, it can increase production of zooplankton and dipteran larvae (prey resources</li> </ul>	Please refer to response to comment 1651- 67.

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		<p>for covered fish species), mobilization of organic material, and primary production, with conditions suitable for spawning, egg incubation, and larval stages for covered fish species such as Sacramento splittail (if inundation is greater than 30 days)." (p. 3.4-41, line 8)</p> <ul style="list-style-type: none"> <li>- Regarding purpose of CM3 (Tidal habitat restoration): "The overall intent of CM4 is to develop a broadly distributed mosaic of restored tidal natural communities that address the foraging needs of covered fish species by increasing habitat suitability, primarily by supporting a more productive aquatic foodweb." (p. 3.4-117, line 32)</li> <li>- Regarding Objective L2.3 (Connect rivers and their floodplains): "Also, because inundated portions of floodplains are shallower, have longer residence times, and are generally warmer than the mainstem river, they can have greater rates of phytoplankton production than do the channels of the rivers (Sommer et al. 2004; Lehman et al. 2008)." (p. 3.3-41, line 16)</li> </ul> <p>A key premise of the BDCP is a postulated increase in aquatic primary production in restored aquatic habitats that will trickle-up to covered fish species. Phytoplankton counts do not provide a measure of primary production; carbon uptake rates should be regularly measured in restored habitat.</p>	
1651	78	<p>[From ATT1:]</p> <p>Several activities that are characterized as research in Table 3.D-3 should be reclassified as effectiveness monitoring, and conducted over the long term.</p> <p>Under CM2 Yolo Bypass Fisheries Enhancement:</p> <ul style="list-style-type: none"> <li>- Evaluate the effectiveness of the fish passage gates at Fremont Weir;</li> <li>- Determine growth rates of juvenile salmonids that have entered the Yolo Bypass during Fremont Weir operation;</li> <li>- Document Sacramento splittail spawning and spawning success in the Yolo Bypass during Fremont Weir operation;</li> <li>- Determine severity of predation effects on covered fish using the Yolo Bypass;</li> <li>- Determine plankton and invertebrate production rates during periods the Fremont Weir is operated.</li> </ul>	Please refer to response to comment 1651-55. The change has not been made because the Draft BDCP has not been revised.
1651	79	<p>[From ATT1:]</p> <p>Several activities that are characterized as research in Table 3.D-3 should be reclassified as effectiveness monitoring, and conducted over the long term.</p> <p>Under CM4 Tidal Natural Communities Restoration:</p> <ul style="list-style-type: none"> <li>- Quantify the primary and secondary production, including food suitable for covered species, both within restored tidal marsh natural communities and transported from restored areas to adjacent openwater habitat and its fate;</li> <li>- Determine the extent and patterns of establishment of nonnative clams in restored</li> </ul>	Please refer to responses to comments 1651- 55, 1651-67, and 1651-78.

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		subtidal aquatic habitats; - Document and evaluate water quality condition in restored aquatic habitats.	
1651	80	[From ATT1:]  Several activities that are characterized as research in Table 3.D-3 should be reclassified as effectiveness monitoring, and conducted over the long term.  Under CM5 Seasonally Inundated Floodplain Restoration:  Evaluate the distribution and abundance of covered fish species and predators at restoration sites.	Please refer to responses to comments 1651- 55, 1651-67, and 1651-78.
1651	81	[From ATT1:]  Specific deficiencies in the compliance monitoring specified in Table 3.D.1.  Conservation Measure:  CM1 Water Facilities and Operation  Compliance Monitoring Action:  Confirm screen operation produces approach velocities no greater than 0.33 foot per second in daytime and 0.2 foot per second at night when delta smelt are present [indicator of smelt presence to be determined]... This monitoring should be performed to evaluate the range of river stages accounting for the majority of total flow variability and should evaluate both clean and dirty screens at a representative range of river stages. Once compliance has been demonstrated, monitoring may cease.  Timing/Duration Stated in Appendix 3.D:  Approximately 6 months beginning with initial facility operations.  Deficiencies:  Duration inadequate. How can a one-time 6-month period of monitoring account for the range of river stages accounting for the majority of total flow variability. How does the stated duration of monitoring account for interannual variation in flow and water year types?	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 Final EIR/EIS 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.  DWR will also perform monitoring to ascertain performance relative to the limits identified in the BiOp incidental take statement. This monitoring will be achieved by performance, on an ongoing basis during the operational life of the facility, as specified in items 4, 5 and 10 in Table 3.4-18 of the WaterFix BA. Those items deal with monitoring of incidental take in the vicinity of the NDDs through the mechanisms of entrainment, impingement, and predation.  A detailed description of the Collaborative Science and Adaptive Management Program is included in Chapter 3, Description of Alternatives, of the Final EIR/EIS. Please also see Master Response 33 for more information regarding adaptive management.
1651	82	[From ATT1:]  Specific deficiencies in the compliance monitoring specified in Table 3.D.1.  Conservation Measure:  CM2 Yolo Bypass Fisheries Enhancement  Compliance Monitoring Action:  Site-level assessment--plankton and invertebrate sampling- assess increases in plankton and invertebrate abundance, and transport of plankton and invertebrates off of Yolo Bypass to	Please refer to responses to comments 1651-55, 1651-67, and 1651-78.

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		<p>areas occupied by delta smelt.</p> <p>Timing/Duration Stated in Appendix 3.D:</p> <p>Every 5 years after modifications to Fremont Weir are completed.</p> <p>Deficiencies:</p> <p>No baseline data. Inadequate duration.</p> <p>Why wouldn't it be important to quantify baseline conditions for several years prior to the modifications? What if water year types are not adequately represented during the 5-year period after the modifications?</p>	
1651	83	<p>[From ATT1:]</p> <p>Specific deficiencies in the compliance monitoring specified in Table 3.D.1.</p> <p>Conservation Measure:</p> <p>CM2 Yolo Bypass Fisheries Enhancement</p> <p>Compliance Monitoring Action:</p> <p>Site-level assessment. Assess use of Yolo Bypass by covered fish species.</p> <p>Timing/Duration Stated in Appendix 3.D:</p> <p>Monthly seine/net surveys between November 10 and May 15 through year 15.</p> <p>Deficiencies:</p> <p>Would not isotope studies of otoliths be effective in determining past use of Yolo Bypass for fish caught elsewhere?</p>	Please refer to responses to comments 1651-55, 1651-67, and 1651-78.
1651	84	<p>[From ATT1:]</p> <p>Specific deficiencies in the compliance monitoring specified in Table 3.D.1.</p> <p>Conservation Measure:</p> <p>CM5 Seasonally Inundated Floodplain Restoration</p> <p>Compliance Monitoring Action:</p> <p>Document in a GIS (Geographic Information System) database the extent of floodplain successfully restored by installing and monitoring automated monitoring devices or other appropriate measures to determine inundation depth, stage, and frequency. Obtain data from Integrated Regional Wetlands Monitoring, as relevant. Based on physical data, estimate amount of floodplain restored for each covered species expected to use area.</p> <p>Timing/Duration Stated in Appendix 3.D:</p> <p>Prior to floodplain restoration and annually for the first 5 years following restoration</p>	Please refer to responses to comments 1651-55, 1651-67, and 1651-78.

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		<p>actions.</p> <p>Deficiencies:</p> <p>Would it not make sense to monitor during a variety of water year types? Cessation of monitoring after 5 years will hinder adaptive management. What if inundation depths, etc., change in the future such that the BDCP has not resulted in the promised suite of new habitats? How will we know, if monitoring ceases after 5 years and before new water operations have begun?</p>	
1651	85	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM1 Water Facilities and Operation</p> <p>Effectiveness Monitoring Action(s):</p> <p>Monitor refugia to evaluate effectiveness relative to design expectations. Method is likely to entail use of a Didson camera to observe fish behavior within refugia, but more specific monitoring protocols and performance metrics are to be developed once refugia design has been completed, and prior to facility operation. Monitoring will evaluate refugia operation at a range of river stages and with regard to target species or agreed proxies. Once compliance has been demonstrated, monitoring may cease....</p> <p>Metric:</p> <p>To be determined.</p> <p>Success Criteria:</p> <p>To be determined.</p> <p>Timing &amp; Duration:</p> <p>Approximately 6 months beginning with initial facility operations.</p> <p>Deficiency:</p> <p>Duration inadequate. How can a one-time 6-months period of monitoring account for the range of river stages accounting for the majority of total flow variability. How does the stated duration of monitoring account for interannual variation in flow and water year types?</p>	<p>Monitoring will be repeated following any changes to the refugia that may be prescribed in the course of adaptive management (same as post-construction study 5, Refugia Effectiveness [Fish Facilities Technical Team 2013]).</p>
1651	86	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM1 Water Facilities and Operation</p>	<p>Please refer to response to comment 1651-81. If the BDCP is selected during the project decision-making process this duration will be revisited.</p>

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		<p>Effectiveness Monitoring Action(s):</p> <p>Observe fish activity at screen face (using Didson cameras or other technology to be determined prior to facility operations) and use mark/recapture study of salmonid and smelt proxy fishes to evaluate impingement injury rate. Performance metrics to be determined prior to study initiation (same as post construction study 7, Evaluation of Screen Impingement [Fish Facilities Technical Team 2013]).</p> <p>Metric:</p> <p>To be determined.</p> <p>Success Criteria:</p> <p>To be determined.</p> <p>Timing &amp; Duration:</p> <p>Study to be performed at varied river stages and diversion rates, during first 2 years of facility operation.</p> <p>Deficiency:</p> <p>Duration inadequate. How can the permittees expect the full range of river stages and diversion rates possible during the permit term to occur during the first 2 years of facility operation?</p>	
1651	87	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM1 Water Facilities and Operation</p> <p>Effectiveness Monitoring Action(s):</p> <p>Determine overall impact on survival of juvenile salmonids throughout the diversion reach related to the operation of the new facilities. Use mark/ recapture and acoustic telemetry studies (or other technology to be determined prior to facility operations) to evaluate any impacts of facility operations on juvenile salmonids, under various pumping rates and flow conditions, to insure that the survival objectives for juvenile salmonids traversing the diversion reach are being met.</p> <p>Metric:</p> <p>Survival through diversion reach.</p> <p>Success Criteria:</p> <p>Survival of at least 95% of outmigrant juveniles entering the reach (0.25 mile upstream of the upstream intake), measured 0.25 mile downstream of the downstream intake.</p>	<p>Please refer to responses to comments 1651-81 and 1651-86.</p>

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		<p>Timing &amp; Duration:</p> <p>Study to be performed at varied river flows and diversion rates, during first 2 to 5 years of facility operation.</p> <p>Deficiency:</p> <p>Duration inadequate. How can the permittees expect the full range of pumping rates and flow conditions possible during the permit term to occur during the first 2-5 years of facility operation?</p>	
1651	88	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM1 Water Facilities and Operation</p> <p>Effectiveness Monitoring Action(s):</p> <p>Measure entrainment rates at screens using fyke nets located behind screens. Identify species and size of entrained organisms. Use trawl surveys in channel to calibrate density of entrained organisms. Performance metrics to be determined prior to study initiation (same as post-construction study 8, Screen Entrainment [Fish Facilities Technical Team 2013], but with addition of trawl surveys).</p> <p>Metric:</p> <p>To be determined.</p> <p>Success Criteria:</p> <p>To be determined.</p> <p>Timing &amp; Duration:</p> <p>Study to be performed at varied river stages and diversion rates, during first 2 years of facility operation.</p> <p>Deficiency:</p> <p>Duration inadequate. How can the permittees expect the full range of river stages and diversion rates possible during the permit term to occur during the first 2 years of facility operation? What about different water year types (dry, wet, etc.)?</p>	<p>Please refer to responses to comments 1651-81 and 1651-86.</p>
1651	89	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM1 Water Facilities and Operation</p>	<p>NDD entrainment of phytoplankton and zooplankton was examined using an assessment of phytoplankton carbon entrained, based on chlorophyll a concentration data for Hood (representing the load of entrained phytoplankton), in relation to the biomass of phytoplankton in the Delta (taken from Antioch chlorophyll a data, multiplied up to the volume of the Delta). The methods for this analysis are presented in more detail in the WaterFix Biological Assessment Appendix 6.A, Quantitative Methods for Biological Assessment of Delta Smelt, Section 6A.4.2. This analysis is essentially an approximation of potential entrainment of phytoplankton carbon load that could be entrained by the NDD. Factors that could offset any potential effects to Delta Smelt include the in situ productivity of phytoplankton carbon within the Delta, which could</p>

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		<p>Deficiency:</p> <p>No direct monitoring of entrainment of plankton is proposed.</p>	<p>be relatively large, and reduced entrainment of phytoplankton carbon by the south Delta export facilities under the PA. These factors are discussed qualitatively in the analysis.</p>
1651	90	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM2 Yolo Bypass Fisheries Enhancement</p> <p>Effectiveness Monitoring Action(s):</p> <p>Annually assess juvenile salmonid through-Delta survival and/or continue conducting studies assessing juvenile growth rates using hatchery origin juvenile salmonids. Begin monitoring upon final BDCP permit authorization and continue through year 15. Report results in annual progress report.</p> <p>Metric:</p> <p>To be determined following selection of methodology.</p> <p>Success Criteria:</p> <p>Performance consistent with juvenile steelhead survival target set by objective STHD1.1.</p> <p>Timing &amp; Duration:</p> <p>Annually through year 15.</p> <p>Deficiency:</p> <p>Is this action aimed at salmonids (second column) or steelhead (third column)? What about longer-term changes that might reduce steelhead survival, like climate change? How do the permittees plan to monitor the effectiveness of CM2 through the permit term?</p>	<p>Please refer to response to comments 1651-55 and 1651-67. This monitoring issue may need to be revisited if the BDCP is chosen during the project decision-making process.</p>
1651	91	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM2 Yolo Bypass Fisheries Enhancement</p> <p>Deficiency:</p> <p>No monitoring of primary production rates is indicated in the Yolo Bypass.</p>	<p>Please refer to responses to comments 1651-55 and 1651-67.</p>
1651	92	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p>	<p>Please refer to responses to comments 1651-55 and 1651-67.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>CM4 Tidal Natural Communities Restoration</p> <p>Effectiveness Monitoring Action(s):</p> <p>Conduct a site-level assessment of warm season dissolved oxygen concentrations.</p> <p>Metric:</p> <p>Water quality</p> <p>Success Criteria:</p> <p>Maintenance of high warm-weather dissolved oxygen concentrations and low temperatures relative to comparable seasonal norms for reference managed wetlands.</p> <p>Timing &amp; Duration:</p> <p>Annually for first 5 years after restoration.</p> <p>Deficiency:</p> <p>Duration inadequate. What if the first 5 years after restoration do not represent the range of climatic, hydrologic, and biological conditions that affect dissolved oxygen (DO)? Climate change will increase temperature, which will decrease DO saturation.</p>	
1651	93	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM4 Tidal Natural Communities Restoration</p> <p>Effectiveness Monitoring Action(s):</p> <p>Conduct a site-level assessment of use by native and nonnative fishes.</p> <p>Metric:</p> <p>Use of restoration sites by covered fish species.</p> <p>Success Criteria:</p> <p>Detection of site use by Chinook salmon, splittail, and the following covered fish species: longfin smelt and delta smelt in the Suisun Marsh and Cache Slough ROAs (Restoration Opportunity Areas); steelhead and delta smelt in the Cosumnes/Mokelumne ROA.</p> <p>Timing &amp; Duration:</p> <p>Monthly seine/net surveys during one water year between the second and fifth year following site construction.</p> <p>Deficiency:</p> <p>Non-native species are not referenced in the success criteria. Duration of monitoring is</p>	<p>Please refer to responses to comment 1651-55 and 1651-67. If the BDCP is selected during the project decision-making process this duration will be revisited.</p>

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		woefully inadequate (1 water year).	
1651	94	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM4 Tidal Natural Communities Restoration</p> <p>Effectiveness Monitoring Action(s):</p> <p>Conduct plankton and invertebrate sampling in restored tidal natural communities.</p> <p>Metric:</p> <p>Plankton and invertebrate abundance in restored floodplain. (Is this a typo? Should not this action be for restored tidal habitat?)</p> <p>Success Criteria:</p> <p>Presence within and transport from restored tidal natural communities to adjacent open-water habitat occupied by covered fish species.</p> <p>Timing &amp; Duration:</p> <p>Every 5 years following floodplain restoration until end of permit term (Is this a typo? Should not this action be for restored tidal habitat?)</p> <p>Deficiency:</p> <p>Can this mean just one survey per year, every 5 years? This is not adequate. Zooplankton abundance is highly variable within and between years. Such infrequent monitoring will not detect invasive species arrivals fast enough to inform adaptive management. Careful attention will have to be paid to tidal pumping to ensure that the abundance being monitored is for plankton being transported out of restoration sites as opposed to plankton being transported into restoration sites from adjacent water bodies. The success criterion for CM4 for monitoring of plankton abundance in Appendix 3.D is vague and does not acknowledge the numeric criteria of 7,000 calanoid copepods/cubic meter articulated in the associated biological objective.</p>	<p>Please refer to responses to comment 1651-55 and 1651-67. If the BDCP is selected during the project decision-making process this duration will be revisited.</p>
1651	95	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM4 Tidal Natural Communities Restoration</p> <p>Deficiency:</p> <p>No monitoring of primary production rates is indicated for tidal wetlands.</p>	<p>Please refer to responses to comment 1651-55 and 1651-67. If the BDCP is selected during the project decision-making process this duration will be revisited.</p>

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1651	96	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM4 Tidal Natural Communities Restoration</p> <p>Deficiency:</p> <p>No monitoring of clam abundance is specifically indicated. No monitoring of clam filtering rate (which requires size distribution of clams) is indicated.</p>	<p>Please refer to responses to comment 1651-55 and 1651-67. If the BDCP is selected during the project decision-making process this duration will be revisited.</p>
1651	97	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM5 Seasonally Inundated Floodplain Restoration</p> <p>Effectiveness Monitoring Action(s):</p> <p>Plankton and invertebrate sampling in restored floodplain, at each restoration site.</p> <p>Metric:</p> <p>Plankton and invertebrate presence in restored floodplain (plankton and invertebrate abundance may fluctuate based on predation by juvenile fish, water temperature, and fluctuations in the duration, extent, and frequency of floodplain inundation).</p> <p>Success Criteria:</p> <p>Plankton and invertebrate presence, as well as presence of juvenile fishes that may feed upon them (presence of juvenile fishes may result in decreased plankton and invertebrate abundance [Grosholz and Gallo 2006]).</p> <p>Timing &amp; Duration:</p> <p>Every 5 years following floodplain restoration until end of permit term.</p> <p>Deficiency:</p> <p>Frequency and duration is not adequate. Zooplankton abundance is highly variable within and between years. Such infrequent monitoring will not detect invasive species arrivals fast enough to inform adaptive management.</p>	<p>Please refer to response to comment 1651-37. If the BDCP is selected during the project decision-making process the frequency and duration for this monitoring may be revisited.</p>
1651	98	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM5 Seasonally Inundated Floodplain Restoration</p>	<p>Please refer to responses to comments 1651-37 and 1651-97.</p>

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		<p>Deficiency:</p> <p>No monitoring of primary production rates is indicated.</p>	
1651	99	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM5 Seasonally Inundated Floodplain Restoration</p> <p>Effectiveness Monitoring Action(s):</p> <p>Plankton and invertebrate sampling in restored floodplain, at each restoration site.</p> <p>Metric:</p> <p>Plankton and invertebrate abundance in restored floodplain.</p> <p>Success Criteria:</p> <p>Increase</p> <p>Timing &amp; Duration:</p> <p>Every 5 years following floodplain restoration until end of permit term.</p> <p>Deficiency:</p> <p>Intra- and interannual variation in plankton abundance renders this frequency inadequate to measure success. Also, should not water year types (which are not on a 5-year schedule) be captured by monitoring, since floodplain inundation will depend on water year type? Such infrequent monitoring will not detect invasive species arrivals fast enough to inform adaptive management.</p>	Please refer to responses to comments 1651-37 and 1651-97.
1651	100	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM6 Channel Margin Enhancement</p> <p>Effectiveness Monitoring Action(s):</p> <p>Measure plankton and invertebrate abundance in aquatic habitat within and adjacent to enhanced channel margins.</p> <p>Metric:</p> <p>Laboratory counts of water and seine samples taken in the field.</p> <p>Success Criteria:</p>	Please refer to responses to comments 1651-37 and 1651-97.

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		<p>Increased plankton and invertebrate abundance.</p> <p>Timing &amp; Duration:</p> <p>Six times per year for first 5 years after site construction; three times per year every fifth year thereafter.</p> <p>Deficiency:</p> <p>Why is plankton monitoring going to be more frequent in enhanced channel margin projects than in seasonal floodplain and tidal habitat? There is a lack of consistency between habitats. The monitoring in the other habitats should look more like that stated here. Metrics stated suggest that clam abundance will not be measured in levee setbacks.</p>	
1651	101	<p>[From ATT1:]</p> <p>Specific deficiencies in the effectiveness monitoring specified in Table 3.D.2.</p> <p>Conservation Measure:</p> <p>CM13 Invasive Aquatic Vegetation Control</p> <p>Deficiency:</p> <p>A threshold maximum velocity for successful Egeria establishment (0.49 meters per second) has been proposed by BDCP. Owing to the importance of velocity as a factor in Egeria colonization, continuous monitoring of current speeds near the substrate should be conducted in sensitive areas to evaluate the consequences of operations scenarios in various water year types.</p>	Please refer to responses to comments 1651-37 and 1651-97.
1651	102	<p>[From ATT1:]</p> <p>Appendix 3G: Proposed Interim Delta Salmonid Survival Objectives.</p> <p>Page 1, line 14 and Page 11, line 5:</p> <p>"These BDCP survival objectives would provide 50% of the total improvement in overall survival necessary to meet target cohort replacement rates (CRR). The remaining 50% of the necessary improvements in juvenile survival are expected to be achieved through recovery actions distributed throughout the salmonid life-cycle."</p> <p>"In recognition that the BDCP cannot be responsible for producing the entire increase in survival deemed necessary to achieve sustainability, these Interim BDCP Survival Objectives are approximately one-half of the estimated overall improvement needed to achieve the long term CRR targets. This is based on the assumption that other restoration and recovery efforts will result in substantial improvements in survival throughout the salmonids range."</p> <p>It seems reasonable that the habitat restoration and improved water operations in BDCP will only achieve half of the desired increase for salmonid populations, but how will salmonid population increases due to BDCP-funded actions be identified separately from population increases resulting from conservation actions performed by other agencies unrelated to the BDCP, or beneficial changes in climatic condition? The proposed Interim Delta Survival Objectives appears to attribute all increases in salmonid populations to BDCP,</p>	This objective may need to be revisited should the BDCP be selected during the project decision-making process. Possible responses to failure to meet biological goals and objectives could be adaptive management actions or permit amendment.

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		<p>allowing the Conservation Plan to meet its objective when salmon populations are only restored to half of their overall desired level.</p> <p>Will improvements in salmonid populations resulting from improved water quality be counted into the improvements from BDCP? It would be best to provide the actual long-term CRR targets and then allocate increases to BDCP and other restoration activities, otherwise BDCP will claim that all improvements in salmonid populations resulted from their Conservation Plan. The current wording will adaptively manage the BDCP program to sustain fish at half the proposed CRR targets (50% improvement). This effectively sets the bar for maintaining Delta operations (Delta outflow rates, Sacramento River cold water pools, fish entrainment mortality, predation losses at water export facilities, and habitat restoration projects) to support salmonid populations at half of their desired levels.</p> <p>What happens if juvenile salmonid populations do not reach desired CRR abundances? Will BDCP lose its take permit or will adaptive management processes need to be restructured with additional guidance and regulations from fisheries agencies?</p>	
1651	103	<p>[From ATT1:]</p> <p>Appendix 3G: Proposed Interim Delta Salmonid Survival Objectives.</p> <p>Page 10, line 32:</p> <p>"NMFS (National Marine Fisheries Service) anticipates more immediate improvements in survival of San Joaquin-origin Chinook salmon and steelhead to accrue based on early conservation actions, including reasonable and prudent alternatives (RPAs) required by the NMFS and U.S. Fish and Wildlife Service Biological Opinions, improved Delta inflows, habitat restoration projects such as Dutch Slough, and improvements in water quality from the upgraded Sacramento Regional Wastewater Treatment Plant."</p> <p>How are non-BDCP improvements to cohort replacement rate (CRR), such as improved water quality, identified and counted separately from the BDCP improvements?</p>	<p>Improvements are not counted separately, that could be incorporated into the BDCP conservation strategy.</p>
1651	104	<p>[From ATT1:]</p> <p>Chapter 5: Effects Analysis</p> <p>The chapter is difficult to review and comprehend because it is poorly organized, inconsistent and suffers from inadequate cross-referencing. The chapter makes the interpretation of net effects of BDCP implementation difficult at best. The Independent Panel charged with review of the Effects Analysis has stated that it "universally believes that by itself, Chapter 5... inadequately conveys the fully integrated assessment that is needed to draw conclusions about the Plan..." [Delta Science Program Independent Review Panel Report (DSP-IRP Report), BDCP Effects Analysis Review, Phase 3, March, 2014, page 5]</p>	<p>The RDEIS/SDEIS attempts to balance readability, the need for accurate and thorough technical analyses, and responses to public and agency requests for information. Efforts to manage the size and complexity of the document, while maintaining the necessary level of technical detail, included: extensive use of graphs, tables and figures to assist with simplifying complex analyses; a summary comparison of alternative provided at the beginning of the EIS/EIS chapters; and inclusion of a "Reader's Guide" to help navigate through chapters. The legal sufficiency of the EIR/EIS depends on the substantive content, procedural compliance, and overall quality and readability of the document.</p> <p>The Lead Agencies strived to use the best available science throughout the effects analysis. 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, "The [BDCP net</p>

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			<p>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 responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1651	105	<p>[From ATT1:]</p> <p>Chapter 5: Effects Analysis</p> <p>Chapter 5, and most importantly the conclusions stated in Chapter 5, do not appropriately reflect the high uncertainty regarding the project effects that were described in the technical appendices supporting the chapter. In particular, the Chapter 5 summary did not recognize the critical uncertainties associated with the presumed beneficial effects of tidal wetland restoration. Instead, conclusions were reached that tend to favor the positive effects of the project, and no competing hypotheses are not offered or considered.</p>	Please refer to response to comment 1651-104.
1651	106	<p>[From ATT1:]</p> <p>Chapter 5: Effects Analysis</p> <p>The objectivity of the analysis captured in Chapter 5 needs to be improved. The chapter does not contain an integrated assessment of net effects of the proposed project. The DSP-IRP has called for the net effect assessment approach to be revamped. While considerable effort has been made to document the complex information that needs to be considered in determining net effects, a coherent synthesis of that information using a systematic approach was not presented. Instead, "professional judgment" was used, which often resulted in a one-sided opinion regarding the net positive effect of the project. As a result, the chapter conveys an unsatisfying message of "trust us". The expectations of effects developed through "professional judgment" are more accurately portrayed as working hypotheses of the relationship between actions, stressors and biological outcomes.</p>	Please refer to response to comment 1651-104.
1651	107	<p>[From ATT1:]</p> <p>Chapter 5: Effects Analysis</p> <p>Despite acknowledgment of extensive uncertainties in the chapter and its associated appendices, the Effects Analysis asserts the beneficial effects of the BDCP Conservation Measures. The net effects analysis tends to overreach conclusions of positive benefits for covered fish species. In large part, given that the alleged benefit of the BDCP is weak in many respects, the BDCP will depend on adaptive management to ensure that the predicted benefits will occur. However, the proposed adaptive management framework and governance structure is inadequate, non-rigorous, inadequately transparent and inclusive, and lacking true commitment. The adequacy of the BDCP therefore rests on the rigorous application of adaptive management to ensure that alleged benefits are attained through a progressively refined plan. The Delta Science Program Independent Review Panel (DSP-IRP) has strongly recommended that a commitment be made under BDCP to create and implement an exceedingly rigorous adaptive management that includes adequate</p>	Please refer to response to comment 1651-104.

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		monitoring and independent science review. [DSP-IRP Report, page 9] The Panel also recommends the identification and inclusion of triggers as part of the adaptive management structure. [page 18]	
1651	108	<p>[From ATT1:]</p> <p>Chapter 5: Effects Analysis</p> <p>Only one configuration of restoration sites within Restoration Opportunity Areas (ROAs) were modeled using hydrodynamic models. Details regarding the locations, timing, and configurations of the modeled suite of restoration projects are not available. Given the potential impact of such areas on hydrodynamics, tidal volumes and hydraulic residence times in the Delta, the actual BDCP project may have a much different effect on fish populations and water quality than has been described in the BDCP Effects Analysis. As a result, it is not possible to evaluate the sensitivity of these factors and outcomes over a range of different restoration scenarios.</p>	Please refer to response to comment 1651-104.
1651	109	<p>[From ATT1:]</p> <p>Chapter 5: Effects Analysis</p> <p>Chapter 5 does not adequately account for potential detrimental direct and indirect effects of the project on the Delta food web. For example, the effect of clams on the aquatic food web is not incorporated into the food web analyses presented in Chapter 5. This is a significant deficiency, based on the current scientific information which indicates (1) the 1987 invasion by the brackish-water clam <i>Potamocorbula</i> had a significant impact on the Delta food web. [Delta Science Program Independent Review Panel Report, pages 34, 37, 59, and 70] and (2) the non-native freshwater clam <i>Corbicula</i> can consume all of the primary production in colonized locales. Yet, according to the DSP-IRP, the effects of the BDCP water operations and habitat restoration may be to expand the populations of invasive clams in the Delta. In addition, direct entrainment of lower food web organisms by existing and planned export facilities is not acknowledged or quantified. Also, ater operations that reduce flow, increase water residence time and increase temperatures may promote <i>Microcystis</i>. [DSP-IRP Report pages 17, 34, 70]. Consequently, <i>Microcystis</i> blooms may be more common under the BDCP.</p>	Please refer to response to comment 1651-104. Please refer to Master Response 14.
1651	110	<p>[From ATT1:]</p> <p>Chapter 5: Effects Analysis</p> <p>Restoration actions are likely to increase the production, mobilization and bioavailability of methylmercury (Appendix 5d-24, lines 41-44). [Delta Science Program Independent Review Panel Report, page 67].</p>	Please refer to response to comment 1651-104.
1651	111	<p>[From ATT1:]</p> <p>Section 5.1.1 Basis for Evaluation, Page 5.1-1</p> <p>The first paragraph states that the effects analysis, which is a fundamental, required element of the BDCP, is based on an extensive body of monitoring data, scientific investigation, and analysis of information on the Delta compiled over several decades. Long term monitoring and research programs conducted by the Interagency Ecological Program,</p>	Please refer to response to comment 1651-104.

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		state and federal resource agencies, and academic investigators with the specific intent of assessing the effect of the water project operations has contributed to this information base. However, despite this wealth of information, a clear presentation and description of the effects of the existing water project operations on covered species is missing from the BDCP effects analysis. Such information is vital to the understanding of the historical impacts on the Delta ecosystem and the projected future impacts of the proposed BDCP project. This is a fundamental flaw in the effects analysis that should be corrected prior to the approval of the BDCP by state and federal fisheries agencies.	
1651	112	<p>[From ATT1:]</p> <p>Section 5.2.7. (Effects Analysis for Covered Fish)</p> <p>One third (13/39) of the species-specific Biological Objectives for covered fish were omitted from the Effects Analysis. In these cases, BDCP apparently lacks the information or tools to gauge the likelihood of achieving the objective, is unable to specify what actions (including water operations) would produce the biological benefit, or is not sure that covered activities are capable of producing the benefits promised (e.g., zooplankton production in restored habitat). As Table 5.2-8 reveals, the public is asked to believe that the adaptive management program will be capable of devising means to accomplish one third of the fish-specific biological objectives after the permit is granted. It seems likely many of the biological objectives will be redefined as they are discovered to be unattainable.</p>	Please refer to response to comment 1651-104.
1651	113	<p>[From ATT1:]</p> <p>Section 5.2.7. (Effects Analysis for Covered Fish)</p> <p>Key input from resource agencies that influenced the Net Effects analysis for covered fish is not revealed in Section 5.2.7. The Net Effects analysis for covered fish was apparently substantially influenced by a series of workshops August 2013 involving resource agency staff. No materials from the workshop are cited or appear to be publicly available. Consequently, the public cannot evaluate ICF's interpretation and characterization of the workshop participants' professional opinions regarding ranking of attributes for the effects analysis for fish.</p>	<p>Please refer to response to comment 1651-37.</p> <p>CA WaterFix Effects Analysis on covered species was drafted in collaboration with fisheries agencies, DWR, and ICF. Chapter 5 and 6 of the BA reflects those discussions. For more information regarding consultation history please see Chapter 2 of the BA.</p>
1651	114	<p>[From ATT1:]</p> <p>Section 5.2.7. (Effects Analysis for Covered Fish)</p> <p>The Net Effects scores for Covered Fish are not usable. The Net Effects tables are blurry and unreadable. The dual numeric scores for "importance" and "change" underlying the qualitative net effects scores are not revealed, but obscured by use of qualitative "bins" (e.g., "low", "medium"). The method for combining attribute scores presented on p. 5.5-1 is unnecessarily abstruse. The directions of the "net" effect of an attribute (negative or positive) in the tables are not discernible.</p>	<p>The qualitative conclusions regarding the effect of BDCP conservation measures on covered fish species are based on analyses in Appendices 5.A through 5.F as well as existing scientific literature and studies. These conclusions vary in regard to certainty due to scientific support as well as environmental variability and unpredictability. To capture this, the certainty of the conclusions made regarding the scientific basis for ratings of attribute importance for the species life stages (4.a) and on the potential outcome of conservation measures on the attributes (4.b) are characterized using a scale from low to very high certainty. The certainty scoring definitions listed in Table 5.2-7 are adapted from DiGennaro et al. (2012) but separated into certainty regarding scientific conclusions of species attribute scores (4.a) and BDCP environmental effects (4.b).</p> <p>For more information regarding effects to aquatic species please see Chapter 11 of the FEIR/EIS and Chapter 5 and 6 of the Biological Assessment.</p>
1651	115	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5B - Entrainment (and pertinent sections of Appendix 5C - Flows, etc.)</p>	Please see response to comment 1651-89.

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		<p>Entrainment of phytoplankton and zooplankton is not evaluated.</p> <p>Missing from the Effects Analysis is an analysis of the entrainment of plankton from the Delta, and its effect on covered fish. Export of lower food web organisms is not quantified at all, nor is the lost food web productivity caused by direct entrainment (which is ongoing and directly measureable for the south Delta facility) compared to postulated gains in productivity from restored habitat using any kind of common ecological currency. Because this information is missing, it is not possible to surmise whether the BDCP will result in a net increase, or a net decrease, in suitable planktonic food organisms for covered fish.</p> <p>Food web benefits from the BDCP are hypothesized to result primarily from (1) management of the "volume" of the low salinity zone via the positioning of X2, and (2) provision of new physical habitat or improvements to existing physical habitat (e.g. tidal habitat restoration, channel margin enhancements), in which, it is hypothesized that appropriate food webs will develop providing necessary invertebrate diet items for covered fish. Regarding lower food web support, delta smelt specific biological goal #2 (DTSM2), and its associated Objectives, reveal an explicit expectation that Conservation Measures will result in particular calanoid copepod densities:</p> <p>"Goal DTSM2: Increased quality and availability of habitat for all life stages of Delta smelt and increased availability of high-quality food for Delta smelt. The habitat objective can be met through a combination of Delta outflow and/or physical habitat restoration suitable for delta smelt."</p> <p>"Objective DTSM2.1: Increase the extent of suitable habitat, as defined by flow, salinity, temperature, turbidity, food availability and presence of Delta smelt, to provide for the conservation and management of delta smelt in the Plan Area by the achieving the following subobjectives."</p> <p>"a) Provide a monthly average of at least 37,000 acres of open-water habitat in hydrologically wet years, and at least 20,000 acres of connected open-water habitat in hydrologically above-normal years, of 1 to 6 psu habitat surface area during July-November. This habitat will meet all of the following criteria: extensive vertical circulation including gravitational circulation, contiguous with other open-water habitat, lateral mixing, and other hydrodynamic processes keeping Secchi disk depths less than 0.5 meter, high calanoid copepod densities (over 7,000 per cubic meter), hydrologically connected to substantial tidal marsh areas, and maximum water temperatures less than 25° C."</p> <p>"b) Increase the extent of tidal wetlands of all types in the Plan Area by 10,000 acres by year 10, 17,000 acres by year 15, and 48,000 acres by year 40. In Suisun Marsh, West Delta and Cache Slough ROAs, individual restoration projects must show a net-positive flux of calanoid copepods and mysids off of the restored wetlands into open water occupied by Delta smelt. Food production targets and export distances will be determined through field investigations and modeling, and refined through adaptive management."</p> <p>"c) Increase by 100% the surface area of open-water, very low-salinity (&lt;1 psu) habitat in the Cache Slough Restoration Opportunity Area (ROA) during July-November by 2060. This habitat will meet all of the following criteria: extensive lateral mixing, contiguous with other open-water habitat, hydrodynamic processes keeping Secchi depth less than 0.5 meter, high calanoid copepod density (over 7,000 per cubic meter), and temperature criteria described</p>	

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		<p>in item b, above."</p> <p>The level of importance assigned by BDCP to copepod availability is reflected by the inclusion of (admittedly draft) numeric calanoid copepod targets in the biological objectives above. This implies that an analysis of how all pertinent project elements affect the production, transport, and fate of zooplankton (including water facilities and operations) is necessary for environmental review of the Plan.</p> <p>In at least two passages, the Plan acknowledges that entrainment of plankton in the south Delta is an issue:</p> <p>"For decades, water has been diverted directly from the south Delta through SWP/CVP facilities to meet agricultural and urban water demands south and west of the Delta. These diversions create an artificial north-south flow of water through the Delta (as opposed to the general east-west flow pattern that existed before the diversions) and, as detailed above, have resulted in the development of reverse flows in major Delta channels that result in entrainment of fish, invertebrates, nutrients, and other organic material." (Section 3.4.1.3.2 Page 3.4-7, line 26)</p> <p>"Operations of the south Delta SWP/CVP diversion facilities have been identified as primary factors in altering hydrodynamic conditions in Delta channels and associated fishery habitat (U.S. Fish and Wildlife Service 2008; Baxter et al. 2008). These operations contribute to local changes in water current patterns, water quality, and direct entrainment and losses of fish, macroinvertebrates, nutrients, phytoplankton, and zooplankton from the Delta environment (U.S. Fish and Wildlife Service 2008)." (Section 3.4.1.3 Problem Statement, p. 3.4-6, line 21)</p> <p>Although the effect is not quantified in the Plan documents, an unstated assumption of the BDCP appears to be that use of the north-Delta intakes, and dual conveyance operations, will allow plankton from the interior Delta to escape entrainment and make its way through available channels to the low salinity zone.</p> <p>"Operational criteria presented in CM1 Water Facilities and Operation set seasonal limits on Old and Middle River reverse flows. These limits are intended to reduce the risk that south Delta SWP/CVP exports will cause direct losses or salvage of covered fish species or increases in the export of nutrients and food resources produced in restored southern and eastern Delta marshes" (Section 3.2.3.1. p. 3.2-8, line 10, emphasis added)</p> <p>However, the metrics that will govern operations of the dual conveyance (combined north and south Delta diversions) do not include minimization of entrainment of high quality phytoplankton and zooplankton (for example, there is no performance standard for plankton entrainment), and there is no guarantee that they will do so. For example, the primary intent of operation of the Delta Cross Channel and proposed new operable gate at the Head of Old River is to accomplish "traffic control" for covered fish (e.g., by preventing or allowing passage of fish, establishing sufficient by-pass flows at diversions, and management of OMR directional flows) or to meet D1641 water quality criteria (such as dissolved oxygen or salinity) at particular nodes in the channel network. Export volumes will be governed by a complicated set of flow criteria including Old and Middle River (OMR) flows, Delta outflow, X2 location, north Delta bypass flows, and export-to-inflow ratios (E:I ratio), for which compliance is based on quantities and directions of water movement or detection of non-larval fish in salvage, and which may be triggered by presence of fish at particular nodes. The flow criteria in Tables 3.4.1-1 and 3.4.1.2, and the operations decision</p>	

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		<p>trees ultimately control the quantities of water past certain nodes in the system, but do not address the fate and transport of pelagic fish food. The fate and transport of planktonic organisms (including larval fish) is not a part of the operations "equations". The effects analysis for entrainment (presented in detail in Appendix 5B) is limited to the modeling of the numbers of (non-larval) fish that would be physically removed at north-or south-Delta intakes. In fact, in the 451-page Appendix 5B. Entrainment, the words "zooplankton", "plankton", and "phytoplankton" do not occur.</p>	
1651	116	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5B - Entrainment (and pertinent sections of Appendix 5C - Flows, etc.)</p> <p>Entrainment loss of plankton originating in the north Delta. Entrainment of plankton from the north Delta will occur both directly at the north Delta intakes, but also indirectly as Sacramento River water is diverted into the interior Delta and withdrawn in the south Delta. Movement of water out of the Sacramento River into the Delta Cross Channel is not expected to change much even after operation of the north Delta intakes:</p> <p>"Construction and operation of the new north Delta intakes are expected to entail relatively minor changes (average monthly changes of less than 10%; Appendix 5.C, Flow, Passage, Salinity, and Turbidity, Attachment 5.C.A, Section C.A.4.2.10, Delta Cross Channel and Georgiana Slough Flows) in the frequency and volume of Sacramento River water flows into the Delta Cross Channel. Moreover, those flows will continue to be manipulated through the flow criteria and real-time operations discussed below, and are subject to future revision via adaptive management to minimize adverse effects on covered species and natural communities." (Section 3.4.1.3.3 Delta Cross Channel Effects on Fish Migration, p. 3.4-8, line 16)</p> <p>This modeling result implies that water removed from the Delta using the existing south Delta intakes will continue to include a large percentage of Sacramento River water that has been drawn southward through the Delta, and that unquantified amounts of plankton transported in the Sacramento River will ultimately be vulnerable to entrainment both in the north and south Delta.</p> <p>Particle tracking results presented in Attachment 5C.A (representing particle releases across the full range of CALSIM-modeled major river inflows) show that when both south and north intakes are operational (Evaluated Starting Operation_Late Long Term), up to a maximum of ~30% of the particles present at a particular time in the Sacramento River at Sutter Slough would be directly entrained at the south Delta export facilities within 30 days, depending on river inflows (Figure C.A.-163). These values do not include the plankton removed from the Sacramento River by the north Delta intakes.</p>	Please see response to comment 1651-89 and 1651-124.
1651	117	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5B - Entrainment (and pertinent sections of Appendix 5C - Flows, etc.)</p> <p>Entrainment loss of plankton originating in the south Delta: Even after construction and operation of the proposed north Delta intakes, direct diversion of water from the south Delta is expected to continue at high rates, indicating that substantial entrainment of plankton from the south Delta via Old River and Grant Line Canal will continue indefinitely. In addition, south Delta exports are predicted to change the least in the future during April and May, which is when juvenile Delta smelt are rearing and could benefit from subsidies of</p>	Please see response to comment 1651-89.

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		<p>plankton transported from the south Delta:</p> <p>"Across the five water-year types, exports from the south Delta were modeled to change from 100% of total exports under the existing biological conditions to an average of 55-56% under the evaluated starting operations. The proportion of total exports from the south Delta facilities under the BDCP was lowest in wet water years (36-37%) and highest in critical water years (80-81%). ...The smallest average differences in south Delta exports between evaluated starting operations scenarios and baseline scenarios generally were in April and May." (Appendix 5.B. Entrainment, p. 5.B-383, line 4)</p>	
1651	118	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5B - Entrainment (and pertinent sections of Appendix 5C - Flows, etc.)</p> <p>Total entrainment: Table C.A-34 provides the simulated total exports and percentage of total exports from the south Delta for operations scenarios. Part D of the table shows that on an average annual basis over half (56%) of total exports will be from the South Delta by the end of the permit term. This implies that a substantial amount of total exports (44%) will be derived from the north Delta intakes, making plankton biomass in the Sacramento River considerably vulnerable to entrainment at the new north intakes.</p> <p>Long-term zooplankton monitoring stations do not occur at the Delta boundaries for all of the Delta inflows, however, there is no reason that zooplankton abundance at the south Delta intake facilities could not already be monitored, to provide direct entrainment estimates. Phytoplankton records (chlorophyll-a, taxonomic) are available from the Environmental Monitoring Program (EMP) for pertinent nodes that would allow for estimates of phytoplankton inputs and entrainment, such as various stations in the San Joaquin River, the Sacramento River at Hood, Old River, and Clifton Court Intake. The modeling tools that were used to estimate the effect of numerous operations scenarios on parameters such as turbidity and salinity could be leveraged to estimate the numbers of phytoplankton (or taxonomic subgroups, such as diatoms), or bulk chlorophyll-a that would be removed from the channel network by combined north-and south Delta exports under the Early Long Term (ELT) and Late Long Term (LLT) scenarios, with the caveat that restored wetland contributions to phytoplankton in Delta channels are not reliably estimated with the tools that BDCP has developed (see comments for Attachment 5C.F. Nutrient Model Report regarding DSM2/QUAL). Where phytoplankton data are not available, particulate organic carbon can be derived from long-term records of total organic carbon (TOC) and dissolved organic carbon (DOC) from the EMP.</p> <p>The missing plankton entrainment analysis is significant. Cloern and Jassby (2012) [Footnote A-8: Jassby, A.D., J.E. Cloern, B.E. Cole. 2002. Annual Primary Production: Patterns and Mechanisms of Change in a Nutrient-Rich Tidal Ecosystem. <i>Limnol. Oceanogr.</i> 47: 698-712.] produced a phytoplankton carbon budget for the Delta that accounted for inflows, primary production, burial, in-Delta diversions, Delta outflow, and SWP/CVP exports -- averaged for March-October for 1975-1993. In their analysis, average phytoplankton carbon entrained by the SWP/CVP (8 tons C/day) exceeded that in Delta outflow (5 tons C/day). Direct entrainment was estimated to remove almost 20% of in-Delta net primary production (8/44). This estimate does not include the loss of secondary productivity (zooplankton) that would be in addition to losses of primary production.</p>	Please see response to comment 1651-89.
1651	119	[From ATT1:]	Please see response to comment 1651-89.

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		<p>Chapter 5: Appendix 5B - Entrainment (and pertinent sections of Appendix 5C - Flows, etc.)</p> <p>The effect of water operations scenarios on riverine food subsidies to the low salinity zone (LSZ) is not examined: Maintenance of downstream transport of food and organic matter is listed as one of five principal considerations during the design of bypass flows for the north Delta intakes:</p> <p>"Maintain downstream transport of food and organic material:</p> <p>The Sacramento River is used as a major corridor through which food and other organic material from upstream are transported downstream to the Delta and bays. The Delta and bays acquire production from upstream areas to support their ecosystems." (Section 3.4.1.3.5 Flow Modification Effects in the Sacramento River, p. 3.4-10, line 11)</p> <p>Unfortunately, just as the Plan does not quantify direct entrainment of "food and other organic material" at the north and south Delta intakes, it does not quantify the effect of operations scenarios on the net downstream flux of planktonic food organisms to the low salinity zone (LSZ). Kimmerer and Thompson (2014) [Footnote A-9: Kimmerer, W.J., and J.K. Thompson. 2014. Phytoplankton growth balanced by clam and zooplankton grazing and net transport into the low-salinity zone of the San Francisco Estuary. Estuaries Coasts DOI 10.1007/s12237-013-9753-6] showed that combined grazing by clams, and micro-and macro-zooplankton exceeded primary production in the low salinity zone almost continuously between 1987-2010, greatly increasing the trophic importance of phytoplankton and zooplankton subsidies delivered to the LSZ through Delta outflow.</p> <p>Particle tracking results presented in Attachment 5C.A (representing particle releases across the full range of CALSIM-modeled major river inflows) show that the percentage of particles released in the Sacramento River at Sutter Slough that would make it downstream past Chipps Island after 30 days ranges from ~10% to ~90% during the late permit term (Evaluated Starting Operations_Late Long Term scenario), depending on inflows. The higher value implies that over the range of river inflows expected during the permit term, operations will substantially reduce the subsidy of some months (Figure C.A.-160).</p>	
1651	120	<p>[From ATT1:]</p> <p>Appendix 5.B, Specific Comments</p> <p>The effects analysis does not adequately address the potential for the new northern intake screens to increase fish predation risk. The proportion of Sacramento River-origin salmonids that may pass close enough to the intakes is uncertain but may be appreciable given the likely siting near the outside of river bends to minimize sedimentation and maintain sweeping velocity. Existing survey data suggest that most delta smelt and longfin smelt would be well downstream of the intakes, but those that do occur in the intake vicinity and near the shoreline are likely to contact the screens and could suffer injury and potentially mortality. It is proposed that approach velocity would be limited to 0.2 feet/second (ft/sec) when delta smelt are present. Laboratory studies have shown that the probability of delta smelt entrainment-related mortality is greater with higher sweeping velocity and at night, however, screen contact rates for Sacramento splittail and salmonids decrease with increased sweeping velocities, so it is apparent that water export operations will have differing effects on different species from the north Delta intakes. Further studies are necessary to estimate the potential impacts of the new northern intake screens on native</p>	Please refer to response to comment 1651-81.

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		fish survival.	
1651	121	<p>[From ATT1:]</p> <p>Appendix 5.B, Specific Comments</p> <p>Page 5.B-304, line 11:</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, which Swanson and coauthors (2004b) noted behaved similarly in the Fish Treadmill tests. This uncertainty would be addressed with monitoring and targeted studies examining impingement and passage time along the intakes."</p> <p>It may be impossible to detect and precisely measure impingement rates for small fishes on these proposed water intake structures. Due to the large screen surface area, it would be extremely challenging to monitor occasional impingement of small fish across the screen area and over long periods of time. Furthermore fish impingement susceptibility needs to be evaluated at multiple environmental conditions including tests conducted during the day, night, high river velocity, low river velocity, high turbidity, high temperature, etc.). Small impinged fish are likely to be quickly consumed by predatory fish, so their impingement duration on screens could be very short and frequently undetected.</p> <p>Monitoring plans to determine impingement and related negative screen interactions for covered fish species at the proposed north Delta intakes need to be proven in field pilot experiments at other screened facilities and fully described in the BDCP, so they can be confidently relied upon to evaluate fish impingement and screen efficiency.</p>	Please refer to response to comment 1651-81.
1651	122	<p>[From ATT1:]</p> <p>Appendix 5.B, Specific Comments</p> <p>Page 5.B-306, line 14:</p> <p>"Recent research suggests that adult delta smelt may use tidal currents to facilitate movement upstream by migrating to channel margins during ebb tides and into the channel during flood tides (Bureau 2011). Depending on which side of the channel the fish move to, such behavior may place delta smelt close to the channel margins and potentially close to the proposed north Delta intakes. Flows towards the intakes may also increase the chance of delta smelt within the vicinity encountering the screen."</p> <p>This study suggests that delta smelt may have a particularly strong risk of becoming impinged on the north Delta intake screens when migrating upstream in the Sacramento River. If these fish seek refuge near the shoreline during ebb tides they would approach the north Delta intake screens while they are in full operation.</p> <p>Intensive monitoring is necessary to detect of delta smelt impingement near these intakes and should be further described in the plan document.</p>	Please refer to response to comment 1651-81.
1651	123	[From ATT1:]	Please refer to response to comment 1651-37. The effects analysis was performed only for the proposed BDCP, because it would have been the subject of an incidental take permit. Please refer to Appendix 3G,

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		<p>Chapter 5, Appendix 5C - Flow, Passage, Salinity, Turbidity</p> <p>The arrangement and sequence of hypothesized restoration projects that was used to model project effects on flows and other parameters are not presented. An evaluation of whether other restoration sequences would change the effects analysis is not provided.</p>	<p>Background and Process of Developing BDCP Conservation Measures.</p>
1651	124	<p>[From ATT1:]</p> <p>Chapter 5, Appendix 5C - Flow, Passage, Salinity, Turbidity</p> <p>Section 5C.A.9</p> <p>Particle tracking results should have included releases above the north Delta intakes. Particle tracking results presented in Section 5C.A.9 do not include the fate of particles released above the north Delta intakes. Although Figure C.A.-156 shows a DSM2 (Delta Simulation Model) particle insertion location at Freeport, none of the figures in the section show results for particles released at Freeport, and the "ultimate fate lines" in Figure C.A-156 imply that Freeport was outside of particle tracking domain. The fate of Sacramento River particles is only illustrated for particles released at Sutter Slough, which is downstream of the north Delta intakes. Consequently, there is no way to evaluate the distribution of fates of particles as they approach the north Delta intakes. Particle releases above the north Delta intakes are also not presented in Section 5C.5.3 (Fish Passage, Movement, Migration); results presented in 5C.5.3 are based on flow (cfs) and not on particle tracking simulations.</p>	<p>Please refer to Appendix 5A, Section A.6, Delta Particle Tracking Modeling, for specific information on the DSM2-PTM, including particle insertion locations. DSM2 node 330, Sacramento River @ Sacramento, is included in the model (see figure A-21).</p> <p>Particle tracking models used for the Biological Assessment to assess larval entrainment at the NDD also include assumptions that a fraction of larval smelt originate from upstream of the Delta.</p>
1651	125	<p>[From ATT1:]</p> <p>Chapter 5: Attachment 5C.F. Nutrient Model Report and EIR Chapter 8 Water Quality</p> <p>Simulated project effects on nutrient concentrations did not account for nutrient processes in restored tidal habitats. The DSM2/QUAL nutrient model used to simulate the effects of operations scenarios on nutrient concentrations treated future restored tidal wetland acreage within restoration opportunity areas (ROAs) as fully mixed open reservoirs with no tidal influences and used data from subtidal channels (e.g., Environmental Monitoring Program (EMP) monitoring locations in Delta channels) for model calibration and validation, not data from wetland habitats. How well the rate equations for non-conservative terms (nutrients, dissolved oxygen, chlorophyll-a) in the DSM2/QUAL model pertain to shallow, tidally influenced, emergent macrophyte dominated, brackish wetlands was not discussed in the report. Nutrient processes in shallow, tidal wetlands (or other aquatic habitats slated for creation) were not reviewed as part of the nutrient effects analysis.</p>	<p>Please refer to responses to comments 1651-37 and 1651-42.</p>
1651	126	<p>[From ATT1:]</p> <p>Chapter 5: Attachment 5C.F. Nutrient Model Report and EIR Chapter 8 Water Quality</p> <p>Liberty Island was added to the DSM2 grid in 2010. Two other flooded islands (Mildred Island and Frank's Tract) are in the DSM2 grid. Mildred Island and Frank's Tract are not representative of the shallow, dendritic, tidal habitat that is proposed for creation within the DSM2 domain. Liberty Island is somewhat more representative of planned restoration habitat. However, the DSM2/QUAL model performed badly for Liberty Island. A limited amount of real nutrient data from Liberty Island (18 monthly grab samples for 4 locations) was compared to the model predictions for the Liberty Island grid. The DSM2/QUAL model under predicted measured NO3 and PO4 by approximately a factor of two. Algae were over</p>	<p>Please refer to responses to comments 1651-37 and 1651-42.</p>

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		<p>predicted by the DSM2/QUAL model by almost an order of magnitude. The model's ability to predict future water quality in the Plan area, when restored tidal wetland habitat will be receiving, processing, and exchanging nutrients with subtidal channels, is unknowable. Consequently, the conclusions reached in EIR Chapter 8 - Water Quality for DSM2/QUAL-simulated parameters are not supported by substantial evidence, and the EIR's analysis of these impacts must be revised and recirculated for public review and comment.</p>	
1651	127	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5.D. Contaminants</p> <p>Section 5.D.0 Executive Summary, Page 5.D-1</p> <p>The first sentence in the Executive Summary alleges that contaminants have been associated with the Pelagic Organism Decline (POD). In making this allegation, a number of references are cited as support for this statement. It is instructive to consider these references, one-by-one, to illustrate the lack of support for this allegation.</p> <ul style="list-style-type: none"> <li>- Baxter et al. (2010) is an Interagency Ecological Program (IEP) document that lists a whole host of possible factors that have been identified in connection with the POD. There is no definitive information in this reference that raises the role of contaminants in the POD above that of a loose working hypothesis.</li> <li>- Brooks et al. (2012) contains no definitive information that links contaminants to the POD. The article is a collection of information that poses questions and suggestions regarding the potential role of contaminants but provides no definitive analysis and reaches no supportable conclusions.</li> <li>- Johnson et al. (2010) directly and extensively examined the possible role of contaminants in the POD and found nothing to support such a conclusion. The report suggested the need for further monitoring and research to continue to examine this question.</li> <li>- Glibert (2010) is an article that alleged a specific linkage between contaminants (in particular, ammonia) and the POD based on CUSUM statistical analysis. The statistical approach was refuted and the associated conclusions reached in the paper were heavily criticized by respected members of the Delta scientific community in a rebuttal article published by the same journal (Cloern et al. 2011). [Footnote A-10: Cloern, J.E., A.D. Jassby, AD., J. Carstensen, W.A. Bennett, W. Kimmerer, R. Mac Nally, D.H. Schoellhamer, and M. Winder (2012) Perils of correlating CUSUM-transformed variables to infer ecological relationships (Breton et al. 2006; Glibert 2010). <i>Limnology and Oceanography</i>, 57: 665-668]</li> </ul> <p>Glibert et al. (2011) is an article that advances the theory of ecological stoichiometry as a suggested working hypothesis for the Bay-Delta ecosystem. The hypothesis is untested. The paper itself acknowledges the need for significant additional research to validate the theories proposed in the paper. It is clearly not a definitive work establishing a link between contaminants and the POD. In summary, there is no citable source that establishes a direct or indirect linkage between the POD and water quality conditions in the Delta. As a result, the subject language should be eliminated.</p>	<p>Please refer to response to comment 1651-37. This comment offers an opinion about the references used for pelagic organism decline in Appendix 5.D of the Draft BDCP. No changes to the Draft BDCP have been made.</p>
1651	128	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5.D. Contaminants</p>	<p>Please refer to response to comment 1651-37.</p> <p>The subtle point made regarding this references is acknowledged but no changes to the Draft BDCP have</p>

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		<p>Section 5.D.0, Page 5.D-1</p> <p>In the first paragraph, last sentence, it is implied that sublethal levels of contaminants in Delta fish have been observed to cause various effects, including impaired growth and reproduction and increased susceptibility to disease. The citation provided to support this statement (Werner et al, 2008) does not directly support this statement and does not demonstrate the existence of such conditions as a result of contaminant levels in the Delta. Instead the cited reference mentions these effects as potential issues and points to further research to assess their possible occurrence.</p>	<p>been made.</p>
1651	129	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5.D. Contaminants</p> <p>Section 5.D.4.2. Selenium.</p> <p>Potential increases in selenium in the south Delta are downplayed. Potential increases in selenium in the south Delta owing to an increase in the proportion of south Delta water coming from the San Joaquin River (up to a 24% increase in contribution of San Joaquin River water at least one modeled year) seemed to be too easily dismissed. Even if (as apparently modeled) the eventual downstream proportion of San Joaquin River water was very low (i.e., in Suisun Bay), the higher concentrations encountered in the south Delta provides an opportunity for selenium to be incorporated into phytoplankton and zooplankton before they are transported downstream to more dilute waters in the west Delta.</p>	<p>The analysis of effects of Alternative 4A, presented in the Final EIR/EIS, on boron, bromide, chloride, DOC, EC, mercury, nitrate, and selenium in the Delta and SWP/CVP Export Service Areas is based on revised modeling, which assumed implementation of Yolo Bypass improvements, the EC compliance location remaining at Emmaton, and no tidal habitat restoration. Please refer to Impacts WQ-25 and WQ-26 in Chapter 8 of the Final EIR/EIS for detailed selenium analysis results.</p>
1651	130	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5.D. Contaminants</p> <p>In Section 5D.4.2.1, clams are inappropriately characterized as a sink for selenium:</p> <p>"Elevated selenium concentrations also have been identified in Suisun Bay. Although particulate concentrations of selenium (the most bioavailable) in this region are considered low, typically between 0.5 and 1.5 micrograms per gram (<math>\mu\text{g/g}</math>), the bivalve <i>Potamocorbula amurensis</i> (overbite clam) contains elevated levels of selenium that range from 5 to 20 <math>\mu\text{g/g}</math> (Stewart et al. 2004). Given the fact that <i>Potamocorbula</i> may occur in abundances of up to 50,000 per square meter, this area can be considered a sink for selenium because 95% of the biota in some areas are made up of this clam." (p. 5D.27, line 40)</p> <p>Strictly speaking, clams cannot be considered a sink for selenium unless selenium-containing tissues are permanently buried in sediment. If they are consumed (e.g., by waterfowl or fish) or decompose, selenium is remobilized.</p>	<p>Please refer to response to comment 1651-37 and 1651-129.</p>
1651	131	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5.D. Contaminants</p> <p>Section 5.D.4.4 presents an outdated and unbalanced view of the current state of knowledge about the potential role of ammonium in the Delta food web.</p> <p>The description of scientific facts presented in this section is not a fair representation of the current understanding of ammonia's role in the Delta and Suisun Bay. The section also</p>	<p>Please refer to response to comment 1651-42.</p>

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		<p>overstates the magnitude and certainty of postulated effects of reduced ammonia loadings by including only a portion of the scientific literature on this topic. One of the most comprehensive scientific reviews of ammonia's role in the estuary, completed by the San Francisco Estuary Institute (SFEI) [Footnote A-11: Available at <a href="http://www.sfei.org/sites/default/files/SuisunSynthesis1FinalMarch20140.pdf">http://www.sfei.org/sites/default/files/SuisunSynthesis1FinalMarch2014 0.pdf</a>], was not summarized or even cited in the Plan, but was publicly available in draft form during the development of the BDCP public review documents. The SFEI report identifies significant deficiencies in the experimental approaches used to date by the proponents of the ammonium inhibition hypothesis which prevent conclusions regarding the ecological significance of ammonium/nitrate interactions in the Bay-Delta. An expert panel convened by the Delta Science Program similarly identified insufficiencies in the experimental evidence linking ammonium with low phytoplankton production and proposes alternative explanations for observed patterns in phytoplankton biomass and productivity, and changes in phytoplankton community composition.</p>	
1651	132	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5.D. Contaminants</p> <p>Section 5.D.4.4. Ammonia/um</p> <p>The Plan is misleading when it cites a pilot toxicity study conducted by Teh and others:</p> <p>"A recent study indicated that biota can be affected at concentrations as low as 0.38 mg/L of total ammonia nitrogen, based on a study of Delta copepods by Teh and coauthors (2011)." (p. 5.D-40, line 4)</p> <p>Teh et al. (2011) is a report to the Central Valley Regional Water Quality Control Board that has not been peer reviewed and contains extremely deficient methods descriptions. The chronic toxicity test endpoints (NOEC, LOEC; 0.38 mg/L total ammonia) reported by Teh et al. for the single copepod species <i>Pseudodiaptomus forbesi</i> were not reproducible when the raw data provided in report appendices were analyzed using standard statistical software designed for aquatic toxicity data (CETIS) [Footnote A-12: Pacific EcoRisk, Inc. 2011. A Critical Review of: Full Life-Cycle Bioassay Approach to Assess Chronic Exposure of <i>Pseudodiaptomus forbesi</i> to Ammonia/Ammonium - Final Report Dated August 31, 2011. Prepared for Larry Walker Associates and Central Contra Costa Sanitary District.]; the correct toxicity thresholds may be more than twice as high as those reported in Teh et al. Several other issues regarding use of the data are raised in the Pacific EcoRisk critique, including the possibility that toxicity test data was tabulated improperly before statistical analysis.</p>	Please refer to response to comment 1651-37 and 1651-42.
1651	133	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5.D. Contaminants</p> <p>Section 5.D.4.4.2 Ammonia/um-Effects of Covered Activities</p> <p>The Plan erroneously concludes that restoration activities will not result in the addition or mobilization of ammonia to the aquatic system. BDCP relies on a simplistic analysis of water operations' effects on dilution of Sacramento Regional Wastewater Treatment Plant (SRWTP) effluent to conclude that the project will not influence ammonia concentrations in the Plan area. The authors neglected to conduct even a cursory review of the pertinent</p>	Please refer to response to comment 1651-37 and 1651-42.

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		<p>scientific literature:</p> <p>"Restoration Conservation Measures are not expected to significantly affect distribution or levels of ammonia in the Delta. Nitrogen is associated with fertilizers, which are used heavily throughout the Delta. However, Wastewater Treatment Plants (WWTP) have been identified as the primary sources of ammonia, contributing 90% of the ammonia load to the Sacramento River. Thus, restoration of cultivated lands to marsh and floodplain is not expected to significantly affect ammonia concentrations" (p. 5.D-43, line 8)</p> <p>It is absolutely incorrect to assume that restoration activities will have no influence on ammonia conditions in the estuary. Literature indicates that after rewetting or hydrologic reconnection, fluxes of soluble reactive phosphorus and ammonia from sediment can be very high in restored wetlands and floodplains (especially in summer), while nitrate in source waters may be consumed by denitrification in restored wetlands (Duff et al. 2009; Kreiling et al. 2013; Surridge et al. 2012). [Footnote A-13] Although the measurements were not made in restored habitat, Cornwell et al. (2014) [Footnote A-14] reported positive net fluxes of inorganic dissolved nitrogen out of sediment cores taken in September 2012 at shallow (&lt;3 m) sites in the Delta and Suisun Bay/Marsh, and from several (but not all) cores taken in March 2012. Denitrification caused net consumption of nitrate by sediments from Delta cores in both seasons.</p> <p>[Footnote A-13: Duff, J.H., K.D. Carpenter, D.T. Snyder, K.K. Lee, R.J. Avanzino, and F.J. Triska. 2009. Phosphorus and nitrogen legacy in a restoration wetland, Upper Klamath Lake, Oregon. Wetlands, 29:735-746.</p> <p>Kreiling, R.M.B., J.P. Schubauer, J. P., W.B. Richardson, et. Al. (2013). Wetland management reduces sediment and nutrient loading to the upper Mississippi river. J. Environ. Quality, 42:573-83.</p> <p>Surridge, B.W.J., A. L. Heathwaite, and A.J. Baird. 2012. Phosphorus mobilisation and transport within a long-restored floodplain wetland. Ecol. Engin. 44: 348-359.]</p> <p>[Footnote A-14: Cornwell, J. C, P. M. Glibert, and M. S. Owens. 2014. Nutrient fluxes from sediments in the San Francisco Bay Delta. Est. Coasts. DOI 10.1007/s12237-013-9755-4]</p>	
1651	134	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5E. Habitat Restoration</p> <p>Required physical characteristics of restored habitat needed for correct biological functioning are not identified in transparent fashion or with rigor or specificity. In Section 5F.3.1.3 (Appendix 5.F Biological Stressors) a draft "recipe" for defining Egeria habitat is provided (less than 3 meters deep, salinity below 8-10 ppt (parts per thousand), and maximum water velocity less than 1.61 fps). Similar specificity for suites of attributes needed to discourage stressors or encourage desired biota is not provided for any of the restored habitat types. The public is not given any means to gauge whether the BDCP has valid approaches for building correctly functioning restored sites.</p>	Please refer to response to comment 1651-55.
1651	135	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5E. Habitat Restoration</p> <p>The implications of sequencing of restoration activities are not evaluated. Other than</p>	Please refer to response to comment 1651-55.

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		<p>general goals (total acreage in Restoration Opportunity Areas (ROAs), Conservation Zones, or "Complexes", divided Early Long Term (ELT) or Late Long Term (LLT)) no explanation of the planned sequence and locations of restoration activities, are provided, and no criteria for setting priorities or sequencing is discussed. No evaluation is provided for how the sequencing of restoration projects could affect tidal prism, salinity, and other physical attributes within the project area. Appropriately, a large amount of attention in Appendix 5E is paid to current land elevation and the future bathymetry and areal extent of restored aquatic habitat. Missing from the Plan documents is information about how the redistribution of tidal prism will affect opportunities for restoration, and no information is provided in the appendix to explain how the hydrologic models used to evaluate the scale of restoration possible in various ROAs accounted for tidal prism as an overall resource. For example, the Plan should explain that (1) per a given sea level, the total tidal prism available for redistribution within the Plan Area is finite, (2) how the chronology of restoration activities (affected by many non-scientific factors such as funding, property acquisition, legal challenges, etc.) will influence which ROAs "use up" available tidal prism first, and (3) how these factors are accounted for in the time-horizons for the project (ELT, LLT). Tidal prism is mostly discussed in the appendix as a variable that will increase with sea level rise -- but within each time frame, restoration activities will take place using a limited amount of tidal prism.</p>	
1651	136	<p>[From ATT1:]</p> <p>Chapter 5: Appendix 5E. Habitat Restoration</p> <p>Available science regarding the potential for restored wetlands and floodplains to serve as a net sink or source of nutrients to adjacent water bodies is not reviewed in the Plan documents. BDCP's premise that export of nutrients from restored wetlands provides an ecological benefit in adjacent waters is not justified. None of the (vast) scientific literature addressing biogeochemical processes in tidal habitat or non-tidal wetlands is reviewed in the Plan. There is no acknowledgement of wetland biogeochemistry in EIR Chapter 8 -- Water Quality. Whether the rate equations for non-conservative terms (e.g., nutrients, dissolved oxygen, chlorophyll-a) in the DSM2/QUAL model apply to shallow, tidally influenced, emergent macrophyte dominated, brackish water bodies was not discussed in Attachment 5C.F. -Nutrient Model Report.</p> <p>The numerous excerpts in the general comments for Chapter 5 reveal an abundantly apparent premise in the Plan that export of nutrients out of restored wetlands serves as an ecological benefit in adjacent waters. This premise is not necessarily justified for at least two reasons.</p> <p>1) The Bay/Delta is customarily referred to as a high-nutrient/low productivity system, and academic debate has ensued to explain why primary and secondary productivity in the Bay/Delta is not as high as might be expected given its nutrient characteristics. At least two of the factors suspected of causing a muted response to high nutrients in Bay/Delta (clam grazing and turbidity) are not directly addressed by BDCP conservation measures. BDCP "finessing" of X2 location will likely result in tradeoffs between recruitment and establishment of Corbicula and Potamocorbula in the western Delta, but not the exclusion of clams per se from critical habitat. One of the goals of CM 13 (Invasive Aquatic Vegetation Control) is an increase in turbidity (to support pelagic fish feeding and predator avoidance). It is not clear why the BDCP assumes that nutrients delivered to subtidal habitat from restored habitat will not be subject to existing constraints as fuel for primary of secondary</p>	<p>For information on the sources and effects of nutrients in the Delta, please refer to Chapter 8, Water Quality, Section 8.1.3.1, Ammonia, as well as Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success. Please see response to comment 1651 -20 regarding the role of adaptive management and Master Response 33.</p>

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		<p>production.</p> <p>2) Literature indicates that after rewetting or hydrologic reconnection, fluxes of soluble reactive phosphorus and ammonia from sediment can be very high in restored wetlands and floodplains (especially in summer), while nitrate in source waters may be consumed by denitrification in restored wetlands (Duff et al. 2009; Kreiling et al. 2013; Surridge et al. 2012). [Footnote A-16] Enhanced mobility of phosphorus in restored wetlands and floodplains is currently being studied in the context of its potential to contribute to eutrophication in adjacent rivers and streams, and is potentially regarded as a drawback of habitat restoration (Kuwabara 2012, Loeb et al. 2008; Banach et al. 2009). [Footnote A-17] The geologic nature of the re-submerged substrate (peat, previously fertilized soil, etc) and the availability of iron oxides will influence the potential for prolonged soluble phosphorus mobilization from restored wetlands.</p> <p>[Footnote A-16: Duff, J.H., K.D. Carpenter, D.T. Snyder, K.K. Lee, R.J. Avanzino, and F.J. Triska. 2009. Phosphorus and nitrogen legacy in a restoration wetland, Upper Klamath Lake, Oregon. <i>Wetlands</i>, 29:735-746.</p> <p>Kreiling, R.M.B., J.P. Schubauer, J. P., W.B. Richardson, et. al. (2013). Wetland management reduces sediment and nutrient loading to the upper Mississippi river. <i>J. Environ. Quality</i>, 42:573-83.</p> <p>Surridge, B.W.J., A. L. Heathwaite, and A.J. Baird. 2012. Phosphorus mobilisation and transport within a long-restored floodplain wetland. <i>Ecol. Engin.</i> 44: 348-359.]</p> <p>[Footnote A-17: Banach, A.M., K. Banach, K., R.C.J.H. Peters, R.H.M. Jansen, E.J.W. Visser, Z. Stpeniewska, J.G.M. Roelofs, and L.P.M. Lamers. 2009. Effects of long-term flooding on biogeochemistry and vegetation development in floodplains; a mesocosm experiment to study interacting effects of land use and water quality. <i>Biogosciences</i> 6: 1325-1339.</p> <p>Loeb, R., L.P.M. Lamers, and J.G.M. Roelofs. 2008. Prediction of phosphorus mobilisation in inundated floodplain soils. <i>Environ. Pollut.</i> 156: 325-331.</p> <p>Kuwabara, J.S., B.R. Topping, J.L. Carter, T.M. Wood, J.M. Cameron, J.R. Asbill-Case, and R.A. Carlson. 2012. Changes in benthic nutrient sources within a wetland after hydrologic reconnection. <i>Env. Toxic. Chem.</i> 31: 1995-2013.]</p>	
1651	137	<p>[From ATT1:]</p> <p>Section 5.E.4. CM4 Tidal Natural Communities Restoration</p> <p>The discussion of phytoplankton production in restored habitat dodges the hard truth that clam colonization may cause restored habitat to be (at least locally) a net detriment to food supplies for pelagic fish species. Although Section 5.E.4 (starting on p. 5.E-145) provides a greater acknowledgement of impact of clam grazing in shallow Delta habitat than did past drafts of the Plan, it still neglects to be clear that when clams are present in shallow habitat, net primary production is likely to be negative (not just null). As explained in the study that BDCP relies on to make its optimistic case for productivity [Footnote A-18: Lopez, C.B., J.E. Cloern, T.S. Schraga, A.J. Little, L.V. Lucas, J.K. Thompson, and J.R. Burau. 2006. Ecological values of shallowwater habitats: implications for the restoration of disturbed ecosystems. <i>Ecosystems</i> 9: 422-440.], this means that the clams at a restored site can consume all of the phytoplankton locally produced plus phytoplankton transported to the site from adjacent</p>	Please see response to comment 1651-55.

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		<p>habitats. The implications of this phenomenon for BDCP are profound. The implications are that if restored habitat becomes colonized by clams, the habitat may not only fail to produce phytoplankton for local consumers -- it may also consume phytoplankton produced in adjacent channel habitat that is tidally connected to it. In other words, restored habitat may end up being a net detriment to pelagic fish, as far as food subsidies are concerned.</p>	
1651	138	<p>[From ATT1:]</p> <p>Section 5.E.4. CM4 Tidal Natural Communities Restoration</p> <p>The tabulated summary of productivity benefits in restored habitat is misleading. The hypothesized productivity benefits of restored tidal habitat are summarized in Table 5.E.4-39 (p. 5.E-149). The table is misleading because it does not contrast proposed benefits with reasonably hypothesized detriments of restoration for the food web. Although the ability of clams to clear the water column of phytoplankton is discussed in the associated text, in the end, clam grazing and other productivity sinks are not used to produce an honest range of expectations for productivity in restored habitat. Although less commonly referenced in discussions about sinks for Delta primary productivity, zooplankton grazing is a significant sink in addition to clam grazing. Recent analysis of long-term data by Kimmerer and Thompson (2014) revealed that combined grazing by clams and zooplankton has almost continuously exceeded primary production in the low salinity zone since 1987, both shoals and deeper channels can serve as net sinks for phytoplankton.</p> <p>Kimmerer and Thompson summed up prospects for habitat restoration to deliver foodweb benefits for pelagic fish, as follows:</p> <p>"The state of California is planning a substantial investment in restoration of marshes and shoals to provide physical habitat and to enhance production of planktonic food for the endangered Delta smelt and other pelagic fishes (<a href="http://baydeltaconservationplan.com/">http://baydeltaconservationplan.com/</a>). If the accumulation of phytoplankton biomass is controlled principally by grazing, as our results indicate, such restoration may have little influence on the pelagic foodweb and the recovery of these fishes (Lopez et al. 2006)." (Kimmerer and Thompson 2014)</p> <p>The findings of the Kimmerer and Thompson study constitute significant new information indicating that the BDCP and EIR/EIS's assumptions about the effects of habitat restoration are either baseless, or, at best, significantly overly optimistic. To accurately assess the potential effect of the BDCP the worst-case scenarios regarding phytoplankton productivity in restored habitat (i.e., no benefit or actual detriment), which are based on recent scientific evidence (as opposed to the purported benefits, which are merely speculative and not based on any evidence in the record) must be presented in the Plan and clearly acknowledged and accounted for in the EIR/EIS, at a minimum as part of a spectrum of outcomes given the acknowledged large uncertainty of restoration outcomes regarding food web support for covered fish. The worst-case scenarios, which are evidence-based, should be included in a column in Table 5.E.4-39 adjacent to the (entirely theoretical) benefits.</p>	Please see response to comment 1651-55.
1651	139	<p>[From ATT1:]</p> <p>Section 5.E.4. CM4 Tidal Natural Communities Restoration</p> <p>Postulated export of food web organisms from restored habitat to adjacent pelagic habitat is highly exaggerated. In June 2013 a symposium ("Tidal Marshes and Native Fishes in the Delta: Will Restoration Make a Difference?") was held at UC Davis to evaluate, among other</p>	Please see response to comment 1651-55.

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		<p>things, the ecological functions assigned to tidal marsh restoration by the Ecosystem Restoration Program (ERP). Consensus conclusions from the symposium were recently published as an article in San Francisco Estuary and Watershed Science. [Footnote A-19: Herbold, B., D.M. Baltz, L. Brown, R. Grossinger, W. Kimmerer, P. Lehman, P.B. Moyle, M. Nobriga, and C.A. Simenstad. 2014. The role of tidal marsh restoration in fish management in the San Francisco Estuary. San Fran. Estuar. Watersh. Sci. March 2014.] Authors concluded that the likelihood that restored tidal habitat will export meaningful amounts of pelagic fish food (zooplankton) to adjacent channel habitat is low, as follows:</p> <p>"Movement of plankton from a tidal marsh (beyond the immediate area of tidal exchange) is likely to be limited and to decrease strongly with distance. Even under ideal circumstances, plankton in water discharged from tidal marsh cannot greatly affect the standing crop of plankton in large, deep channels. Feeding by clams and other introduced species can further reduce contributions of marsh plankton to open-water foodwebs." (Herbold et al. 2014, p. 2)</p> <p>"Restored tidal wetlands are unlikely to have much effect on food webs in the upper estuary's open waters. The shallow depth and small volume of water on tidal wetlands compared to the vast volume of open water in Delta channels and Suisun Bay means that flux of wetland phytoplankton and zooplankton would be inconsequential to pelagic food webs. We are unaware of reports from the worldwide literature in which substantial quantities of zooplankton are exported from marshes to open waters, whereas several studies show net import of zooplankton to fish consumption on site." (Herbold et al. 2014, p. 4)</p>	
1651	140	<p>[From ATT1:]</p> <p>Section 5.E.4. CM4 Tidal Natural Communities Restoration</p> <p>Section 5.E.4.4.1.1. Habitat Suitability Analysis</p> <p>Projected timelines for Habitat Suitability Indices imply that there are few expected benefits of restoration until the end of the permit term. Starting on p. 5.E-97, timelines for HU (habitat units) and Habitat Suitability Indices (HSIs) are provided for Restoration Opportunity Areas (ROAs) for pertinent fish species and life stages. These graphs show that HSIs for most ROAs are not expected to diverge from current conditions (EBC2) until the 50-year mark (ESO_LL -- Evaluated Starting Operations_Late Long Term). In many cases, habitat suitability in various ROAs is not predicted to change at all during the 50-year permit term. In many cases, the HSI for early life stages is predicted to decline by the LLT. Although the analysis reveals greater extent of habitat by the LLT, the quality of the habitat may not improve for sensitive life stages. This implies that there are few expected benefits of restoration until the end of the permit term, and some detriments that would not show up until the 50-year mark. If true, what are the implications for adaptive management? Is there an implicit assumption of BDCP that we will need to wait until 50 years have passed to find out if restoration is providing suitable habitat for covered fish?</p>	Please see response to comment 1651-55.
1651	141	<p>[From ATT1:]</p> <p>Section 5.E.4. CM4 Tidal Natural Communities Restoration</p> <p>Section 5.E.4.4.1.1. Habitat Suitability Analysis</p>	Please see responses to comments 1651-31 and 1651-55.

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		<p>The expected future decline in turbidity due to depletion of upstream sediment supply was not factored into the Habitat Suitability Indices. As a result of this omission, HSIs for future periods are inflated for Delta and longfin smelt, which require turbid water for successful feeding behavior.</p> <p>"The analysis did not model turbidity over the implementation period because of a lack of tools to project turbidity changes. As a result, it was assumed that turbidity would remain constant between scenarios. However, there is reason to believe that turbidity may decrease in the future because of changes in sediment input and retention in the Delta (unrelated to the BDCP) (Schoellhamer 2011), which would decrease the HSI values derived in this analysis." (p. 5E-15, line 8)</p> <p>The EIR/EIS states that it incorporates the Effects Analysis. The failure to account for the future decline in turbidity due to the depletion of upstream sediment supply is a fatal flaw in the HSIs and the Effects Analysis, and undermines the accuracy and reliability of the EIR/EIS's analysis of BDCP impacts to Delta and longfin smelt. The EIR/EIS must be revised to clearly address the effects of a BDCP-related future decline in turbidity on Delta and longfin smelt, including any feasible mitigation, and recirculated for public review and comment.</p>	
1651	142	<p>[From ATT1:]</p> <p>Chapter 5, Appendix 5F--Biological Stressors on Covered Fish</p> <p>Section 5.F.6.4 Invasive Mollusks--Uncertainties and Research Needs</p> <p>The hypothesized relationship between clams and nutrients (and nutrient stoichiometry) referenced in the text does not recognize top-down phenomena:</p> <p>"The role of nutrients in facilitating <i>Potamocorbula</i> invasion also has been hypothesized (Glibert et al. 2011), but the mechanism of the potential relationship is unknown. Further research on <i>Potamocorbula</i> responses to different nutrient variables is warranted. Nutrient variables could include concentrations, forms (e.g., ammonium, inorganic and organic phosphorus), and ratios (DIN:P [Dissolved Inorganic Nitrogen:Phosphorus]). <i>Potamocorbula</i> response variables of interest could include metabolism (filtering and consumption rates, e.g., Paganini et al. 2010), larval recruitment success, and comparison of distribution patterns with nutrient measurements in the field." (p. 5F-124, line 17)</p> <p>The stoichiometry hypothesis of Glibert et al. proposes that clam distributions are influenced by water column nutrient conditions. However, evaluators of relationships between nutrients and clam occurrence/abundance must consider both sides of the coin. Unacknowledged by BDCP are the myriad ways in which clam colonies can exert a top-down influence on N and P in the water column, and on nutrient cycling between sediments and water, independent of external loadings. Examples of processes mediated by clams that could affect water column nutrients are:</p> <ul style="list-style-type: none"> <li>* sequestration of N and P in clam (short term in soft tissues, long term in shells);</li> <li>* excretion of N by clams;</li> <li>* alteration of the ratio of N and P released from bottom sediments (such as induced by bioturbation, which affects the redox potential and chemical composition of pore water).</li> </ul>	<p>Please refer to response to comment 1651-37.</p> <p>For an updated discussion of the effects of invasive clams on species in the Delta, please refer to Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success. For additional information about nutrients in the Delta please refer to response to comment 1651-42.</p>

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1651	143	<p>[From ATT1:]</p> <p>Chapter 5, Appendix 5F -- Biological Stressors on Covered Fish</p> <p>Section 5.F.7 Microcystis. General Comment</p> <p>The Plan does not acknowledge that other species of hazardous phytoplankton occur in the Delta, and that they have different nutrient requirements than Microcystis. In 2010, Aphanizomenon flos-aquae was the most abundant toxin-producing cyanobacterium in the Bay/Delta (Mioni et al. 2012). Anabaena spp., which also produce toxins, are also reported from the Delta. [Footnote A-20: Anabaena has been observed in IEP (Interagency Ecological Program) phytoplankton monitoring in the upper SFE (San Francisco Estuary).] Both types of cyanobacteria are "nitrogen-fixers" (capable of using atmospheric nitrogen as their nitrogen source instead of compounds like ammonium and nitrate) and therefore do not rely on dissolved inorganic nitrogen supplies to fuel growth. Microcystis does not fix nitrogen. In fact, the competitive advantage of nuisance species of nitrogen-fixing cyanobacteria (e.g., Aphanizomenon and Anabaena) can increase in estuaries when N:P (Nitrogen:Phosphorus) ratios are reduced if overall nutrient supplies are decreased and if seed populations are present [Footnote A-21: Piehler, M. F., J. Dyle, P.H. Moisaner, J. L. Pinckney, and H. W. Paerl. 2002. Effects of modified nutrient concentrations and ratios of the structure and function of the native phytoplankton community in the Neuse River Estuary, North Carolina, USA. Aquatic Ecology 36:371-385.], meaning that they may benefit from decreasing nitrogen loads in the Delta.</p>	<p>Please refer to response to comment 1651- 37.</p> <p>For an updated discussion of the current status and effects of Microcystis on species in the Delta, please refer to Chapter 8, Water Quality, Section 8.1.3.18, Microcystis. Please refer to Master Response 14.</p>
1651	144	<p>[From ATT1:]</p> <p>Chapter 5, Appendix 5F--Biological Stressors on Covered Fish</p> <p>Page 5.F-iv, line 2</p> <p>No evidence is provided that the adaptive management team will be able to provide any substantial changes in water export operation that would offer fish greater protection from mortality at these intakes if survival rates fall below 95%. Developing alternate performance measures, monitoring, and research studies after the diversions are created and in operation will not reduce their impact on fish mortality.</p> <p>It is good to know that invasive aquatic vegetation and predatory fish could be removed from restoration zones to protect emigrating salmon, but these activities need to have their methods further detailed in the BDCP, with a clear criteria provided to explain the conditions that would trigger implementation, an implementation strategic plan, and an implementation schedule.</p>	<p>Please refer to response to comment 1651- 38.</p>
1651	145	<p>[From ATT1:]</p> <p>Chapter 5, Appendix 5F--Biological Stressors on Covered Fish</p> <p>Page 5.F-84, line 25</p> <p>Predator removal practices can only offer very temporary solutions at specific locations. It is very unlikely that predator removal programs will be able to remove 100% of the predators occupying an area, so the expected removal efficiency should be provided. As discussed on Page 5.F-84, line 25, predator removal practices can injure or stress protected fishes and</p>	<p>Please refer to response to comment 1651-37.</p> <p>For an updated description of the environmental commitment to reduce populations of predatory fishes at locations of high predation risk associated with construction and operation of the proposed water conveyance facilities, please refer to Chapter 11, Fish and Aquatic Resources, Environmental Commitment 15: Localized Reduction of Predatory Fishes (Predator Control). Additional details regarding implementation of this commitment are provided in the MMRP.</p>

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		<p>may decrease their overall survival likelihood downstream of the diversion area.</p> <p>If biweekly predator reduction programs are conducted at the three proposed north Delta intakes, or existing water intake facilities in the south Delta, they should be funded by the water export operation funding and not by funds supporting the system-wide conservation strategies.</p>	
1651	146	<p>[From ATT1:]</p> <p>Chapter 5, Appendix 5F--Biological Stressors on Covered Fish</p> <p>Page 5.F-113, line 1</p> <p>"There is also evidence of a strong long-term positive relationship between pH and Potamocorbula abundance, and Potamocorbula's pelagic larval stage appears to exhibit accelerated rates of calcification in summer when temperature and pH are elevated (Glibert 2010; Glibert et al. 2011). These adaptations may allow Potamocorbula to outcompete other species during droughts or under dry conditions (Glibert 2010; Glibert et al. 2011), and when discharge of ammonia and ammonium from wastewater treatment plants results in ammonium toxicity for other species (Ballard et al. 2009)."</p> <p>The Ballard et al. 2009 reference does not provide any evidence that ammonium from wastewater treatment plants results in ammonium toxicity to any aquatic species during drought or dry conditions, or at any other time. The Ballard et al. 2009 citation is incorrect and must be removed.</p>	<p>Please refer to response to comment 1651-37.</p> <p>For an updated discussion of the effects of invasive clams on species in the Delta, please refer to Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success.</p>
1651	147	<p>[From ATT1:]</p> <p>Chapter 6: Plan Implementation</p> <p>Section 6.4 Regulatory Assurances, Changed Circumstances, and Unforeseen Circumstances: General Comment</p> <p>The very nature of the permits to be granted under the BDCP underscores the importance of long-term, substantive input of Delta region stakeholders into the future implementation of the BDCP itself. Indeed, the permits to be issued by the federal and state agencies to those in the Authorized Entity Group will last for 50 years. Further, under the "No Surprises Rule," [Footnote A-22: 50 C.F.R. [Section] 17.22(b)(5). A similar "no surprises rule" is provided under California's NCCPA. See, Fish &amp; Game Code Section 2820(f)(2).] the permittees cannot be held responsible for continued species decline. According to the No Surprises Rule: "Once an HCP (Habitat Conservation Plan) permit has been issued and its terms and conditions are being fully complied with, the permittee may remain secure regarding the agreed upon cost of conservation and mitigation. If the status of a species addressed under an HCP unexpectedly worsens because of unforeseen circumstances, the primary obligation for implementing additional conservation measures would be the responsibility of the Federal government, other government agencies, and other non-Federal landowners who have not yet developed an HCP." (63 FedReg 8867)</p> <p>As a result, the process of "who" and "how" changed circumstances are identified, as well as what future "adaptive management" actions should be taken to address them, is vitally important to interests located, living, or working in the Delta region. Further, what is deemed to be "unforeseen circumstances" is equally important to Delta stakeholders</p>	<p>Please refer to response to comment 1651-37.</p>

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		because, under the "No Surprises Rule," responsibility for addressing future Delta decline due to "unforeseen circumstances" will likely fall on those Delta stakeholders, or the People of the State of California.	
1651	148	<p>[From ATT1:]</p> <p>Chapter 6: Plan Implementation</p> <p>Section 6.4.2.1: Process to Identify Changed Circumstances.</p> <p>Under the BDCP, the Implementation Office or the Permit Oversight Group "may identify the onset of a changed circumstance, using information obtained from system-wide or effectiveness monitoring, scientific study, or information provided by other sources." (BDCP, Ch. 6, page 6-31, lines 24-25) Glaringly absent from this process of identifying "changed circumstances" which, in turn, requires the Authorized Entities Group to make changes to applicable Conservation Measures identified in the BDCP is any substantive role for the State Water Resources Control Board and the Delta Watermaster. Each of these independent state agency/offices have very important and discreet roles with regard to policies, regulations, permits, and other actions affecting the Delta, and they should both be given more substantive roles during the 50-year, "No Surprises" permit that the Authorized Entity Group will receive.</p>	Please refer to response to comment 1651-37.
1651	149	<p>[From ATT1:]</p> <p>Chapter 6: Plan Implementation</p> <p>Section 6.4.2.2: Changed Circumstances Related to the BDCP.</p> <p>This section summarizes nine identified categories of "changed circumstances related to the BDCP", including: levee failures, flooding, new species listing, drought, wildfire, toxic or hazardous spills, nonnative invasive species or disease, climate change, and vandalism. (BDCP, Sec. 6.4.2.2, pages 6-32 through 6-45.) Specifically absent from these nine "anticipated" changed circumstances are non-ESA and California Endangered Species Act (CESA) regulatory changes, changes to the "Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary" (Bay-Delta Plan), and even water availability decline, except as superficially treated in the "Drought" section.</p> <p>It is erroneous to suggest -- as the BDCP does -- that changes to the Bay-Delta Plan by the State Water Board is not "reasonably anticipated" by the Authorized Entity Group and the Permit Oversight Group. Indeed, the State Water Board has been working on planned amendments to the Bay-Delta Plan for at least the past eight years to address various issues and known stressors to the Delta ecosystem. According to the State Water Board website, "The State Water Board is in the process of developing and implementing updates to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) and flow objectives for priority tributaries to the Delta to protect beneficial uses in the Bay-Delta watershed. Phase 1 of this work involves updating San Joaquin River flow and southern Delta water quality requirements included in the Bay-Delta Plan. Phase 2 involves other comprehensive changes to the Bay-Delta Plan to protect beneficial uses not addressed in Phase 1. Phase 3 involves changes to water rights and other measures to implement changes to the Bay-Delta Plan from Phases 1 and 2. Phase 4 involves developing and implementing flow objectives for priority Delta tributaries outside of the Bay-Delta Plan updates." [Footnote A-23:</p>	Please refer to response to comment 1651-37.

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		<p><a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/</a></p> <p>Many dozens of entities that are members of the State Water Contractors or the Federal Water Contractors (and thus part of the Authorized Entities under BDCP) have participated in or been represented at public workshops, hearings, and State Water Board meetings regarding various elements of the Bay-Delta Plan revisions. They, more than most, are intimately aware of the work that the State Water Board is doing on the Bay-Delta Plan revisions, and these parties and BDCP proponents should be able to reasonably anticipate changes that will likely affect salinity limits, flow standards, and potential water rights changes.</p>	
1651	150	<p>[From ATT1:]</p> <p>Chapter 6: Plan Implementation</p> <p>Section 6.4.3. Unforeseen Circumstances</p> <p>"Unforeseen circumstances" are defined in the BDCP as "those changes in circumstances that affect a species or geographic area covered by an HCP that could not reasonably have been anticipated by the plan participants during the development of the conservation plan, and that result in a substantial and adverse change in the status of a covered species." (BDCP, Sec. 6.4.3, page 6-45, lines 15-22.) The significance of whether changed circumstances affecting Delta species or the geographic area covered by the BDCP are deemed to be "unforeseen" is that the Permit Oversight Group "may not require the commitment of additional land or financial compensation, or additional restrictions on the use of land, water, or other natural resources other than those agreed to in the plan, unless the Authorized Entities consent." (BDCP, Ch. 6.4.3, page 6-45, lines 20-22.) Stated alternatively, if any "unforeseen circumstances" arise and require additional commitments of land or water to enhance species survival, none of the Authorized Entities would be required to pay for it. As such, individuals and entities located, living or working in the Delta will likely be in the position of having their interests affected.</p>	Please refer to response to comment 1651-37.
1651	151	<p>[From ATT1:]</p> <p>Chapter 6: Plan Implementation</p> <p>Section 6.4.4. BDCP Relationship to Significant Future Projects or Government Regulations.</p> <p>Section 6.4.4 acknowledges that the State Water Board is developing new Delta flow standards which will likely affect the Delta, but then inappropriately concludes that such action "may affect the conservation strategy [of the BDCP] in ways that cannot be predicted." (BDCP, Sec. 6.4.4, page 6-46, lines 21-25.) Given all of the various models run on expected salinity levels, mercury loading, temperature variation, selenium loading and expected climate change impacts to BDCP Conservation Measures, it seems dubious to conclude that impacts associated with anticipated Delta flow standards "cannot be predicted." The Authorized Entities are certainly aware of the State Water Board's August 3, 2010 report, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," wherein various potential reductions in allowable water exports from the Delta were analyzed and recommended. [Footnote A-24: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf</a>] Whether or not that report represents a future condition that is likely, the BDCP could easily include various modeling scenarios to account for reduced</p>	<p>Please refer to response to comment 1651-37.</p> <p>Changes in water quality criteria will be considered under the ongoing State Water Resources Control Board update to the Bay-Delta Water Quality Control Plan. Since this program is still under development and the potential outcomes are not known at this time, this program is not included in the analysis. Following completion of the updated Bay-Delta Water Quality Control Plan, SWP and CVP operations would need to be reviewed to determine if the operations continued to comply with the new regulations.</p>

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		water exports equal to 20, 30, 40 or 50 percent, and develop appropriate Conservation Measures to account for these potentialities.	
1651	152	<p>[From ATT1:]</p> <p>Chapter 6: Plan Implementation</p> <p>Section 6.5. Changes to the Plan or Permits</p> <p>Section 6.5 describes the processes that are to be followed to change the BDCP or permits issued thereunder. These changes are referred to as "administrative changes," "minor modifications or revisions," and "formal amendments" to the BDCP. "Minor modifications or revisions" are further defined to include, without limitation, "Adaptive management changes to conservation measures or biological objectives, including actions to avoid, minimize, and mitigate impacts, or modifications to habitat management strategies developed through and consistent with the adaptive management and monitoring program described in Chapter 3, Conservation Strategy." (BDCP, Sec. 6.5.2, page 6-49, lines 8-11.) Read in conjunction with Section 3.6, relative to changing Conservation Measures or biological objectives under the adaptive management process, it is clear that the Authorized Entities do not intend to submit substantive BDCP changes to the Delta Stewardship Council for Delta Plan concurrence.</p> <p>Under the Sacramento-San Joaquin Delta Reform Act of 2009 [Footnote A-25: Water Code Section 85000, et seq.], the Legislature created the Delta Stewardship Council [Footnote A-26: Water Code Section 85200.], an independent agency of the state charged with developing an over-arching "Delta Plan" to implement the "co-equal goals" of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. [Footnote A-27: Water Code Section 85054.] The 2009 Delta Legislation envisioned a significant role for the Delta Stewardship Council as the BDCP was being developed and during its implementation. In fact, the 2009 Delta Legislation provides that the BDCP can be "considered" for inclusion within the Delta Plan, but specifically prohibits inclusion of the BDCP into the Delta Plan unless the Council finds that the BDCP meets nine, legislatively-established conditions. Some of these conditions relate to obligations under the Natural Community Conservation Planning Act, which in turn, include the development and implementation of Conservation Measures intended to restore the imperiled Delta ecosystem.</p> <p>However, there is no provision within BDCP that requires any substantive changes to the Plan to be re-submitted to the Delta Stewardship Council for confirmation that it is consistent with the Delta Plan, and thereafter re-incorporated within the Delta Plan.</p>	For information on compliance with the Delta Plan, please refer to Master Response 31, and Appendices 3I and 3J of the Final EIR/EIS.
1651	153	<p>[From ATT1:]</p> <p>Chapter 7: Implementation Structure</p> <p>The overall structure and approach laid out in the BDCP is that virtually all of the governance and implementation authority remains in the control of the State and Federal Water Contractors. The Adaptive Management Team is dominated by Water Contractors, with no representation of Delta interests. Further, neither the Adaptive Management Team, nor any other decision-making entity within the BDCP "Implementation Office" includes representation from the State Water Board.</p>	Please refer to response to comment 1651-20.

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		<p>Given that the SWRCB retains independent statutory authority to establish both standards as well as permit terms that will govern future exports of water via the BDCP-enabled tunnel system, it seems both curious and short-sighted to exclude State Water Resources Control Board (SWRCB) representation on the Adaptive Management Team. Further, because the Delta Watermaster is charged under the 2009 Delta Legislation with enforcing permit terms adopted by the SWRCB, it seems appropriate that the Delta Watermaster also be included in the Adaptive Management Team.</p>	
1651	154	<p>[From ATT1:]</p> <p>Chapter 8: Implementation Costs &amp; Funding Sources</p> <p>The federal and state Endangered Species Acts require that a habitat conservation plan contain specific information to ensure adequate funding to carry out all aspects of the HCP. [Footnote A-28: See, 16 U.S.C. [Sections] 1539(a)(2)(A)(ii) and 1539(a)(2)(B)(iii); California Fish &amp; Game Code [Section] 2820(a)(10). See also, Nat'l Wildlife Federation v. Babbit, 128 F.Supp.2d 1274 (E.D. Cal., 2000); Southwest Center for Biological Diversity v. Bartel, 470 F.Supp.2d 1118 (S.D. Cal., 2006).] Case law interpreting the Federal Endangered Species Act on the need for ensuring adequate HCP funding has further held that the permit "applicant cannot rely on speculative future actions of others." [Footnote A-29: Southwest Center for Biological Diversity v. Bartel, supra, 470 F.Supp.2d 1118, 1155, citing, Nat'l Wildlife Federation v. Babbit, supra, 128 F.Supp. 2d 1274, 1294-95.] Yet, the BDCP specifically refers to and relies upon putative funding derived from a Water Bond that has yet to be placed before the voters, let alone actually passed. This does not satisfy the requirements of the federal and state Endangered Species Acts. Moreover, the Delta Reform Act of 2009 specifically provides that proponents of a new Delta water conveyance facility must pay to mitigate all impacts associated with the construction, operation, and maintenance of such facility. [Footnote A-30: Water Code Section 85089(a).]</p> <p>We have found no information in either the BDCP or the supporting EIS/EIR which indicates that the BDCP has analyzed potential impacts of the Delta conveyance facility on the Sacramento Regional Wastewater Treatment Plant (SRWTP) at Freeport. With anticipated BDCP water intake facilities located within several miles of the SRWTP discharge point, there will likely be any number of impacts on the future operation and permitting of the SRWTP caused by the BDCP.</p>	<p>Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.</p> <p>As described in the 2013 public draft BDCP in Chapter 8, all mitigation associated with the proposed water conveyance facility would be paid for by the participating state and federal water contractors (see Table 8-41), consistent with the Delta Reform Act. For more information on compliance with the Delta Reform Act, please refer to Master Response 31, and Appendices 3I and 3J of the Final EIR/EIS.</p> <p>Chapters 8 and 11 of the EIR/EIS include discussion on the potential effects of proposed project on the Sacramento Regional Waste Water Treatment Plant.</p>
1651	155	<p>[From ATT1:]</p> <p>Chapter 8: Implementation Costs &amp; Funding Sources</p> <p>Section 8.3. Funding Sources.</p> <p>According to this section, the BDCP will rely on three, primary, sources of funding for all aspects of the Plan: (1) federal government funding; (2) state government funding (including putative funding provided by future water bonds to be placed before the California voters); and (3) the State and Federal Water Contractors (including, for purposes of municipal water supply districts, individual ratepayers). Yet, the BDCP contains no financing plan and no legal assurances that any of the funds "expected" will actually materialize. An analysis of the sources of funds reveals that it cannot meet the "speculative future actions" test of ensuring HCP funding.</p> <p>According to Table 8-37 (BDCP, Ch. 8, page 8-65-66), the BDCP expects to receive \$3.5</p>	<p>Please refer to response to comment 1651-154.</p>

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		<p>billion from the federal government, derived from various appropriations. However, the BDCP acknowledges that "additional federal legislation will be required to authorize the continued use of certain federal funds and to extend or broaden fund availability." (BDCP, Sec. 8.3.1, page 8-64, lines 16-18.) In terms of securing funding for BDCP implementation, it is speculative to rely on future acts of Congress to make-up what is expected to be approximately 14% of the entire BDCP budget.</p> <p>Regarding the sources of state government funds for BDCP implementation, Table 8-37 indicates that Plan proponents expect approximately \$4.1 billion to come from the State of California, which accounts for approximately 17% of the entire BDCP budget. Section 8.3.5 of the BDCP provides, "Funds derived from the issuance of [the 2009 Water Bond] would be used, in part, to satisfy the State's financial commitments to the BDCP." (BDCP, Sec. 8.3.5.1, page 8-84, lines 9-11.) According to the capital cost estimates for the entire BDCP project, the Authorized Entities are relying on the not-yet passed Water Bond for approximately 10% of the entire BDCP budget. [Footnote A-31: See, Table 8-35 (Ch. 8, page 8-63) and Table 8-46 (Ch. 8, page 8-85).] Furthermore, Table 8-37 indicates that BDCP proponents assume the passage of a "Second Water Bond" at some, unstated, time in the future that will provide an additional \$2.2 billion dollars to fund BDCP actions. [Footnote A-32: BDCP proponents expect this "Second Water Bond" to be passed by the voters of California approximately 15 years into the permit term. (BDCP, Sec. 8.3.5.1, page 8-85, lines 3-6.)] All totaled, the BDCP proponents expect the voters of California to pass future water bonds in the amount of \$3.75 billion to fund BDCP actions -- an amount approximately equal to 25% of the entire BDCP budget.</p> <p>The remaining BDCP budget (\$17 billion) is expected to be funded by the State and Federal Water Contractors, according to Table 8-37. Yet a review of Section 8.3.4.4 reveals that even this source of funds is speculative. According to that section, "[t]he most credible assurances of funding from the participating state and federal water contractors result from an economic benefits analysis..." and two primary conclusions derived from the economic analysis that: (1) the costs are affordable by the ratepayers, and (2) the benefits to be gained from the BDCP exceed the total cost. (BDCP, Sec. 8.3.4.4, page 8-81, lines 5-22.) What is missing from these "assurances" is any discussion of whether the State and Federal Water Contractors and their ratepayers would be willing to pay additional billions of dollars in the event that state water bond funding and/or federal appropriations do not materialize. Moreover, the analysis fails to assess the potential impacts of one (or more) State or Federal Water Contractors, or their member agencies, withdraw or refuse to continue to participate in the Plan. Finally, the BDCP analysis speculatively assumes benefits based on expected water deliveries from the newly-constructed conveyance facilities, an assumption that fails to account for the possibility of reduced Delta water exports as a result of the State Water Board's future Delta flow standards, a major regulatory action that will likely not be taken until after the BDCP is approved under the current time-schedule. [Footnote A-33: See, "The High Price of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment," S&amp;P Capital IQ, McGraw-Hill Financial, February 13, 2014. (<a href="https://www.globalcreditportal.com/ratingsdirect/renderArticle.do?articleId=1258528&amp;SctArtId=214529&amp;from=CM&amp;ns_l_code=LIME">https://www.globalcreditportal.com/ratingsdirect/renderArticle.do?articleId=1258528&amp;SctArtId=214529&amp;from=CM&amp;ns_l_code=LIME</a>)]</p> <p>All of these issues, whether taken together or individually, raise serious questions about the long-term financial assurances required under federal and state law for an approvable HCP.</p>	
1651	156	[From ATT1:]	Please refer to response to comment 1651-14.

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		<p>The Delta Reform Act states that the BDCP will not be incorporated into the Delta Plan if it does not meet the Delta Reform Act's requirements. It also imposes conditions on BDCP implementation. The Draft EIR/EIS fails to adequately address specific requirements of the Delta Reform Act.</p> <p>The EIR/EIS is to provide a comprehensive analysis of a reasonable range of flow criteria, rates of diversion, and other operational criteria. This range is to include flows necessary for recovering the Delta and restoring fisheries under a reasonable range of hydrologic conditions. This range is to include the flow criteria developed by the State Water Resources Control Board (SWRCB) in August 2010 which identified flow conditions and operational requirements to provide fishery protection under the existing Delta configuration.</p> <p>Using the above information, the EIR/EIS is to identify the remaining water available for export and other beneficial uses.</p>	
1651	157	<p>[From ATT1:]</p> <p>The [Delta Reform] Act requires that construction of a new Delta conveyance facility shall not be initiated until arrangements have been made to pay for the cost of mitigation required for construction, operation and maintenance of any new Delta conveyance facility. Accordingly, the mitigation measures need to be clearly specified and linkages to impacts of the proposed project should be plainly identified so that the financial obligations are apparent.</p>	Please refer to response to comment 1651-154.
1651	158	<p>[From ATT1:]</p> <p>The Delta Plan requires that actions be taken to reduce reliance on the Delta as a water supply. CEQA requires that the EIR/EIS give proper consideration to measures that would reduce reliance on the Delta, including improved water use efficiency, increased storage, and local water supply projects (e.g. desalination and water recycling). These measures should be addressed either as an alternative to the proposed plan or as proposed mitigation measures to address significant impacts of the proposed project. The Draft EIR/EIS fails to consider or properly address these measures as alternatives to the proposed project.</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. 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.</p> <p>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, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.</p> <p>Also, refer to Master Response 6 for further information on demand management measures, including increasing agricultural water use efficiency and water conservation.</p>
1651	159	<p>[From ATT1:]</p> <p>Sections 3D.2.1 (Existing Conditions), 3D.2.2 (No Action Alternative) and 3D.2.3 (No Project Alternative)</p> <p>The selection of two different baselines for the CEQA and NEPA elements of the BDCP analysis of project impacts is confusing and unnecessary. It makes it virtually impossible for the public to understand the impact analysis or to discern the incremental impacts of the proposed project. Additionally, the decision to choose future conditions (projected to the year 2060) in one of the baselines introduces such variability and uncertainty into the baseline as to render the impact analysis effectively impossible for the average citizen to interpret or understand.</p> <p>CEQA guidelines encourage the use of "existing conditions" as a baseline for the impact analysis. In fact, under CEQA, the use of a future baseline is only permissible under specific</p>	Please refer to response to comment 1651-4.

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		<p>conditions, i.e. where use of an existing conditions analysis would be misleading or without informational value (as stated on Page 3D-2 in Section 3 of the subject document). As a result, the BDCP impact analysis under CEQA is purportedly based on existing conditions. However, since numerous assumptions about the impacts of a multitude of other ongoing programs were made, the "existing conditions" baseline is not distinct and is not a helpful basis for the assessment of incremental changes.</p> <p>Under NEPA guidelines, there is no requirement to use a baseline other than the existing conditions. Despite this fact, a decision was made to select a baseline for impact analysis under the "No Action" alternative which includes projected future conditions in the year 2060. No information is presented to defend or rationalize this decision. Instead, text is provided to state that "nothing in NEPA or NEPA case law precludes NEPA lead agencies...from including anticipated future conditions in the impact assessment".</p> <p>Given the opportunity to provide clarity and simplicity (in terms of providing an impact analysis that can be more readily understood), the choice was made to instead go in the opposite direction -- i.e. to choose to use different baselines for CEQA and NEPA, which reflect different time frames with different sets of assumptions used to define baseline conditions. This choice creates a lack of clarity and greatly impedes the public's ability to understand the impact of the proposed project.</p>	
1651	160	<p>[From ATT1:]</p> <p>Section 3D.3, Descriptions for the EIR/EIS In all the assumptions listed to "describe" the baseline conditions, e.g. in Table 3D-2 and 3D-4, at least one major ongoing effort was noticeably absent -- that effort is the action by the State Water Resources Control Board (SWRCB) to adopt Delta flow objectives and to potentially restrict Delta exports through the proposed BDCP project. The EIR also fails to mention the multiple workshops that have been held by the SWRCB to develop scientific information that will be used in the final adoption of Delta flow requirements or the schedule for adoption of Delta flow standards by the SWRCB.</p> <p>In a July 2013 letter by Delta Stewardship Council staff and consultants, the requirements in the Delta Reform Act of 2009 to address Delta flow requirements in the EIR/EIS were re-emphasized, having been previously raised in letters submitted in April 2012 and June, 2010. The 2013 letter states that the Delta Reform Act requires that the EIR/EIS include a comprehensive analysis of a reasonable range of flow criteria, rates of diversion, and other operational criteria to meet the requirements for approval of an NCCP. The 2013 letter also reiterated that the EIR/EIS must take into account the SWRCB's August 2010 "Development of Flow Criteria for the Sacramento/San Joaquin Delta Ecosystem". The Delta Reform Act intended that the results of that 2010 SWRCB study would be used to inform planning decisions for the BDCP. The 2013 letter asked that the SWRCB's 2010 flow criteria be addressed directly in the EIR/EIS.</p> <p>Review of the EIR/EIS indicates that the SWRCB 2010 Delta flow criteria were mentioned in Section 3 and that one alternative (Alternative 8) considered a "version" of the recommendations that the SWRCB made in its report. It is not clear that the evaluation of Alternative 8 was adequate to meet the requirements of the Delta Reform Act. The EIR/EIS should describe how it provides the comprehensive analysis required under that act.</p>	Please see response to comment 1651-14.
1651	161	[From ATT1:]	Please refer to response to comment 1651-4.

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		<p>Section 8, Water Quality Impacts</p> <p>Section 8.1.6:</p> <p>The use of two different baselines (the CEQA and NEPA baselines) and the evaluation of water quality impacts in 2060 yields information that is extremely difficult to understand or verify. A simple analysis of near term water quality changes from existing ambient water quality is needed to provide the public with understandable information and to provide context/grounding for the long term impacts that are presented and to allow a proper assessment of compliance with state and federal antidegradation policies.</p>	
1651	162	<p>[From ATT1:]</p> <p>Section 8, Water Quality Impacts</p> <p>Inadequate Consideration of Federal Antidegradation Policy:</p> <p>In various places in the BDCP EIR/EIS (e.g. in Section 8 and in Table 31-1), it is stated that significant unavoidable increases in salt as measured by EC (electrical conductivity) and/or TDS (total dissolved solids) and methylmercury will occur in the Delta as a result of the implementation of the proposed project (Alternative 4) as embodied in CM 1, the Water Facilities and Operations control measure evaluated in the BDCP Effects Analysis.</p> <p>The EIR/EIS predicts significant increases in current ambient concentrations of EC and methylmercury at various Delta locations. The Delta is currently 303(d)-listed for EC and methylmercury, a federal Clean Water Act listing which is made when water quality objectives are not attained. The projected increased concentrations associated with CM 1 represent significant degradation in water quality and further impairment of already impaired beneficial uses in the Delta.</p> <p>Under the federal antidegradation policy, "major federal actions" that affect water quality (pursuant to NEPA and the Endangered Species Act) trigger the application of the federal antidegradation policy and requirements. Those requirements prohibit actions that would lower water quality in areas where existing water quality objectives are not attained (e.g. Tier I waters) [USEPA, Region 9, 1987, Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12, June 3].</p> <p>The Draft EIR has failed to adequately articulate or address the federal antidegradation requirements, which place significant constraints on the proposed project and associated mitigation. The "key questions" to be addressed by the surface water quality impact assessment (Section 8.4.1, page 8-127, lines 37-40 and page 8-128 lines 1-4) do not adequately address the requirements of the federal antidegradation policy. The "key questions" add a threshold consideration ("to cause or substantially contribute to significant adverse effects on the beneficial uses of water in these areas of the affected environment") which does not exist in the federal antidegradation policy. As such, the evaluation contained in the Draft EIR/EIS fails to properly address the fact that significant degradation of water quality in 303(d) listed waters is prohibited under the federal policy. The acknowledged degradation of EC which will occur in 303(d) listed areas such as Suisun Bay and portions of the Delta is not allowed under the federal policy. The proposed EC mitigation measures (WQ-11, WQ-11a and WQ-11b) that are described in the Draft EIR/EIS are inadequate in that they will not ensure that the EC levels will be maintained in 303(d) listed waters.</p>	Please refer to response to comment 1651-19.

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		<p>Similar points apply to the "significant and unavoidable" degradation of methylmercury levels that is predicted to occur in the 303(d) listed Delta as a result of implementation "habitat restoration projects" associated with the proposed project. The Delta is 303(d) listed for mercury -- actions which cause significant degradation of mercury levels in the Delta are prohibited. The proposed control measure for mercury CM 12 does not adequately assure the prevention of unallowable degradation of mercury levels in the Delta.</p>	
1651	163	<p>[From ATT1:]</p> <p>Section 8, Water Quality Impacts</p> <p>Failure to Fulfill requirements of the Delta Reform Act:</p> <p>The Delta Reform Act requires that the EIR/EIS provide special attention to water quality impacts. A number of water quality impacts identified in the EIR/EIS are deemed to be significant and unavoidable. Such impacts include increased levels of EC, chloride, and methylmercury and increased violations of water quality objectives. The EIR/EIS does not provide or describe specific and effective mitigation to avoid or reduce such impacts.</p> <p>Many of the proposed water quality mitigation measures are non-specific, not clearly enforceable and deferred to the future. For instance, the Draft EIR/EIS fails to identify the number of acres of farmland in the Delta that would be impacted by water quality (e.g. EC) degradation associated with the project. The absence of such information prevents the development of definitive mitigation.</p> <p>Instead, the EIR/EIS relies on vague statements and does not make specific commitments. For example the proposed mitigation measure for salinity (WQ-11) states "proposed mitigation requires a series of phased actions to identify and evaluate existing and possible feasible actions, followed by development and implementation of the actions, if determined to be necessary".</p> <p>This is not a clear commitment to mitigate the significant impacts that the proposed project will create on central and west Delta salinity. The failure to propose definitive mitigation measures that would directly offset the projected impacts is a significant flaw in the Draft EIR/EIS and contradicts the mandate under the Delta Reform Act.</p>	<p>Please refer to response to comment 1651-16.</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>
1651	164	<p>[From ATT1:]</p> <p>Section 8, Water Quality Impacts</p> <p>Section 8.3.2.13, Central Valley Drinking Water Policy, page 8-123:</p> <p>The paragraph describing the Central Valley Drinking Water Policy should be deleted or significantly modified to reflect the contents of the recently adopted (July 2013) Basin Plan amendment into the Sacramento-San Joaquin Basin Plan. The existing paragraph is outdated and places undue emphasis on organic carbon and disinfection by-products, which were found to be adequately addressed by existing Basin Plan language. The adopted policy includes new narrative water quality objectives and an implementation plan for Cryptosporidium and Giardia.</p>	<p>Section 8.2.2.13 in the Final EIR/EIS, describing the Central Valley Water Board Drinking Water Policy, has been updated to reflect recent changes to the Basin Plan.</p>
1651	165	<p>[ATT2: Appendix B. Sacramento Regional County Sanitation District Comments on BDCP and Associated Draft EIR/EIS. Flow Science Technical Memorandum on BDCP Flow Related</p>	<p>The comment describes the title of 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</p>

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		Impacts to Sacramento Regional Wastewater Treatment Plant. April 18, 2014.]	are not already addressed in the Final EIR/EIS.
1651	166	<p>[From ATT2:]</p> <p>In previous work, Flow Science Incorporated (Flow Science) analyzed the expected requirements for emergency storage basin (ESB) volume and re-treatment volume at the Sacramento Regional Wastewater Treatment Plant (SRWTP) corresponding to four Bay Delta Conservation Plan (BDCP) scenarios (Flow Science 2010). This technical memorandum summarizes additional work by Flow Science to analyze the expected requirements for ESB and re-treatment volume at the SRWTP under seven updated BDCP scenarios as follows:</p> <ol style="list-style-type: none"> <li>1. EBC1: Existing baseline condition without Fall X2. This is the "Existing Condition" defined in the current BDCP EIR/EIS documents. This scenario does not incorporate projected sea-level rise.</li> <li>2. EBC2: Existing baseline condition with Fall X2. This is believed to be more representative of actual existing conditions than EBC1. This scenario does not incorporate projected sea-level rise. Although DWR included model results for scenario EBC2 in the ADEIR documents released in March 2013, EBC2 is not included in the current BDCP EIR/EIS documents.</li> <li>3. NAA-LLT: No action alternative, Late Long-term. This is essentially a future no-project condition that incorporates projected sea-level rise and the Fall X2 requirement, but no BDCP project conditions. This scenario does not incorporate any Delta habitat restoration.</li> <li>4. Alt4H1: Alternative 4-H1, Late Long-term. This alternative incorporates BDCP project conditions ("Low Outflow") and projected sea-level rise, but not the Fall X2 requirement. This scenario incorporates Delta habitat restoration.</li> <li>5. Alt4H2: Alternative 4-H2, Late Long-term. This alternative incorporates BDCP project conditions ("Spring High Outflow"), projected sea-level rise, but not the Fall X2 requirement. This scenario incorporates Delta habitat restoration.</li> <li>6. Alt4H3: Alternative 4-H3, Late Long-term. This alternative incorporates BDCP project conditions ("Evaluated Starting Operations"), projected sea-level rise, and the Fall X2 requirement. This scenario incorporates Delta habitat restoration.</li> <li>7. Alt4H4: Alternative 4-H4, Late Long-term. This alternative incorporates BDCP project conditions ("High Outflow"), projected sea-level rise, and the Fall X2 requirement. This scenario incorporates Delta habitat restoration.</li> </ol> <p>Note that the four Alt4H# scenarios are intended to be representative of the potential future operations of the proposed BDCP project. The EIR/EIS states that the spring and fall outflow scenarios (H1 through H4) will be determined by a decision tree, and that any of the four outflow scenarios may be used each year. However, the decision tree -- specifically, what "triggers" each operational scenario -- has not been defined and is "subject to a new determination by the fish and wildlife agencies" (BDCP DRAFT EIR/EIS, pg. 3-207). However, the document does not introduce the future studies and data collection required to make this determination. Thus, it is not known which of these four operating scenarios is most likely to occur in the future.</p> <p>METHODOLOGY</p>	Please refer to response to comment 1651-11.

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		<p>The SRWTP discharges secondary treated effluent into the Sacramento River at Freeport. The SRWTP is required to maintain a 14:1 ratio between the Sacramento River flow at Freeport and the SRWTP effluent discharge rate. When river flow rates drop such that the 14:1 ratio cannot be maintained, SRWTP must divert effluent to on-site ESBs until river flow rates return to levels that allow effluent discharge. If the required diversion volume exceeds 75 million gallons (MG), diversion volumes above 75 MG are redirected back to the SRWTP plant influent for re-treatment before being discharged to the river when river flows return to the appropriate level. Once SRWTP discharge resumes after a diversion event, effluent discharge includes both effluent from SRWTP's regular treatment stream and effluent from the ESBs. The SRWTP's total ESB capacity is 302 MG.</p> <p>For this analysis, Flow Science used simulated Sacramento River flow rates (at Freeport) from BDCP DSM2 modeling, obtained from the California Department of Water Resources (DWR). For each of the seven scenarios -- EBC1, EBC2, NAA-LLT, Alt4H1, Alt4H2, Alt4H3, and Alt4H4 -- a Matlab code was used to calculate an hourly time series of required ESB volume corresponding to the 16-year BDCP modeling period (Water Years 1976-1991). The Matlab code used to perform these calculations accounted for both the 14:1 river-to-effluent flow requirement and the SRWTP's maximum effluent discharge rate of 410 mgd (634 cfs). Influent to the SRWTP was calculated according to the methodology described in Flow Science (2013). The Matlab code was also used to calculate the number of diversion and re-treatment events, and the maximum required volume of diversion and re-treatment under each scenario.</p> <p><b>FLOW DYNAMICS</b></p> <p>The BDCP DSM2 model results obtained from DWR incorporated several factors affecting Sacramento River flow dynamics at Freeport. First, as noted above, the following scenarios incorporated projected 2045 sea-level rise: NAA-LLT, Alt4H1, Alt4H2, Alt4H3, and Alt4H4. The effect of sea-level rise on Sacramento River flow dynamics at Freeport is to increase the tidal influence over flow rates, particularly when flows from upstream are low and downstream tides are high. In these periods, sea level rise will generally cause higher water levels throughout the Delta, altering flow dynamics at Freeport and increasing the magnitude of peak flows at Freeport during reverse flow events. Figure 1 [ATT2: att1] illustrates this effect. The figure compares Sacramento River flow rates and stages for EBC1 (an existing condition scenario with no sea level rise) with those for NAA-LLT (the no-action alternative scenario with a projected sea level rise) during a period of low flows from upstream and significant tidal influence (May 1977). The only operational difference between these two scenarios is that NAA-LLT incorporates sea-level rise but EBC1 does not. As Figure 1 shows, at high tide (i.e., when stage is at a local peak) flow rates during reverse flow events (negative flows in Figure 1) tend to be greater in magnitude in the NAA-LLT scenario than in the EBC1 scenario.</p> <p>Second, the BDCP project scenarios (Alt4H1, Alt4H2, Alt4H3, and Alt4H4) incorporated substantial pumping of Sacramento River water from immediately downstream of Freeport as part of BDCP operations. These scenarios also incorporated substantial habitat restoration within the Delta. The pattern of BDCP pumping in these scenarios is variable. However, the following pattern is often observed, as illustrated in Figure 2 [ATT2: att2]: when minimum diurnal river flow rates are low but above zero, pumping typically occurs for a portion of the day when flow rates are relatively high; when river flow rates are consistently high (e.g., above around 20,000 cfs), pumping typically occurs over the entire day. When minimum diurnal river flow rates drop to or below zero, pumping typically</p>	

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		<p>ceases. During the period shown in Figure 2, when pumping was occurring, the total pumping rate (i.e., Pumps #2, #3, and #5 combined) was typically around the project design flow rate of 9,000 cfs.</p> <p>The effect of this pumping is unclear. Figure 2 shows a comparison of the NAA-LLT scenario with the Alt4H3 scenario. According to scenario descriptions, the main operational difference between the two scenarios is that Alt4H3 incorporates BDCP pumping while NAA-LLT does not. Alt4H3 also incorporates habitat restoration within the Delta, while NAA-LLT does not. Resulting Sacramento River flow rates at Freeport show that NAA-LLT flows are consistently higher than those for Alt4H3. However, this difference in flow rates is not attributable to pumping under Alt4H3 since the pumping takes place downstream of Freeport. Thus, it seems likely that the habitat restoration (and/or differences in upstream operations) must be driving the observed differences in River flow rates. Sacramento River stage at Freeport is also consistently higher for NAA-LLT than for Alt4H3. While some reduction in Alt4H3 stage might be expected as a result of downstream pumping, it seems pumping does not account for the entire difference in stage since NAA-LLT stage is often higher than that for Alt4H3 even during periods when there is no pumping. Thus, again, it appears that Delta habitat restoration (incorporated into Alt4H3 but not NAA-LLT) and/or differences in upstream operations may explain the differences observed. A complete understanding of the effect of habitat restoration on flow rates and stages would require further investigation beyond the scope of this work.</p> <p>Third, four of the modeled scenarios incorporated the Fall X2 condition: EBC2, NAA-LLT, Alt4H3, and Alt4H4. Fall X2 is an operating condition whereby a salinity of 2 ppt is maintained at a specified distance upstream of the Golden Gate during the fall after near-normal (i.e., just above or below normal) and wet water year types. To achieve Fall X2 requirements, additional flows are released from upstream reservoirs. Thus, during the fall of relevant years, Sacramento River flow rates tend to be higher under Fall X2 conditions than under scenarios that do not incorporate Fall X2. This effect can be observed in Figure 3 [ATT2: att3], which compares Sacramento River flow rates and stages for EBC1 (no Fall X2) and EBC2 (Fall X2) during the fall of 1978, which is the fall subsequent to the above normal water year 1978. Figure 3 shows that Sacramento River flow rates and stages were higher, and reverse flow conditions were less likely to occur, during this period for EBC2 than for EBC1.</p> <p><b>RESULTS</b></p> <p>For each of the seven modeled scenarios, Flow Science produced a frequency distribution to describe the required ESB volumes calculated over the modeling period. These distributions are shown in Figures 4 through 10 [ATT2: att4-att10]. For all scenarios, the calculated required ESB volume was zero 63% of the time or more. For all scenarios, calculated required ESB volume was less than 25 MG approximately 95% of the time.</p> <p>Table 1 [ATT2: att11] summarizes the results of Flow Science’s analysis. Under EBC2 -- the existing condition scenario most representative of actual existing (historical) conditions -- the maximum required ESB volume was calculated to be 60.7 MG. Under the Alt4H1 BDCP scenario, the maximum required ESB volume was calculated to be 78.8 MG. Therefore, implementation of Alt4H1 was calculated to increase the required ESB storage by approximately 30% from existing conditions. Similarly, under the Alt4H3 BDCP scenario, the maximum required ESB volume was calculated to be 147 MG. Therefore, implementation of Alt4H3 was calculated to increase the required ESB storage by approximately 142% from</p>	

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		<p>existing conditions. Alt4H3 was calculated to produce the most re-treatment events of any of the scenarios, at 14 events. Given that the maximum required ESB volume calculated for the NAA-LLT scenario (which includes sea-level rise) was 63.8 MG, it seems that the increases in maximum ESB volume required by Alt4H1 and Alt4H3 over existing conditions are attributable to the BDCP operations themselves and not merely to sea-level rise. The other two BDCP project scenarios -- Alt4H2 and Alt4H4 -- produced maximum required ESB volumes more in line with existing conditions -- 70 MG (a 15% increase) and 65.8 MG (an 8% increase), respectively.</p> <p>The increased maximum required storage volume under the BDCP scenarios relative to the three other scenarios (EBC1, EBC2, and NAA-LLT) seems to be caused, primarily, by lower diurnal maximum downstream flow rates during February 1977, a period during which reverse flow rates at the bottom of the daily tidal cycle were particularly high. The decrease in diurnal maximum downstream river flow rates was significant since it meant SRWTP could not return as much stored effluent from the ESBs to the River at the top of the tidal cycle as it otherwise could. This effect is evident in a comparison of model results for the Alt4H1 and NAA-LLT scenarios during February 1977, as shown in Figure 11 [ATT2: att12]. While the NAA-LLT scenario produced higher upstream flow rates (typically around -5,000 cfs) than the Alt4H1 scenario (typically around -3,000 cfs), it also produced higher downstream flow rates (13,500 vs. 12,000 cfs), which allowed more stored effluent to be discharged than for the Alt4H1 scenario. Because less stored effluent could be discharged under the Alt4H1 scenario, stored effluent tended to build-up in the ESBs from tidal cycle to tidal cycle, producing the 78.8 MG peak value.</p> <p>The number and total duration of SRWTP diversion events was similar for all scenarios except NAA-LLT. The number of diversion events for the similar scenarios ranged from 2,630 to 2,829 while the total duration of diversion events ranged from 5.44 % to 6.30 %. However, the NAA-LLT scenario resulted in 4,061 events for a total duration of 9.02 % of the modeled period. Flow Science's review of the model results indicates that the cause of the additional diversion events seems to be extended periods during which the daily minimum flow rate (i.e., the minimum hourly value in a single day) in the Sacramento River at Freeport was consistently lower than for other scenarios. For example, Figure 12 [ATT2: att13] shows daily minimum Sacramento River flow rates at Freeport for the Alt4H1 and NAA-LLT scenarios for the period of August through November 1987. As Figure 12 shows, minimum daily flow rates were significantly lower under the NAA-LLT scenario than under Alt4H1 during this period, causing additional reverse flow and diversion events. It is likely that the lower flows are attributable to differences in Delta habitat restoration between the scenarios.</p> <p>The increased number and duration of diversion events in the NAA-LLT scenario does not translate into higher maximum required ESB volume since even during the periods when daily minimum river flows are lower than for other scenarios, daily maximum river flows are typically higher than for other scenarios, thereby allowing water stored in ESBs to be regularly discharged back to the river. This is the case during February 1977, the period during which the maximum required ESB volume occurs for the Alt4H1 and Alt4H3 scenarios, as noted above. Figure 12 shows the typically higher daily maximum river flows for the NAA-LLT scenario relative to Alt4H1. In short, under the NAA-LLT scenario diverted water does not typically build up in the ESBs as it does for scenarios where the maximum required ESB volume is high (e.g., Alt4H1 and Alt4H3).</p> <p>SRCS D may wish to comment upon the apparent importance of habitat restoration in</p>	

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		<p>reducing the impacts of reverse flows at Freeport. For example, SRCSD may wish to note that if the BDCP project is constructed without habitat restoration, or with a habitat restoration in different locations, with different sizes, or with different habitat operational characteristics, reverse flows at Freeport may become more severe in the future and may have a greater potential to affect SRWTP discharge operations.</p> <p>REFERENCES</p> <p>Flow Science (2010). Emergency Storage Basin Analysis for BDCP Scenarios. Technical memorandum prepared for Sacramento Regional County Sanitation District, June 14.</p> <p>Flow Science (2013). Water Quality Modeling in Support of Sacramento Regional Wastewater Treatment Plant, Advanced Wastewater Treatment Plant EIR. Prepared for Ascent Environmental, Inc., on behalf of Sacramento Regional County Sanitation District, November 27. Draft.</p> <p>U.S. Department of the Interior, Bureau of the Reclamation and U.S. Department of Fish and Wildlife; the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service; and the California Department of Water Resources (Reclamation, USFWS, NMFS, and DWR) 2013. Draft Environmental Impact Report/Environmental Impact Statement, Bay Delta Conservation Plan. Sacramento, CA: December 2013.</p>	
1651	167	[ATT2: att1: Figure 1 - Graph of Sacramento River flow rate and stage, EBC1 and NAA-LLT scenarios.]	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.
1651	168	[ATT2: att2: Figure 2 - Graph of Sacramento River flow rate and stage with BDCP pumping rates, NAA-LLT and Alt4H3 scenarios.]	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.
1651	169	[ATT2: att3: Figure 3 - Graph of Sacramento River flow rate and stage, EBC1 (No Fall X2) and EBC2 (Fall X2) scenarios.]	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.
1651	170	[ATT2: att4: Figure 4 - Required ESB volume frequency distribution, EBC1.]	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.
1651	171	[ATT2: att5: Figure 5 - Required ESB volume frequency distribution, EBC2.]	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.
1651	172	[ATT2: att6: Figure 6 - Required ESB volume frequency distribution, NAA-LLT.]	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.
1651	173	[ATT2: att7: Figure 7 - Required ESB volume frequency distribution, Alt4H1.]	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.

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1651	174	[ATT2: att8: Figure 8 - Required ESB volume frequency distribution, Alt4H2.]	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.
1651	175	[ATT2: att9: Figure 9 - Required ESB volume frequency distribution, Alt4H3.]	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.
1651	176	[ATT2: att10: Figure 10 - Required ESB volume frequency distribution, Alt4H4.]	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.
1651	177	[ATT2: att11: Table 1 - Summary of analysis of SRWTP ESB and re-treatment requirements under BDCP scenarios.]	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.
1651	178	[ATT2: att12: Figure 11 - Graphs of required ESB volume and Sacramento River flow rates for the Alt4H1 and NAA-LLT scenarios.]	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.
1651	179	[ATT2: att13: Figure 12 - Graph of daily minimum and maximum flow rates in the Sacramento River at Freeport, Alt4H1 and NAA-LLT scenarios.]	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.
1651	180	[ATT3: Appendix C. Sacramento Regional County Sanitation District Comments on BDCP and Associated Draft EIR/EIS. Flow Science Technical Memorandum on BDCP Temperature Related Impacts to Sacramento Regional Wastewater Treatment Plant. April 23, 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.
1651	181	<p>[From ATT3:]</p> <p>Effluent discharge from the Sacramento Regional Wastewater Treatment Plant (SRWTP) must meet temperature requirements specified in its NPDES permit, which were derived from the California Thermal Plan. Whether SRWTP discharge meets these requirements depends, in part, on the difference between effluent temperature and Sacramento River temperature at Freeport. Thus, the temperature of the Sacramento River at Freeport -- and, in particular, any changes to the river temperature that might result from implementation of BDCP alternatives -- is of considerable interest to the Sacramento Regional County Sanitation District (SRCSD).</p> <p>Flow Science recently reviewed documents and model results associated with the BDCP environmental review process in order to understand how proposed BDCP alternatives might impact Sacramento River temperatures at Freeport. This technical memorandum summarizes our findings to date.</p> <p>REVIEW OF BDCP DRAFT CHAPTERS</p> <p>As discussed in Flow Science (2013) (Attachment A) [ATT3: att8], Flow Science reviewed draft chapters from the BDCP, focusing on information that might indicate the effect that BDCP would have on Sacramento River temperatures at Freeport. The following bullets summarize the claims of these documents most relevant to BDCP impacts on Sacramento River temperature at Freeport:</p>	Please refer to response to comment 1651-12.

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		<p>* Estuarine and Delta water temperatures are driven by air temperature. (This conclusion only applies to the interior and western Delta, and will not apply to upstream Delta locations such as Freeport.)</p> <p>* Climate change effects on air temperature may subsequently have an effect on Sacramento River water temperatures.</p> <p>* Climate change effects on precipitation and runoff may also affect Sacramento River water temperatures insofar as precipitation and runoff affect upstream reservoir operations.</p> <p>* Water temperatures at Freeport may be cooled by up to 3° C due to high upstream Sacramento River flows. However, these flows are not sustainable over the long-term. (The BDCP draft chapters do not define a threshold for these "high" flows, nor do they provide guidance as to what is meant by "long-term".)</p> <p>* Comparisons of model results for existing and proposed BDCP conditions suggest that the BDCP would have only a minimal effect on Sacramento River temperatures at any location.</p> <p>In addition to these claims, the BDCP draft chapters showed that DSM2 QUAL model results were used to try to understand the possible effects of BDCP alternatives on fish at numerous locations in the Delta. Specifically, model results allowed investigators to predict how frequently Delta temperatures would exceed conditions that are best for fish. Flow Science concluded that it would be difficult to use these results to infer the temperature changes that are expected to result at Freeport as a result of BDCP implementation. Flow Science also identified possible problems with the modeling used to support these conclusions. In particular, it appears that DWR used incorrect input files and has not updated the modeling to incorporate corrected input files. In addition, some of the assumptions used in the modeling (e.g., that river temperatures are independent of upstream reservoir operations) are suspect.</p> <p>Thus, on the whole, Flow Science found the information presented in the BDCP draft chapters inadequate for determining the impact that BDCP operations might have on river temperatures at Freeport.</p> <p>REVIEW OF MODELING RESULTS</p> <p>Flow Science reviewed model input and output files for recent DSM2 modeling of BDCP scenarios by the California Department of Water Resources (DWR). The 24 scenarios listed in Table 1 [ATT3: att1] were reviewed.</p> <p>For all scenarios, DWR provided 15-minute interval output data for water years 1976-1991. All scenarios had simulation data for hydrodynamic variables (flow, velocity, and stage), and temperature at Freeport. Simulation data for algae, dissolved oxygen (DO), NH3, NO2, NO3, organic-N, and PO4 were also provided at Freeport for most scenarios; the only exception was the Baseline_BDCP_V1_2012 scenario (No. 1 in Table 1), which only had algae, DO and PO4 output at Freeport. For this work, only flow and temperature data were reviewed by Flow Science.</p> <p>Following the release of these modeling data, DWR informed Flow Science that some of the temperature runs were set-up incorrectly. Specifically, the temperature boundary conditions used in the Draft EIR modeling (Reclamation et al., 2013) for the early late-term (ELT) and late late-term (LLT) runs were incorrect. DWR stated that the problem with these</p>	

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		<p>temperature boundary conditions was related to an error in applying climate-change corrections in the modeling. The error affected all simulations except scenario numbers 1 and 22 in Table 1.</p> <p>On November 21, 2013, DWR provided corrected input boundary files with updated temperature input data to Flow Science via email and FTP [Footnote C-1: FTP links were emailed from Parviz Nader of DWR to Al Preston of Flow Science on November 21, 2013. Files were downloaded by Al Preston on November 21, 2013.], but DWR did not re-run the model. Additionally DWR indicated via email [Footnote C-2: Email from Brian Heiland of DWR to Al Preston of Flow Science, dated November 18, 2013.] that they did not have plans to re-run the model with corrected input files.</p> <p>To evaluate the extent of the corrections and the potential impact on the simulated Sacramento River temperatures and on the conclusions presented in the DEIR, Flow Science compared the old and corrected input boundary temperatures, and re-ran the DSM2 model for the two EBC2 scenarios (i.e., scenarios No. 16 and 17 in Table 1, corresponding to early long term (ELT) and late long term (LLT) conditions) using the corrected temperature input files.</p> <p>Comparisons of the old and new input files and output data obtained using both sets of files are presented below. Figure 1 [ATT3: att2] and Figure 2 [ATT3: att3] show the differences in boundary temperatures for a 6-month period for the No Action ELT and No Action LLT scenarios (Nos. 16 and 17 in Table 1). These figures were obtained by subtracting the old (incorrect) boundary temperatures from the corrected boundary temperatures. Figures 1 and 2 show that the changes appear highly variable and large in magnitude. For example, Figure 1 shows that the Sacramento River temperatures for inflow to DSM2 model domain in the corrected input file were as much as 7° C (12.6° F) cooler than the inflow temperatures in the uncorrected file toward the end of March 1976. Differences of this magnitude were observed throughout the simulation time period.</p> <p>Figure 3 [ATT3: att4] and Figure 4 [ATT3: att5] show the difference between old and new input boundary temperature data for the Sacramento River (from the uncorrected and corrected input files) and old and new temperature modeling results for the Sacramento River at Freeport (from Flow Science’s DSM2 model runs, performed using these two sets of input files). As the figures show, changes in simulated river temperature at Freeport closely follow the changes in the Sacramento River boundary temperature. These two sets of changes follow each other closely because Freeport is only approximately 14 miles downstream of the DSM2 Sacramento River upstream boundary (located within the City of Sacramento) and little temperature change is expected within this relatively short distance. Some simple statistics of the changes over the simulation period are summarized in Tables 2 and 3 below. [See ATT3: att6 and ATT3: att7.]</p> <p>As noted above, the corrections to the DSM2 temperature boundary conditions have a substantial effect on the temperatures at Freeport. In addition, the methodology for determining the temperature boundary conditions (for both the original and corrected boundary conditions) is questionable because the same set of temperature boundary conditions are used for all BDCP alternatives. Changes in boundary conditions between scenarios reflect only climate change effects and not different BDCP or upstream reservoir operations. That is, all ELT simulations used the same temperature boundary conditions for all BDCP alternatives, and all the LLT simulations used the same temperature boundary conditions for all BDCP alternatives. Clearly, with this approach the modeling will predict no</p>	

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		<p>(or minimal) impacts of the BDCCP on the temperature at Freeport, since Freeport is located close to the boundary. However, the various BDCCP alternatives are likely to result in substantially different river flows at different times of the year (e.g., whether or not Fall X2 is implemented may cause substantially different reservoir releases and river flows). Therefore, it appears that the DSM2 modeling methodology is in conflict with the BDCCP draft documents that state that temperatures at Freeport may be affected by up to 3° C due to high river flows.</p> <p>RECOMMENDATIONS</p> <p>Flow Science recommends that SRCSD comment that the EIR does not contain information -- and the modeling data upon which the EIR is based are insufficient -- to support any conclusions about how Sacramento River temperatures at Freeport may change in the future.</p> <p>REFERENCES</p> <p>Flow Science (2013). Review of availability of temperature model results for BDCP scenarios. Technical memorandum to Jason Lofton, SRCSD, from Al Preston and Susan Paulsen. November 14. FSI 098116.</p> <p>U.S. Department of the Interior, Bureau of the Reclamation and U.S. Department of Fish and Wildlife; the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service; and the California Department of Water Resources (Reclamation, USFWS, NMFS, and DWR) 2013. Draft Environmental Impact Report/Environmental Impact Statement, Bay Delta Conservation Plan. Sacramento, CA: December 2013.</p>	
1651	182	[ATT3: att1: Table 1. Summary of modeled scenarios.]	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.
1651	183	[ATT3: att2: Figure 1. Graph of difference in boundary temperature (T new - T old) for No Action ELT.]	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.
1651	184	[ATT3: att3: Figure 2. Graph of difference in boundary temperature (T new - T old) for No Action LLT.]	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.
1651	185	[ATT3: att4: Figure 3. Graph of difference in Freeport temperature (T new - T old) for No Action ELT.]	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.
1651	186	[ATT3: att5: Figure 4. Graph of difference in Freeport temperature (T new - T old) for No Action LLT.]	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.
1651	187	[ATT3: att6: Table 2. Changes in input boundary temperature (°C) for WY76-91.]	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.

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1651	188	[ATT3: att7: Table 3. Changes in simulated Freeport temperature (°C) for WY76-91.]	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.
1651	189	[ATT3: att8: Attachment A -- Flow Science (2013). Review of availability of temperature model results for BDCP scenarios. Technical memorandum to Jason Lofton, Sacramento Regional County Sanitation District, from Al Preston and Susan Paulsen. November 14, 2013. FSI 098116.]	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.
1651	190	[From ATT3: att8:]  Summary  Sacramento Regional County Sanitation District requested that Flow Science review model results received to date as part of the Bay-Delta Conservation Plan (BDCP) process to determine if sufficient information is available to evaluate changes in the temperature of the Sacramento River at Freeport that may result from the implementation of the BDCP proposed project. As detailed below, Flow Science's review indicates that models have been run to evaluate river temperature changes, but temperature results from these models have not been made available yet. Although Flow Science could run the models internally to evaluate river temperature changes, we recommend instead that any evaluation of river temperature be based upon DWR's model results, which should become available when the Draft EIR is released; the current target date for release is mid-December.  Hard Drives from DWR  Flow Science received hard drives from the Department of Water Resources (DWR) on 2/24/2012 and 4/5/2013, and a flash drive on 5/5/2013. These drives include CALSIM II and DSM2 model results for the existing condition, a future no-action alternative, and a range of project alternatives. Flow Science has reviewed the information on these drives and could not find temperature information in the DSM2 results provided by DWR. Flow and stage are computed by DSM2-HYDRO, while EC (electrical conductivity) and temperature are computed by DSM2-QUAL. [Footnote 1: <a href="http://www.waterplan.water.ca.gov/docs/tools/descriptions/DSM2-description.pdf">http://www.waterplan.water.ca.gov/docs/tools/descriptions/DSM2-description.pdf</a> ] The drives do contain EC results, which indicates that DSM2-QUAL has been run and temperature results likely exist. In addition, the 2013 BDCP Draft Chapters (see below) refer to temperature results from DSM2-QUAL simulations. Conversations with others working on BDCP review (e.g., Contra Costa Water District) indicate that they likewise have not received DSM2-QUAL temperature results but believe that the modeling has been completed.  Flow Science emailed DWR on 9/25/2013 to inquire about the status of the DSM2-QUAL temperature results, and was informed via email on 9/26/2013 that DWR is still working on preparing the temperature data for public release. Flow Science requested to be informed via email when the temperature results become available.  Although DSM2-QUAL temperature results are not available, the hard-drives do include some temperature results from the Sacramento River Water Quality Model (SRWQM). However, these appear to be for a different model period (1921-2003), only for the Sacramento River, and available only as daily output. In addition, the furthest downstream location for which these temperature data are available is Knights Landing, which is located just upstream of the confluence of the Feather and Sacramento Rivers. Since the Feather River and American River provide significant inflow to the Sacramento River, model output	This comment included in the memorandum dated November 14, 2013 states that the DSM2 QUAL temperature model simulations for the BDCP EIR/EIS were not available. As noted in the Appendix C of this comment letter, which includes a subsequent memorandum dated April 23, 2014, the requested modeling information was provided by DWR before April 2014.  Please refer to response to comment 1651-12 for additional information regarding the effects of the preferred Alternative on temperature.

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		<p>from this location is not useful in evaluating temperature changes in the Sacramento River at Freeport.</p> <p>It is noted that the SRWQM may have subsequently been extended to include Freeport [Footnote 2: <a href="http://www.environmentguru.com/pages/elements/element.aspx?id=421762.">http://www.environmentguru.com/pages/elements/element.aspx?id=421762.</a>], but results on the hard-drive do not reflect this.</p> <p>Review of 2013 BDCP Draft Chapters [Footnote 3: Released March 2013.]</p> <p>There are several relevant sub-sections of Section 5, but none has explicit numeric temperature results that can be applied at Freeport. Excerpts below:</p> <p>1. "BDCP Chapter 5 - Effects Analysis 3-27-13.pdf"</p> <p>Monthly temperature results are available for four locations (Keswick [near Redding] and Bend Bridge [near Red Bluff] in Sacramento River, and at the Fish Barrier and Honcut in the Feather River). These locations are well upstream of Freeport.</p> <p>5.3.2.1 Water Temperature</p> <p>Water temperature effects caused by the BDCP are limited to the upstream Sacramento and San Joaquin Rivers and their tributaries. With the exception of the Feather River, changes are minimal. Comparisons of water temperature differences between EBC and ESO scenarios were not conducted for the Plan Area. The reasoning behind this is provided in the USFWS (2008:194) BiOp.</p> <p>"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 from the west Delta at Antioch (Kimmerer 2004) so the area of influence is limited."</p> <p>Appendix 5.C, Attachment 5C.A, CALSIM and DSM2 Modeling Results for the Evaluated Starting Operations Scenarios, provides the DSM2-QUAL comparison of water temperatures under existing biological conditions with BDCP's preliminary proposal (Alternative 1A as described in the EIR/EIS for the BDCP [California Department of Water Resources et al. 2012]). Although the preliminary proposal has been superseded by the ESO (Alternative 4 of the BDCP EIR/EIS, one potential outcome of the decision tree process), the comparison between EBC scenarios and preliminary proposal scenarios is provided to illustrate that there is very little difference in Plan Area water temperatures between these scenarios. Water temperature differences between scenarios are attributable to climate change, as discussed in Appendix 2.C, Climate Change Implications and Assumptions.</p> <p>Water temperatures in rivers below the SWP and CVP reservoirs may be affected in the future by the combination of Delta operations and by climate change effects on air temperatures. The physical factors that control the seasonal water temperature patterns in upstream tributary streams and the potential biological effects of increased temperature on various fish life stages are discussed below. Climate change also will affect precipitation and runoff; these expected changes in reservoir inflows will interact with reservoir operations (flood control releases and water supply storage) to also change the release temperatures</p>	

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		<p>from the major SWP and CVP reservoirs.</p> <p>Water temperature in the Sacramento River immediately downstream of Shasta and Keswick Dams is determined by a number of factors that include the availability of cold water stored in the upstream reservoirs, seasonal atmospheric conditions, and the level of instream flow released to the river. Table 5.3-5 summarizes differences in upstream temperatures. Table 5.3-6 shows the monthly and annual mean temperature changes at four key locations in the upper Sacramento River. There will be minimal changes in Sacramento River temperatures as a result of BDCP. As described above, the BDCP will not result in changes in San Joaquin River flows and therefore will not contribute to any changes in temperature.</p> <p>2. "BDCP Effects Analysis - Appendix 5.C.1 through 5.C.4, 5.C.6 - Flow, Passage, Salinity, and Turbidity 3-27-13.pdf"</p> <p>As noted at page 5C.4-101 of Appendix 5.C, Section 5C.4, the Draft documents state that "Water temperatures at Freeport can be cooled by up to about 3° C by high Sacramento River flows, but only by very high river flows that cannot be sustained by the projects." See excerpts below.</p> <p>5C.4.4.4                      Water Temperature</p> <p>Comparisons of water temperature differences between existing biological conditions and evaluated starting operations scenarios were not conducted for the Plan Area. The reasoning behind this is provided in the USFWS (2008:194) OCAP BiOp:</p> <p>"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 from the west Delta at Antioch (Kimmerer 2004) so the area of influence is limited."</p> <p>Attachment 5C.C, Water Temperature, provides the DSM2-QUAL comparison of water temperatures under existing biological conditions with BDCP's preliminary proposal. Although the preliminary proposal has been superceded by the evaluated starting operations (one potential outcome of the decision tree process, as encompassed by Alternative 4 of the BDCP EIR/EIS), the comparison between EBC scenarios and Alternative 1A scenarios is provided to illustrate that there is very little difference in Plan Area water temperatures between these scenarios. Water temperature differences between scenarios are attributable to climate change, as discussed in Appendix 2.C, Climate Change Implications and Assumptions.</p> <p>3. "BDCP Effects Analysis - Appendix 5.C - Attachment C.C Water Temperature 3-27-13.pdf"</p> <p>DSM2 QUAL model results were used to interpret effects on fish at numerous locations in the Delta. Results are presented in terms of frequency (or number of days) temperatures are within or outside certain limits (related to fish well-being). It would be difficult to use these results to infer the temperature changes that are expected to result at Freeport as a result of BDCP implementation.</p>	

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1651	191	[ATT4: Appendix D. Sacramento Regional County Sanitation District Comments on BDCP and Associated Draft EIR/EIS. Flow Science Technical Memorandum on BDCP Temperature Related Impacts to Sacramento Regional Wastewater Treatment Plant. September 6, 2013.]	The comment describes the title of 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.
1651	192	<p>[From ATT4:]</p> <p>The Sacramento Regional County Sanitation District (SRCSD) appreciates the opportunity to review the Administrative Draft Bay Delta Conservation Plan (BDCP). We have previously commented on various versions of the document and continually requested that sound science be the basis for the BDCP and that all BDCP related impacts on SRCSD be fully mitigated.</p> <p>The purpose of this letter is to inform you of SRCSD's objection to the inclusion, in the March 2013 draft BDCP's "Conservation Strategy," section 3.5.1., titled "Ammonia Load Reduction" as an "Important Regional Action" under the BDCP. This topic is not an appropriate part of BDCP conservation measures because it is not among the activities that the applicants for incidental take permits propose to undertake. It also perpetuates disputes that are now moot. We are also concerned about potential unknown and unforeseen consequences to SRCSD. We request the removal of this section for reasons discussed below.</p> <p>The BDCP is being proposed by parties other than SRCSD who wish to acquire long-term incidental take permits under the Endangered Species Act (ESA) as a means to protect diversion of water from the Delta. Under section 10 of the ESA, a conservation plan must specify actions that the permit applicant or applicants will take to avoid, minimize, or mitigate impacts of their take. BDCP thus must and should focus on the applicants' activities that will support their request for a permit that authorizes their take. The March 2013 draft BDCP's inclusion, among its conservation measures, of actions that SRCSD, not the applicants, will take is out of place and not appropriate.</p> <p>In addition, as you are probably aware, the role of ammonia in the estuary has been debated in the Delta scientific community for the past five years. This debate ultimately led to strict ammonia limits in SRCSD's 2010 National Pollutant Discharge Elimination System (NPDES) permit. While SRCSD does not agree that the science used to set the ammonia discharge limits is "settled", in April 2013, SRCSD agreed to drop its challenge to the NPDES permit provisions requiring significant reductions of ammonia and nitrate in its treated effluent. In fact, SRCSD has already spent millions of dollars towards upgrading its treatment plant and we expect to ultimately spend a total of over \$800 million just on ammonia and nitrate removal by the time the treatment plant upgrade is completed.</p> <p>Additionally, the description of scientific facts presented in Section 3.5.1 is not a fair representation of the current understanding of the effects of ammonia in the Delta and Suisun Bay. The text in this section overstates the magnitude and certainty of the effects of reduced ammonia loadings by relying on only a portion of the scientific literature on this topic.</p> <p>For these reasons, SRCSD requests that the "Important Regional Action" of ammonia load reduction in chapter 3.5 be removed from the BDCP. The removal of this section will not change the fact that SRCSD has already begun the process of removing ammonia and nitrate from its treated effluent, nor will it affect the timetable for the construction of our treatment plant upgrades.</p>	<p>Please refer to response to comment 1651- 37.</p> <p>Please refer to Chapter 8, Water Quality, Section 8.1.3.1, Ammonia, for an updated discussion of the various effects (toxic and beneficial) of nutrients and ammonia in the Delta, as well as Chapter 11, Fish and Aquatic Resources, Section 11.1.5, Factors Affecting Species Success.</p>

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1652	1	<p>DEIR/DEIS:</p> <p>Rural County Representatives of California (RCRC) has reviewed the Delta Independent Science Board (DIS Board) comments on the DEIR/EIS for the BDCP dated May 15, 2014. The DIS Board comments can be accessed at: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf</a></p> <p>RCRC commends the DIS Board for their work and agrees with many of the Board's observations.</p> <p>Of particular note are the DIS Board findings that:</p> <p>Many of the impact assessments hinge on overly optimistic expectations about the feasibility, effectiveness, or timing of the proposed conservation actions, especially habitat restoration.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. The comments reference the ISB letter. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546. 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>
1652	2	<p>DEIR/DEIS:</p> <p>Rural County Representatives of California (RCRC) has reviewed the Delta Independent Science Board (DIS Board) comments on the DEIR/EIS for the BDCP dated May 15, 2014. The DIS Board comments can be accessed at: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf</a></p> <p>RCRC commends the DIS Board for their work and agrees with many of the Board's observations.</p> <p>Of particular note are the DIS Board findings that:</p> <p>The project is encumbered by uncertainties that are considered inconsistently and incompletely; modeling has not been used effectively to bracket a range of uncertainties or to explore how uncertainties may propagate.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. The comments reference the ISB letter. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546. For additional information, please review Master Response 33 Adaptive Management regarding uncertainties and additional related to modeling assumptions, see Master Response 48, Modeling.</p>
1652	3	<p>DEIR/DEIS:</p> <p>Rural County Representatives of California (RCRC) has reviewed the Delta Independent Science Board (DIS Board) comments on the DEIR/EIS for the BDCP dated May 15, 2014. The DIS Board comments can be accessed at: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf</a></p> <p>RCRC commends the DIS Board for their work and agrees with many of the Board's observations.</p> <p>Of particular note are the DIS Board findings that:</p> <p>The potential effects of climate change and sea-level rise on the implementation and outcomes of BDCP actions are not adequately evaluated.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. The comments reference the ISB letter. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p> <p>For additional information regarding the consideration of climate change please see Master Response 19.</p>
1652	4	<p>DEIR/DEIS:</p> <p>Rural County Representatives of California (RCRC) has reviewed the Delta Independent</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. The comments reference the ISB letter. For responses to comments related to the Delta Independent Science</p>

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		<p>Science Board (DIS Board) comments on the DEIR/EIS for the BDCP dated May 15, 2014. The DIS Board comments can be accessed at:  <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf</a></p> <p>RCRC commends the DIS Board for their work and agrees with many of the Board's observations.</p> <p>Of particular note are the DIS Board findings that:</p> <p>Insufficient attention is given to linkages and interactions among species, landscapes, and the proposed actions themselves.</p>	<p>Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1652	5	<p>DEIR/DEIS:</p> <p>Rural County Representatives of California (RCRC) has reviewed the Delta Independent Science Board (DIS Board) comments on the DEIR/EIS for the BDCP dated May 15, 2014. The DIS Board comments can be accessed at:  <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf</a></p> <p>RCRC commends the DIS Board for their work and agrees with many of the Board's observations.</p> <p>Of particular note are the DIS Board findings that:</p> <p>The analyses largely neglect the influences of downstream effects on San Francisco Bay, levee failures, and environmental effects of increased water availability for agriculture and its environmental impacts in the San Joaquin Valley and downstream.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. The comments reference the ISB letter. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546. Downstream impacts are best analyzed in the final EIR/S Appendix 5A, Appendix 6A and the agriculture impacts in Chapter 14 and Master Response 18.</p>
1652	6	<p>DEIR/DEIS:</p> <p>Rural County Representatives of California has reviewed the Delta Independent Science Board (DIS Board) comments on the DEIR/EIS for the BDCP dated May 15, 2014. The DIS Board comments can be accessed at:  <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf</a></p> <p>RCRC commends the DIS Board for their work and agrees with many of the Board's observations.</p> <p>Of particular note are the DIS Board findings that:</p> <p>Details of how adaptive management will be implemented are left to a future management team without explicit prior consideration of (a) situations where adaptive management may be inappropriate or impossible to use, (b) contingency plans in case things do not work as planned, or (c) specific thresholds for actions.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. The comments reference the ISB letter. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p> <p>Also see Master Response 33, Adaptive Management and Findings/thresholds in the Final EIR/EIS, Chapter 31.</p>
1652	7	<p>DEIR/DEIS:</p> <p>Rural County Representatives of California (RCRC) has reviewed the Delta Independent Science Board (DIS Board) comments on the DEIR/EIS for the BDCP dated May 15, 2014. The DIS Board comments can be accessed at:</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. The comments reference the ISB letter. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>

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		<p><a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Attachment-1-Final-BDCP-comments.pdf</a></p> <p>RCRC commends the DIS Board for their work and agrees with many of the Board's observations.</p> <p>Of particular note are the DIS Board findings that:</p> <p>available tools of risk assessment and decision support have not been used to assess the individual and combined risks associated with BDCP actions.</p>	<p>The comment is unclear with regards to "individual and combined risks". See Adaptive Management and if related flood risks, see Final EIR/S, Appendix 6A and Master Response 16.</p>
1652	8	<p>Identified flaws get to the heart of Rural County Representatives of California's primary concern -- the 50-year permit term, the guarantees proposed to be afforded to the beneficiaries of Conservation Measure 1 (CM1) (Water Facilities and Operation), and the lack of assurances for areas upstream of the Delta and in-Delta as it relates to regional water sustainability, water rights protections, and no negative redirected impacts to the water supply, economy and environment of those areas of the state not party to the BDCP.</p>	<p>As noted in the response to comment 1652-1, 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. As described in FEIR/EIS, the preferred alternative would no longer include 50-year term HCP and NCCP permits. Potential impacts to the in-Delta area and areas upstream of the Delta associated with SWP and CVP reservoirs are analyzed in Chapter 5 of the FEIR/EIS.</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>Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two 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. Please see Master Response 32 for additional discussion on water rights.</p>
1652	9	<p>The Delta Independent Science Board [DIS] states:</p> <p>Assuming that CMs 2-22 will produce the anticipated benefits needed to offset any impacts of BDCP actions is an implausible standard of perfection for such a complex problem and plan (Chapters 11 and 12, Appendix B). Rural County Representatives of California agrees with the DIS Board recommendation to begin with more realistic expectations that include contingency or back-up plans.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1652	10	<p>The Delta Independent Science Board states:</p> <p>That uncertainties accompany every action and consequence discussed in the DEIR/EIS, and that when combined these uncertainties will be compounded and propagate. The DIS Board has also noted the DEIR/EIS in some instances argues that uncertainty is sufficient reason not to address the issue of uncertainty at all (Chapter 11, Appendix B). Rural County Representatives of California agrees with the DIS Board that if uncertainties are acknowledged the expected outcomes and benefits of BDCP actions will be more realistic. This in turn would provide a more reasoned assessment. Additionally, RCRC agrees with the DIS Board that CMs 2-22 should be treated as hypotheses to be tested, or perhaps broadly defined adaptive-management experiments.</p>	<p>See Response 1652-1 and Master Response 33, Adaptive management.</p> <p>With regards to uncertainties related to aquatic impacts please refer to the Final EIR/EIS, Chapter 11 and acknowledgement as to the science related to the impacts analysis. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1652	11	<p>The Delta Independent Science Board states:</p>	<p>The factors noted by the comment were considered. Please see the final EIR/EIS, Flood Appendix 6A and Chapter 11. Also see Master Response 23, Other Stressors. For responses to comments related to the Delta</p>

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		The potential effects of climate change and sea-level rise are underestimated or not adequately considered, and that similar comments could be made about the treatment of other disrupting factors such as floods, levee failure, earthquakes, or invasive species (Chapter 29/Chapter 12, Appendix B). Any one or more of these factors could profoundly alter the desired outcomes of BDCP actions. Rural County Representatives of California believes that all factors that may substantially alter the outcomes of the project must be considered.	Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.
1652	12	The Delta Independent Science Board states:  That much of the DEIR/EIS is focused on individual species, particular places, or specific actions that are considered in isolation from other species, places or actions. As a result, potential predator-prey interactions and competition between covered and non-covered fish species are not fully recognized (Chapters 11 and 12, Appendix B). Rural County Representatives of California agrees with the DIS Board that failing to treat the Delta as a fully functioning and integrated ecosystem may well result in overlooking interactions that may enhance or undermine the effectiveness of BDCP actions.	The response to this comment is best addressed in the Final EIR/EIS, Chapters 11 and 12 as well as the Other Stressors Master Response 23. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.
1652	13	The Delta Independent Science Board states:  Although the consequences of BDCP actions undertaken within the Plan Area will extend downstream to affect San Pablo Bay and San Francisco Bay, the draft BDCP and DEIR/EIS do not analyze these potential environmental impacts. Similarly, the draft BDCP and DEIR/EIS do not consider the consequences of levee failures on the effectiveness of BDCP actions or the financial implications of demands for levee maintenance on BDCP implementation (Appendix A). Rural County Representatives of California agrees with the DIS Board that these potential effects merit careful consideration.	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. Please see Chapter 6, Appendix 6A regarding levee maintenance. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.  Modeling related to downstream areas is found in Appendix 5A of the Final EIR/EIS.
1652	14	The Delta Independent Science Board states:  That adaptive management is the key to addressing uncertainties and successfully implementing the BDCP, but details about how it will be designed and implemented are left to a future Adaptive Management Team. The DIS Board also notes that because BDCP CMs will not likely play out as planned, it would be prudent to have contingency plans generally outlined before discovering that actions are not working as expected (Appendix A). Rural County Representatives of California, like the DIS Board, has substantial misgivings about how the proposed adaptive management process, as proposed, will actually function as a key component of the BDCP. As others have commented, the BDCP's monitoring and adaptive management program is at best a plan to have a plan.	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. Also see Master Response 3 regarding the project purpose and need. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.
1652	15	The Delta Independent Science Board states found no indication that the available scientific approaches to risk assessment were used to any great extent in the development of the BDCP (Appendix A). Rural County Representatives of California agrees with the DIS Board that given the concerns over uncertainty and the proposed adaptive management plan, consideration should be given to incorporating structured decision-making into the process.	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.  For information regarding adaptive management, please refer to the Final EIR/EIS, Chapter 3 and Master Response 3. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.
1652	16	Chapter 2. Project Description:  The draft BDCP and DEIR/EIS leaves to future EIR's nearly every project element other than CM 1. The decision to perform a project-level analysis of CM 1, but only a program-level analysis of CMs 2 - 22, means that meaningful environmental review and evaluation of CMs	As noted in the response to comment 1652-1, 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. As described in FEIR/EIS, the preferred alternative would no longer include 50-year term HCP and NCCP permits. For more information regarding project and program level

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		2 - 22 are not available for public review. As a result, the state and federal agencies responsible for approving or disapproving the BDCP and members of the public are unable to evaluate the potential effectiveness and potential impacts.	analysis please see Master Response 2.
1652	17	Rural County Representatives of California agrees with the Yolo County comment letter that projects necessary to implement the BDCP and related environmental effects should receive full environmental review at the outset rather than in separate documents that may follow years or even decades later. In particular, Yolo County notes that CM 2 should be analyzed given the defined nature of certain biological objectives in the BDCP, and the fact that more than enough information exists for the DEIR/EIS to include specific information about potential impacts using the acreage data, modeling, and other presently available information regarding the seasonal floodplain restoration element of CM 2.	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.  See Chapter 31 of the Final EIR/EIS.  For updated information regarding the Yolo Bypass restoration efforts, please see the program website:  <a href="http://www.water.ca.gov/environmentalservices/yolo_bypass_salmonid.cfm">http://www.water.ca.gov/environmentalservices/yolo_bypass_salmonid.cfm</a>
1652	18	The DEIR/EIS states that it generally uses a baseline tied to the 2009 date of publication of the Notice of Preparation (NOP). Rural County Representatives of California agrees with Yolo County that the use of an outdated "existing conditions" baseline is not reasonable for a project like BDCP given its lengthy and complex planning and environmental review process, as well as the overall timeframe for implementation.	For a response to comments related to baselines, please refer to Master Response 1.
1652	19	The conclusion of the DEIR/EIS that the impacts of Conservation Measures 2-22 could be "significant and unavoidable" paves the way for BDCP proponents in the future to find that impacts of these CMs, once they are fleshed out, are within the scope of the BDCP program EIR/EIS and thus conclude that meaningful environmental review is not needed. Rural County Representatives of California believes that the state and federal agencies must make a public commitment in the final BDCP and EIR/EIS that this scenario will not occur. The agencies also should pledge that all future EIRs and EISs on individual projects will include a cumulative and synergistic effects analysis to ensure that the potential environmental impacts of the individual projects will be evaluated as integral components of the entire BDCP.	For more information regarding project and program level analysis please see Master Response 2.  Resource areas are addressed separately in the EIR/EIS under sections for each of the new project Alternatives, including surface water, groundwater, water quality, fish and aquatic resources, terrestrial biological resources, agricultural resources, air quality and greenhouse gases, and others. Where impacts are determined to be significant, environmental commitments and mitigation measures will be implemented to avoid and/or offset these effects, where possible. Elements of some of the Conservation Measures from the BDCP are included as Environmental Commitments to mitigate for the proposed project. See Appendix 3B in the 2015 RDEIR/SDEIS Appendix A for information on Environmental Commitments for the project.  In cases, where it is not possible to offset those significant impacts (see Chapter 31, Other CEQA/NEPA Required Sections for a complete list of significant and unavoidable impacts), that information will be provided in the Statement of Overriding Considerations and will be acted on by the decision makers with each lead agency to determine if the project should still be approved or not.
1652	20	Rural County Representatives of California agrees with the report recently prepared by ARCADIS (ARCADIS Report) for the Delta Stewardship Council (DSC) that states "The presentation of conservation measures 2-22 at the programmatic level contributes to uncertainty in benefits and impacts", "More detailed planning and design of habitat restoration measures is needed to reduce uncertainties in the plan" and that the "...specific location and design details of restored areas with the Restoration Opportunity Areas are critical to determination of the ability of these actions to support the ecosystem goals of Water Code 85302(e)." The ARCADIS Report can be accessed at: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Item_9_Attach_1_10.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Item_9_Attach_1_10.pdf</a>	See Master Response 2.  Any comments submitted by the DSC related to the report in the comment, please refer to the index of comments for specific responses.
1652	21	Chapter 5. Water Supply:  Rural County Representatives of California has significant concerns relating to the potential impacts of the BDCP on the water supply of the Delta counties and areas upstream of the Delta.  As noted in the ARCADIS Report, "Although the BDCP improves water supply reliability for contractors downstream of the Delta, it does not improve reliability for in-Delta users."	Operations of the conveyance facilities are not expected to result in a substantial decrease or increase in Delta surface water levels. See Appendix 5A, Section C, CALSIM II and DSM2 Modeling Results, EIR/EIS and RDEIR/SDEIS, for more information. Section C reports changes in the monthly averaged daily minimum elevation of the Sacramento River at Freeport (see Section C tables). Results for each alternative are presented by month, probability of exceedance, and by water year type. Results are also presented in comparison to Existing Conditions and the No Action Alternative. The modeling results for the future No Action Alternative indicate that water levels may continue to change as climate change occurs within the

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		<p>RCRC agrees with the ARCADIS Report conclusion that impacts on in-Delta water supplies should be better mitigated.</p> <p>CM 1 implementation modeling shows that there will be significant operational changes at upstream reservoirs, including Central Valley Project (CVP) owned and operated reservoirs. The BDCP must discuss in detail the nature of these changes and the impacts associated with those changes. Failure to do so prevents adequate consideration of the environmental impacts in the DEIR/EIS.</p> <p>As this drought year has shown, the approach to the operations of the CVP and the SWP needs to be modified to ensure a stable supply of water is maintained in the reservoirs that feed into the CVP and SWP in order to meet the needs of Northern California while also serving export interests and meeting requirements in the Delta. A commitment by state and federal agencies that operations will be modernized to accomplish this balance is vital.</p> <p>The ARCADIS Report notes in the Key Findings "While the BDCP can contribute to a more reliable water supply for south-of-Delta contractors, the combined diversions of the BDCP's tunnels and the re-operated south Delta diversions are insufficient to fully meet demand. Because Delta diversions will not fully meet existing and future demands, it will be necessary for Delta water users to promote statewide water conservation, diversify their local water supplies, and to improve water use efficiency."</p> <p>The DEIR/EIS does not consider future water demands of water users north of the Delta. This is a major flaw as population is expected to increase in a number of counties north of the Delta during the proposed 50-year permit term. (See California Department of Finance population projections July 1, 2010-2060 at: <a href="http://www.dof.ca.gov/research/demographic/reports/projections/P-1/">http://www.dof.ca.gov/research/demographic/reports/projections/P-1/</a>) Rural County Representatives of California believes that it is therefore reasonably foreseeable (changed circumstance) that water demand will increase north of the Delta as a result of this population growth.</p>	<p>Delta.</p> <p>Operation of the new north Delta facilities will be guided by permit requirements that are set by the SWRCB. Adaptive management and collaborative science will aid operators in managing the water operations in the presence of sensitive species. Appendix B of the RDEIR/SDEIS shows supplemental modeling results for the new alternatives. In particular 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 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>Operations of the SWP and CVP under the action alternatives would vary depending upon the water year type. The volume of water supplies for senior water rights holders, including those in the Delta, would not be affected by the action alternatives.</p> <p>The No Action Alternative and all alternatives were evaluated at 2030 conditions which include population growth projected by existing general plans as compared to the Existing Conditions. The additional population growth would increase water demands, including an increase of water demands in areas North of the Delta (primarily in El Dorado, Placer, and Sacramento counties) of 443,000 acre-feet per year of users of water rights water and CVP water supplies as compared to Existing Conditions, as described in Section 5.3.3.1 of Chapter 5, Water Supply, of the EIR/EIS. Section 30.1.3, Urban Land Use and Water Use by Hydrologic Region, of Chapter 30, Growth Inducement and Other Indirect Effects, of the EIR/EIS, describes long-term water demand in the hydrologic regions based on projections from the California Water Plan which includes assumptions that water conservation will be implemented by 2060 in accordance with State law.</p>
1652	22	<p>California water law specifically recognizes the prior right of communities in the areas of origin/counties of origin to water currently being exported when needed to adequately supply the beneficial needs of those areas (See Water Code Sections 10505, 10505.5, 11460, 11463, 11128, and 12200-12220). The ARCADIS Report comment noted the importance of the DEIR/EIS analyzing future water demands in the areas of origin and evaluating the BDCP's potential effects on the future water supply and water reliability of upstream water users. This key analysis must not be deferred as an indirect project impact. The BDCP must also clearly state that future BDCP implementation and CVP and SWP operations will not negatively impact upstream and in-Delta senior water rights and area-of-origin water rights.</p>	<p>Please see response to comment 1652-8 regarding water rights. For more information regarding changes in delta exports and area of origin please see Master Response 26.</p>
1652	23	<p>Chapter 6. Surface Water:</p>	<p>The CALSIM II assumptions for the EIR/EIS Alternatives and the No Action Alternative deliver the same amount of water to senior water rights holders and do not change SWP and CVP reservoir operational</p>

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		<p>The construction of the facilities proposed by the draft BDCP will change SWP and CVP operations, which in turn will affect flow in the Delta and areas upstream of the Delta. The DEIR/EIS appears to assume that the changed operations of the SWP and CVP will not impact the operation of facilities owned and operated by other water right holders, and that the surface waters of other water rights holders will also be unaffected. RCRC believes that this assumption is likely to be incorrect and that the DEIR/EIS should analyze this very real potential.</p>	<p>criteria, as described in Appendix 5A, Modeling Technical Appendix. Please see Master Response 30 for further discussion of modeling assumptions. Please see also response to comment 1652-8 regarding water rights. For more information regarding changes in delta exports and area of origin please see Master Response 26.</p>
1652	24	<p>Comments on the BDCP and DEIR/EIS submitted by the Central Valley Flood Protection Board (CVFPB) point out that BDCP documents should properly reference the CVFPB as the non-federal sponsor for any project proposed to modify a State Plan of Flood Control (SPFC) facility. Rural County Representatives of California supports the CVFPB recommendations that:</p> <p>Any proposed project that can affect a SPFC facility should be approved by the CVFPB either under its permitting authority or in conjunction with its duties as the non-federal sponsor for levee modification projects submitted to the U.S Army Corps of Engineers (USACE).</p> <p>Implementation of the BDCP should include CVFPB review and concurrence in BDCP project plans.</p> <p>CVFPB staff should be part of any design review or peer review panel that may be assembled to discuss design criteria for conveyance facilities.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate responses to the CVFPB comments.</p> <p>As described under Impact SW-7 in Chapter 6, Surface Water, in the Draft EIR/EIS and the BDCP/California WaterFix Partially Recirculated Draft EIR/Supplemental Draft 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. 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> <p>Construction within the waterways would be required to not increase erosion or sedimentation in accordance with Stormwater Pollution Prevention Permit and requirements of the USACE, Central Valley Regional Water Quality Control Board, and Central Valley Flood Protection Board, as described in Chapter 6, Surface Water.</p>
1652	25	<p>While Chapter 6 of the DEIR/EIS discusses how the BDCP and the Alternatives may affect levees, and levees are discussed in other parts of the DEIR/EIS, Rural County Representatives of California believes that levees are of such importance that a chapter devoted to levees would greatly improve the DEIR/EIS.</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. Additionally, if the proposed project makes any modification to a levee that is part of the federal flood control system, the proposed lead agencies must secure approval from USACE through the Section 408 permitting process. See Appendix 6A regarding flood control in the Delta. For additional information regarding seismic issues, please see Master Response 16</p>
1652	26	<p>Chapter 7. Groundwater:</p> <p>The Delta counties are rightly concerned about the impact of construction activities on both municipal and agricultural water supplies. Rural County Representatives of California does not believe that a proposed impact of ten years or more should be characterized as "temporary".</p> <p>The DEIR/EIS described groundwater impacts are primarily due to construction dewatering activities. The DEIR/EIS notes that some well yields may be affected substantially and shallow agricultural or domestic wells "may not be able to support existing land uses" while dewatering is occurring. The effects are likely to vary depending on aquifer and location.</p>	<p>As described in Chapter 6, Surface Water, and Chapter 14, Agricultural Resources, in the Draft EIR/EIS and the BDCP/California WaterFix Partially Recirculated Draft EIR/Supplemental Draft EIS, during the design phase, DWR would conduct site-specific groundwater analysis to determine the extent of the dewatering activities along the conveyance route, including locations of discharge of the dewatering water. Chemical analyses would be conducted to determine treatment requirements for discharge of dewatering water. As described in Appendix 3B, Environmental Commitments, a Storm Water Pollution Prevention Plan application would be prepared during the design phase for approval by the State Water Resources Control Board. This permit would specify the water quality criteria for each receiving water body.</p> <p>DWR would consult with local reclamation districts to ensure that construction activities would not conflict with reclamation district flood protection measures. The effects on agricultural activities are addressed</p>

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		<p>RCRC believes that the potential impacts should be more specifically described on that basis.</p> <p>The development of mitigation measures for the loss of municipal and agricultural water supplies should be jointly developed with the impacted individuals and entities to ensure all issues are addressed.</p>	<p>under Agricultural Impact AG-2 (see Chapter 14, Agricultural Resources, in the Draft 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. However, these impacts could be significant and unavoidable and adverse to agricultural resources.</p>
1652	27	<p>Chapter 8. Water Quality:</p> <p>The DEIR/EIS states that water quality conditions will be degraded in the western and central Delta. This is inconsistent with the Delta Reform Act which calls for the improvement of water quality and the protection of beneficial uses (Water Code Section 85302 (d)(3)).</p> <p>Rural County Representatives of California (RCRC) notes that the ARCADIS Report lists as a Key Concern that "Water quality impacts are compared to State Water Resources Control Board water quality objectives with little regard to specific water quality needs of aquatic species of concern" and "Water quality impacts to in-Delta users from a variety of causes (e.g., impacts from restoration measures, altered mixing, and new constituents of concern) are not adequately mitigated."</p> <p>RCRC concurs with the ARCADIS Report recommendation that specific, feasible and enforceable mitigation measures are merited for significant impacts to water quality.</p>	<p>Water Quality Impacts and mitigation are detailed in Chapter 8. See Master Response 14.</p> <p>Please refer to Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, for information on compliance of California WaterFix with the Delta Reform Act, as well as Master Response 31.</p> <p>Alternative 4A would have substantially less effect on Delta water quality such that significant impacts were only identified for electrical conductivity (EC) at Emmaton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based. A detailed discussion of the mitigation that will be used to offset water quality impacts is included on the EIR/EIS Mitigation Monitoring and Reporting Plan. This plan provides detail on each measure including information on the action, parties responsible for implementing the mitigation measure, responsible parties, location, timing, monitoring, and reporting requirements.</p>
1652	28	<p>Chapter 11. Fish and Aquatic Resources:</p> <p>Habitat restoration is being heavily relied upon to compensate for a variety of negative impacts related to CM 1, but it must be acknowledged that any positive benefits of habitat restoration are highly uncertain. Construction and flow operations will have immediate impacts, while habitat restoration benefits, if any, may not become evident for a decade or more.</p>	<p>The effects of changes in flow would not occur until the North Delta Diversion is operational. The preferred alternative, 4A, includes flow criteria to benefit species such as Delta smelt (i.e. Fall X2) and to minimize and avoid impacts to longfin smelt (i.e. spring outflow requirements). As such, the project relies primarily on a set of criteria and real-time operations intended to avoid and minimize effects. See also Master Response 5 and Operational Criteria Master Response 28. The project will include adaptive management. With regards to adaptive management, please see Master Response 33. For information and consideration related to habitat restoration, see Appendix 3G.</p>
1652	29	<p>Chapter 13. Land Use:</p> <p>Delta counties are concerned about the impact the BDCP will have on existing Delta communities. This impact goes beyond the creation of the physical structures (CM 1) as proposed, and includes the proposed habitat creation and restoration measures. The BDCP would permanently alter the rural/agricultural land use pattern for which the Delta is known, yet there is no analysis of the potential impact of the BDCP on existing city and county General Plans and potential constraints on future local government projects and activities.</p>	<p>Please also refer to Master Response 11 regarding consistency with local plans and Master Response 24, Delta as a Place.</p>
1652	30	<p>CM 1 construction would have numerous negative impacts on Delta residents and visitors from construction activities including construction noise, traffic, road relocations, effects on utilities, and an increase in safety hazards and visual impacts, among other impacts noted elsewhere.</p>	<p>For more information regarding Conservation Measure 1 as a CM please see Master Response 5.</p> <p>For details regarding cumulative impacts see the Final EIR/S under each resource chapter of interest, also see Master Response 9 and construction assumptions in the Final EIR/EIS, Appendix 3C.</p>

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1652	31	Rural County Representatives of California agrees with the comments of the Delta Protection Commission (DPC) that the draft BDCP overwhelmingly focuses on one of the co-equal goals (a more reliable water supply) with only a distant secondary focus on the other co-equal goal (protect, restore and enhance the Delta ecosystem) and that the draft BDCP manifests an almost complete disregard for "the protection and enhancement of the unique cultural, recreational, natural resource and agricultural values of the Delta as an evolving place" as required by the Delta Reform Act (Water Code Section 85020).	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the DPC letter.  Also refer to Master Response 24, Delta as a Place.
1652	32	The ARCADIS Report states, "The BDCP does not adequately address its contribution (conveyance and ecosystem restoration) to cumulative impacts to agriculture, recreation, community character, and historical and archaeological resources in the Delta." Rural County Representatives of California agrees with the ARCADIS Report recommendation that "the BDCP should more thoroughly identify impacts to agriculture, recreation, community character, and historical and archaeological resources in the Delta, and offer specific, feasible, and enforceable mitigation measures."	As described in the response to comment 1652-19, resource areas are addressed separately in the EIR/EIS under sections for each of the new project Alternatives, including surface water, groundwater, water quality, fish and aquatic resources, terrestrial biological resources, agricultural resources, air quality and greenhouse gases, and others. The Cumulative Impact Analyses that was written for the 2013 Public Draft EIR/EIS has been revised to include the impacts associated with the new proposed project alternatives and also updates past analyses. Environmental Commitments are to minimize effects to the Delta and its inhabitants and mitigate for loss of habitat to the ecosystem and its species. For more information please see the 2015 RDEIR/SDEIS, Section 5 Revisions to Cumulative Impact Analyses, Appendix A Chapter 11 Fish and Aquatic Resources, Appendix A Chapter 12 Terrestrial Biological Resources, and Appendix 3B Environmental Commitments, AMMs, and CMs of the RDEIR/SDEIS. For additional information regarding cumulative impacts, please see Master Response 9.
1652	33	The Delta Protection Commission has suggested that for community and regional impacts the BDCP proponents could utilize the existing Delta Investment Fund established by the Delta Reform Act (Public Resources Code Section 29778.5) to advance regional economic sustainability and enhance Delta communities. Additionally, the DPC suggests that for individuals directly impacted by BDCP construction, there be established a simple claims process to address economic damages related to tunnel construction activity modeled after the British Petroleum Deepwater Horizon Disaster Victim Compensation Fund. The proposed "Delta Compensation Fund", funded by the BDCP proponents, would be administered by an impartial and independent third party. Rural County Representatives of California urges serious consideration of the DPC suggestions on mitigation.	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.  Chapter 16 of the EIR/EIS and RDEIR/SDEIS Appendix A (Socioeconomics) identifies the unique features of the Delta and describes the potential effects on Delta communities. Please see Chapter 15 for a discussion on impacts to recreation. Impacts to agriculture are identified and discussed in Chapter 14; the lead agencies have proposed measures that would support and protect agricultural production in the Delta by securing agricultural easements and/or by seeking opportunities to protect and enhance agriculture with a focus on maintaining economic activity on agricultural lands. Please see Master Response 18 for more information on agricultural mitigation and Master Response 24 for information on the Delta As a Place. Please refer to Master Response 31, and Appendices 3I and 3J of the Final EIR/EIS for discussion of consistency with the Delta Reform Act.
1652	34	Chapter 14. Agricultural Resources:  The Delta Independent Science Board noted in its review of Chapter 14 that the analysis in the DEIR/EIS is "mostly an acreage analysis, and omits most relevant economic analysis." The DIS Board goes on to state that "Quite a bit of economic analysis capability is available for agricultural land and economic issues in the Delta, Yolo Bypass, and the Central Valley very little of it has been used in the DEIR/EIS" and "Even though specific locations for habitat restoration have not been specified, it is still possible to come up with a reasonable range of likely agricultural and agricultural economic impacts." Given that farming drives the economic engine of the Delta, Rural County Representatives of California advocates that the analysis of CM 2 and other CMs that will impact agriculture not be deferred for consideration to some uncertain time in the future.	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546. Effects to individual crop types were calculated and are presented in Appendix 14A, Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction. However, their evaluation is incorporated in Chapter 16, Socioeconomics (Impacts ECON-6, ECON-12, and ECON-18), as changes in crop selection and crop yield are considered primarily economic effects, rather than changes to the physical environment. Please see Master Response 18 for further discussion of proposed project agricultural impact analysis.  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. Therefore, Conservation Measures 2, 5, 13, 20, and 21 would not be implemented as part of this alternative, and thus the magnitude of effects under Alternative 4A would likely be substantially smaller than those associated with Alternative 4. The lead agencies are currently undergoing ESA Section 7 and CESA Section 2081(b) consultation with the fish and wildlife agencies.
1652	35	The draft BDCP proposed mitigation to reduce the effects of BDCP implementation on agricultural resources in the Delta is inadequate. A three part mitigation measure	The comment summarizes text in the draft EIR/EIS and does not raise a comment for a response. However,

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		<p>(Mitigation Measure AB-1) is proposed as follows:</p> <ul style="list-style-type: none"> <li>* 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;</li> <li>* BDCP proponents to comply with applicable provisions of Government Code Sections 51290-51295 with regard to acquiring land subject to Williamson Act contracts; and,</li> <li>* Consideration of an Optional Agricultural Land Stewardship Approach or Conventional Mitigation Approach.</li> </ul>	<p>please see Master Response 18 for a summary of the analysis of agriculture impacts.</p>
1652	36	<p>The estimated land required for the BDCP with a breakdown of the estimated Important Farmland follows. The DEIR/EIS Important Farmland includes Agricultural Land, as defined in CEQA, plus Farmland of Local Importance. It does not include grazing land as Important Farmland.</p> <p>Estimated Land Required for BDCP:</p> <p>CM 1: 5,000 acres (permanent); 1,300 acres (temporary)</p> <p>CM 2: 17,000 acres (periodic inundation) (Yolo Bypass)</p> <p>CM 3: 70,000 acres (permanent restrictions)</p> <p>CM 4-CM 10: 83,800 acres (permanent)</p> <p>Estimated Important Farmland Required for BDCP:</p> <p>CM 1: 5,000 acres (permanent); 1,300 acres (temporary)</p> <p>CM 2: 17,000 acres (periodic inundation) (Yolo Bypass)</p> <p>CM 3: 43,200 acres (permanent restrictions)</p> <p>CM 4-CM 10: 40,000 acres (permanent conversion)</p> <p>In addition to the conversion of agricultural land to habitat, other impacts on agricultural activities in the Delta include: disruption of necessary infrastructure such as irrigation and drainage facilities, as well as access roads and electrical facilities; changes in groundwater elevation; changes in water quality; reduction in agricultural employment; and, a decrease in total agricultural production in the Delta.</p> <p>Identified shortcomings in the DEIR/EIS include the fact that the DEIR/EIS does not propose agricultural mitigation measures for temporary and short-term effects or for periodic effects. As noted elsewhere, impacts that may last 10 or more years are not "temporary". This deficiency must be remedied.</p>	<p>Please see response to comment 1652-34 for discussion of agricultural impacts. Please see also Master Response 18 and Chapter 14 of the final EIR/EIS.</p> <p>With regards to the classification of an impact as temporary or permanent, each resource chapter in the Final EIR/EIS provides the description. For the analysis related to agriculture, please see Chapter 14 of the Final EIR/EIS.</p>
1652	37	<p>As part of the proposed mitigation strategy, BDCP proponents propose to work with counties to expand Williamson Act authorized uses to include open spaces and habitat lands. State Williamson Act subvention payments to local governments were suspended in the 2009-10 State Budget and Williamson Act counties are now bearing 100% of the financial burden of Williamson Act and Farmland Security Act contracts. Many of the</p>	<p>Although both the construction of new physical facilities in the Delta and the restoration of habitat will lead to the conversion of some amounts of agricultural land in the Delta, effects of the BDCP will be subject to aggressive mitigation efforts. Land that is not directly affected by construction or habitat restoration should remain productive. Please see Master Response 18 for more information regarding agricultural impact mitigation. Please see Chapter 16, Socioeconomics, of the EIR/EIS, for discussion of potential effects on</p>

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		<p>impacted counties are struggling financially and no longer accept new contracts, while others are considering cancelling existing contracts. What, if anything, is being proposed to defray Delta county costs should they agree to the proposed expansion of Williamson Act authorized uses?</p> <p>The DEIR/EIS concludes that the environmental impacts on agricultural resources will remain significant and unavoidable because:</p> <ul style="list-style-type: none"> <li>* The BDCP would require the conversion of substantial amounts of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones;</li> <li>* Conversion or preservation by means of acquiring agricultural land conservation interests may not avoid a net loss of Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones; and,</li> <li>* The proposed Optional Agricultural Land Stewardship Approach does not focus principally on physical effects.</li> </ul> <p>For additional details specific to Delta agriculture please see A Guide to BDCP and Delta Agriculture Impacts and Mitigation as described in the December 2013 Draft BDCP EIR/EIS. The June 2014 Guide was prepared by the DWR Agricultural Land Stewardship Workgroup. The Guide can be accessed at:  <a href="https://agriculturalallandstewardship.water.ca.gov/documents/18/2b68621a-28eb-4109-a7fa-f94f81c42ad7;jsessionid=C53FA6BC66C4288CE45D3AC3420D46D5">https://agriculturalallandstewardship.water.ca.gov/documents/18/2b68621a-28eb-4109-a7fa-f94f81c42ad7;jsessionid=C53FA6BC66C4288CE45D3AC3420D46D5</a></p> <p>Given the "significant and unavoidable" conclusion reached, Rural County Representatives of California believes that more must be done as it relates to mitigation for impacts to agriculture and the Delta economy. The DEIR/EIS should analyze and disclose all of the adverse impacts on agriculture in the Delta, including whether agricultural operations in all or portions of the Delta will remain viable upon the completion of CMs 1-22. This includes both the viability of agricultural production as well as the needed infrastructure i.e., the businesses that supply growers with all the supplies and services necessary to run an agricultural operation.</p>	<p>agricultural production and employment in the Delta. See also Master Response 24 for information on the Delta As a Place.</p> <p>Please refer to Chapter 16 of the Final EIR/EIS for the socio-economic analysis. Also see Master Response 24, Delta as a Place, Master Response 18, Agricultural impacts.</p>
1652	38	<p>Rural County Representatives of California (RCRC) believes that the DEIR/EIS should be revised for the sake of clarity. RCRC agrees with Yolo County that a county-by-county summary of anticipated project features and environmental effects would be appropriate given the complexity of the BDCP.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.</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 WaterFix, 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> <p>In addition to the materials provided, DWR met with counties, interested groups, provided workshops,</p>

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1652	39	<p>Chapter 1. Introduction:</p> <p>The BDCP makes various statements that are, on closer examination, misleading or inaccurate.</p> <p>For example, in Chapter 1 on page 1-21, lines 21-25, the BDCP states "Areas potentially affected by the implementation of the BDCP located outside of the Plan Area, have been included in the analysis of effects to ensure that all of the potential effects within the action area (all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action), as defined by Section 7 of the ESA, have been adequately addressed."</p> <p>The DEIR/EIS, contrary to federal and state law, fails to follow through and assess the direct and indirect impacts from the BDCP on areas outside of the Delta. Please see RCRC's comments elsewhere on this specific subject as it relates to areas upstream of the Delta.</p>	<p>presentations. Please review Chapter 32 of the Final EIR/EIS.</p> <p>The project area for the actions evaluated in this EIR/EIS is larger than the proposed project Plan Area because some of the effects of implementing the project would extend beyond the boundaries of this region. The project area consists of the following three geographic regions (boundaries can be seen in Figure 1-4).</p> <ol style="list-style-type: none"> <li>1. Upstream of the Delta region.</li> <li>2. Delta Region (referred to hereinafter as the Plan Area, and distinct from the larger Delta region considered for some areas, which consists generally of the statutory Delta, the Yolo Bypass north of the statutory Delta, and Suisun Marsh, as well as the Areas of Additional Analysis, which apply to several EIR/EIS alternatives).</li> <li>3. SWP and CVP Export Service Areas.</li> </ol> <p>Study areas were specifically defined for each resource (refer to Chapters 5-30 for definitions of the study area particular to each resource topic).</p> <p>As described in the response to comment 1652-19, resource areas are addressed separately in the EIR/EIS under sections for each of the new project Alternatives, including surface water, groundwater, water quality, fish and aquatic resources, terrestrial biological resources, agricultural resources, air quality and greenhouse gases, and others.</p>
1652	40	<p>Chapter 3. Conservation Strategy:</p> <p>Although the draft BDCP and the DEIR/EIS both place a strong reliance on adaptive management, discussion on how adaptive management and the Adaptive Management Team (AMT) will work is insufficient.</p> <p>Additional details must include: the qualifications of the AMT; how the AMT is to be funded; how the AMT and Implementation Office will coordinate; how the AMT is to conduct their responsibilities; and the AMT responsibility, if any, for compliance monitoring of CM1.</p> <p>The specifics relating to the Supplemental Adaptive Management Fund also require additional detail. For example, what happens if the financial limit is exceeded and the funds are insufficient to achieve the conditions of the permit?</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 significant environmental effects; instead, the AMMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A. Please see also Master Response 33 for additional discussion of adaptive management and monitoring.</p>
1652	41	<p>As part of the adaptive management process, the [Conservation Measure] CMs are subject to being "modified, replaced, or supplemented" via agreement between the BDCP proponents and the state and federal agencies. It does not appear that there is an opportunity for public involvement in this decision-making process. RCRC [Rural County Representatives of California] advocates that public input be incorporated into the adaptive management process to remedy this oversight.</p> <p>Considering the uncertainties noted elsewhere, and the importance of adaptive management to successful program implementation, the adaptive management process (e.g., organization, funding, monitoring and analysis) must be discussed in detail in the BDCP.</p>	<p>See response to comment 1652-40.</p>
1652	42	<p>Many of the Conservation Measures, including CM 1, will occur in the vicinity of the facilities of the State Plan of Flood Control, including modifications to the Sacramento River Flood Control Project (SRFCP). These levees and related structures provide flood protection to</p>	<p>Please see Appendix 6A, BDCP/California WaterFix Coordination with Flood Management Requirements, Section 7.1.2, FEIR/EIS, for a discussion on consistency with USACE, CVFPB, and DWR flood standards and regulations. Also, see Sections 7.2.1.2 and 7.4 for discussion on DWR levee maintenance responsibilities for</p>

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		<p>over 2 million people in approximately 50 communities. The Central Valley Flood Protection Plan (CVFPP), adopted in mid-2012, is overseen by the CVFPB.</p> <p>The BDCP fails to analyze its consistency with the CVFPP, one of the flaws resulting from the application of the outdated baseline as noted earlier. Rural County Representatives of California supports the following recommendations of the CVFPB:</p> <p>All CMs with the potential to affect the SPFC should be analyzed for consistency with the state system-wide investment approach outlined in the 2010 CVFPP and in accord with any applicable guidelines, standards or criteria developed as part of the CVFPP in effect at the time to BDCP implementation.</p> <p>All CMs in the BDCP with the potential to impact the operations and maintenance of the SPFC, including habitat restoration projects and multi-benefit projects that increase or enhance existing habitat in or around floodways and system levees, should be analyzed for impacts to the operations and maintenance of the SPFC.</p> <p>State and local maintaining agencies should be consulted prior to implementing CMs in the floodways and system levees.</p>	<p>levees modified by the proposed project and impacts of restoration-related environmental commitments and conservation measures, respectively.</p> <p>Appendix 6A also includes a discussion on levees modified by construction of the California WaterFix (CWF), including responsibilities of the project proponents.</p> <p>Before and/or during construction of the CWF water conveyance facilities, project proponents will explore opportunities with local reclamation districts and the 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 operations of the CWF. Please see the final EIR/EIS, Appendix 6A.</p>
1652	43	The BDCP should identify ways to integrate long-term management of the system that serves both public safety and environmental needs.	See response to comment 1652-40 for discussion of adaptive management and monitoring. For the impact analysis related to public safety, please refer to the Final EIR/EIS, Chapter 20- 24- and 24.
1652	44	All projects proposed within the Yolo Bypass should comply with Title 23, Section 136 Supplemental Standards for Yolo Bypass and Sutter Bypass. The supplemental standards protect the flood control functions, safeguard existing agricultural land use, and control the development of wetlands.	<p>Any impacts relating to applicable land use designations, goals, and policies are discussed under Impact LU-1.</p> <p>For up-to-date information regarding the development of the Yolo Bypass restoration/improvements please refer to its program site:</p> <p><a href="http://www.water.ca.gov/environmentalservices/yolo_bypass_salmonid.cfm">http://www.water.ca.gov/environmentalservices/yolo_bypass_salmonid.cfm</a></p>
1652	45	The proposed modifications to the Yolo Bypass should avoid reducing conveyance capacity and the potential to divert flows upstream and through the Sacramento River. These potential flow increases into the Sacramento River may increase flood risks to areas protected by levees including the City of Sacramento downstream and areas adjacent to the American River.	It is recognized that permits would be required for increased frequency and extent of inundation of the Yolo Bypass, as described in Chapter 1, Introduction, of the Public EIR/EIS. Permits would be required from USFWS, NMFS, USACE, SWRCB, and other State and local agencies. With regards to flood risks, planning please refer to Appendix 6A in the Final EIR/EIS.
1652	46	<p>Whenever haul routes or construction zones include travel over levee roads, the BDCP should implement mitigation measures. They should include pre-project inspections and levee geometry surveys including the elevations of levee crests and waterside and landside hinge points, and continuous monitoring during construction for evidence of levee deformation.</p> <p>Traffic control measures should include reducing truck speed limits and limiting the number of trucks on the levee during flood seasons.</p> <p>Levee deformation (either vertical or lateral) should be mitigated and be restored in accordance with project levee designs pursuant to Central Valley Flood Protection Plan and U.S. Army Corps of Engineers.</p>	Please see Appendix 6A in the Final EIR/EIS, Coordination with Flood Management Requirements, for potential impacts to levee integrity as a result of increased construction traffic. Also, see Chapter 19 (Transportation) for potential impacts to levee road surfaces, including mitigation measures to reduce these impacts. See also response to comment 1652-25 for discussion of levee stability.
1652	47	<p>Chapter 5. Effects Analysis:</p> <p>The hydrologic model used to support the BDCP and the effects analysis is not the most</p>	All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest as here, the ISB. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or

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		<p>current hydrologic model. The outdated hydrologic model used was known to have flaws in its assumptions and inputs, issues which have since been corrected. As the issue of Delta outflow, exports, etc. is fundamental to analyzing the BDCP, the updated hydrologic model must be utilized to ensure the best available and most accurate tools are used to evaluate the BDCPs impacts.</p> <p>In March 2014 the Delta Science Program released the final report on Phase 3 of an Independent Panel's (Panel) review of Chapter 5, dealing with the analysis of potential ecosystem effects of BDCP actions. The report can be accessed at: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Science-Independent-Review-Panel-Report-PHASE-3-FINAL-SUBMISSION-03132014_0.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Delta-Science-Independent-Review-Panel-Report-PHASE-3-FINAL-SUBMISSION-03132014_0.pdf</a></p> <p>The Delta Independent Science Board concurred with the findings of the Panel, and specifically mentioned several important areas of agreement as follows:</p> <p>The Effects Analysis:</p> <ul style="list-style-type: none"> <li>* Does not adequately convey the sources and effects of uncertainties.</li> <li>* Does not include clear statements of critical assumptions underlying many of the proposed actions and their consequences.</li> <li>* Characterizes adaptive management as the default solution to unresolved issues and uncertainties, without a clear description of how adaptive management will actually be implemented or how it is tied to monitoring.</li> <li>* Fails to recognize that habitat restoration is a lengthy process with uncertain results and timing.</li> <li>* Presents modeling results without thorough sensitivity analyses or consideration of a range of possible scenarios.</li> <li>* Partitions the Delta into separate pieces (i.e. covered species) without also considering linkages and the broader spatial and temporal dynamics of the Delta as a system.</li> <li>* Uses a flawed analysis to determine net effects because it uses professional judgment to assess net effects and is therefore in reality an unacknowledged "working hypothesis".</li> </ul> <p>As stated previously, these identified flaws get to the heart of Rural County Representatives of California's primary concern -- the 50-year permit term, the guarantees proposed to be afforded to the beneficiaries of CM 1, and the lack of assurances noted previously for areas upstream of the Delta and in-Delta.</p>	<p>RECIRC 2546. For additional information regarding Adaptive Management please see Master Response 33, Also see the following references to text regarding Adaptive management:</p> <p>BA: Chapter 3, Appendix 3.H for the Adaptive Management Framework (AMF)</p> <p>2081(b): Chapter 6, Appendix 6A for AMF</p> <p>BDCP: Chapter 3</p> <p>PDEIR/EIS: Chapter 3</p> <p>RDEIR/SDEIS: Section 4</p> <p>FEIR/EIS: Chapter 3</p> <p>Please refer to the response above related to permit terms for the preferred project.</p>
1652	48	<p>Rural County Representatives of California notes that the Effects Analysis finds that operation of CM 1 will reduce winter-run and spring-run Chinook salmon survival by 2.9% and 4% respectively. The California Advisory Committee on Salmon and Steelhead Trout, in a February 26, 2014 letter to the California Department Fish and Wildlife, recommended that Director Bonham deny issuance of an incidental take permit for the BDCP's Alternative 4 as a Natural Communities Conservation Plan (NCCP) stating that "The BDCP does not meet the requirements of Fish and Game Code 2820 for an NCCP and cannot legally be approved because it will contribute to the further decline of Sacramento River Winter Run and Spring</p>	<p>Please refer to the Final EIR/EIS Chapter 11 for the most up-to-date analysis of salmon and steelhead. Also see the Master Response 17 for Biological Resources,</p>

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		<p>Run Chinook salmon."</p> <p>RCRC also notes that the ARCADIS Report expresses as a Key Concern that "The effects analysis likely overstates the benefits of tidal marsh restoration to Delta and longfin smelt."</p>	
1652	49	<p>Chapter 6. Plan Implementation:</p> <p>The draft BDCP implementation schedule lacks sufficient detail to determine if the schedule is realistic. Table 6-2 provides a very aggressive implementation schedule for Conservation Measure 3 (24,396 acres), CM 4 (19,150 acres), CM 9 (98 acres) and CM 10 (900 acres) during the near-term. However, the discussion of activities necessary to implement the conservation and restoration measures is vague and implementation details are lacking for planning and design of activities for each CM. It will likely take considerable time to properly plan, design, permit, and construct these various habitat types. At a minimum the draft BDCP and DEIR/EIS should include specific information on the location of identified parcels and conceptual design/planting plans for these near-term lands as well as an identified source of funding. Chapter 6 should also include a discussion of BDCP coordination with local governments on land and easement acquisition, as well as how the BDCP will be coordinated with the various Delta Counties HCPs/NCCPs.</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.</p> <p>For additional detail on issues being raised with regard to the BDCP please see Master Response 5. Specific designs and site plans are not required at this point to secure ESA and NCCP Act permits from the state and federal wildlife agencies. However, DWR has been working with the state and federal wildlife agencies to better define the planned restoration in the early time periods of implementation. The Lead Agencies acknowledges that additional CEQA or NEPA compliance may be necessary to secure authorizations for some tidal wetland restoration projects. Similarly, Clean Water Act Section 404 and 401 authorizations would also be forthcoming. These later permitting steps would be based on more specific restoration designed developed during plan implementation. Please also see Master Response 2 for a discussion of the project-level and program-level analysis in the EIR/EIS. For discussion of the timing of permitting see Master Response 45.</p>
1652	50	<p>The draft BDCP recognizes modifications to the BDCP will be needed, and it defines "minor modifications" and "formal amendments" to include all aspects of BDCP implementation. The draft BDCP states that "If any Authorized Entity disagrees with the proposed minor modification or revision for any reason, the minor modification or revision will not be incorporated into the BDCP". Formal amendments "will be subject to review and approval by the Implementation Office and the Authorized Entities."</p> <p>It is an issue of concern that the draft BDCP expressly provides that the Authorized Entity Group may veto any revisions or modifications to the BDCP. It is the regulatory agencies fundamental responsibility to ensure that the BDCP (if approved) will achieve its goals during the term of the permit. Instead, the proposed BDCP modification process would constrain the ability of the fish and wildlife agencies' to respond to inadequacies in the biological objectives, conservation measures, and other adaptive management strategies. Minor modifications and formal amendments of the BDCP relating to changes to biological objectives, conservation measures, and adaptive management strategies should be subject to review and approval by the Permit Oversight Group with no veto authority given to individual Authorized Entities or the Authorized Entity Group.</p>	<p>The California Natural Community Conservation Planning Act (NCCPA) requires that participants in a natural community conservation plan and the California Department of Fish and Wildlife enter into an implementing agreement (IA). Although not required by the federal Endangered Species Act (ESA), IAs are routinely executed as part of the ESA Section 10 permitting process for habitat conservation plans. An IA generally describes the roles and responsibilities of the Permittees and the fish and wildlife agencies regarding the implementation of a conservation plan such as the BDCP. IAs also establish the commitments of the parties concerning a range of matters, including conditions for species coverage, implementation of conservation measures and the adaptive management and monitoring program; plan governance; funding; regulatory assurances and protections; compliance requirements and remedies.</p> <p>On May 30, 2014 the U.S. Department of the Interior and the California Natural Resources Agency released the "Draft Implementing Agreement for the Bay Delta Conservation Plan (IA)" for a 60-day public review and comment period consistent with state and federal requirements. The Draft Implementing Agreement was posted to the website and available in hard copy at the NFMS and DWR document repositories.</p> <p>The draft IA is subject to modification and revision, and will not be finalized until the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) processes have been completed. Public comments received on the draft IA will help inform changes that may be made to the agreement prior to execution of a final agreement.</p> <p>The BDCP draft IA defines the obligations of the Department of Water Resources, the participating public water agencies, the state and federal fish and wildlife agencies, State of California, and the United States regarding the implementation of the Plan. Many key elements of the draft BDCP are incorporated by reference, such as the conservation strategy, governance structure, implementation schedule, and public funding to be made available by state and federal governments. The draft IA also includes new and supplemental information, including the relationship of the BDCP to future regulatory processes; regulatory assurances that are anticipated to be provided to the Department of Water Resources and the public water agencies; remedies and procedures in the event of a funding shortfall or a failure to comply with the terms</p>

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			<p>of the Agreement, the Plan or the associated Permits.</p> <p>The proposed project is costly, but proponents have assessed the benefits as described in the funding sources. Notably, the water contractors benefitting from the proposed project and their constituents will bear all costs associated with constructing new conveyance facilities and mitigating for the impacts of those facilities. Expenditures of public money from other sources would be limited to restoration activities beyond those needed to mitigate the impacts of facility construction. 2013 Public Draft Chapter 8, which deals with cost issues, and cost-benefit analysis information are available on the BDCP website. Please see Master response 5 for more information on project costs and funding.</p> <p>See the final EIR/EIS Chapter 31 and Master Responses 22 and 33 regarding proposed mitigation and project operations, adaptive management respectively.</p>
1652	51	<p>The California Legislative Analyst's Office (LAO) noted in its August 2013 report entitled "Governance and Financing of the Bay Delta Conservation Plan" that the draft BDCP appears to give significant authority over certain aspects of BDCP to water supply agencies, while the authority of fish and wildlife agencies is less clear. This raised the question for the LAO as to the extent to which BDCP will balance the co-equal goals.</p> <p>The veto authority provided to the Authorized Entities/Authorized Entity Group appears to violate the California Delta Reform Act which states in part that the fisheries agencies shall "ensure that applicable biological performance measures are achieved in a timely manner with respect to water system operations." (Water Code Sections 85320-85322)</p>	<p>Please see Master Response 5 regarding the BDCP's governance structure and implementation, as well as Master Response 31 related to the proposed project compliance with the Delta Reform Act. See also response to comment 1652-50.</p>
1652	52	<p>The draft BDCP also makes it difficult for the state and federal agencies to terminate the incidental take permits and to rescind the BDCP if they determine that the biological objectives, conservation measures, and adaptive management changes do not achieve their primary goal. The fish and wildlife agencies are required by the draft BDCP to follow a variety of procedures and to meet certain standards. In other words, once the incidental take permits are issued the burden of proof is placed on the fishery agencies to conduct scientific research to support changes in BDCP or suspension or revocation of its permits. An additional hurdle is the requirement that any decision to revoke one or both of the federal permits would require the written signature of the Secretary of the Interior or the Secretary of Commerce, depending on the permit in question, thus removing the revocation decision from the agencies themselves.</p>	<p>Please refer to response 1652-1. For issues raised regarding the BDCP and governance issues please refer to the Master Response 5 and for the preferred project and adaptive management, please review the Final EIR/EIS, Chapter 11 and Master Response 33.</p>
1652	53	<p>The draft BDCP proposes to create two types of regulatory assurances. First, it states that future Biological Opinions shall be consistent with the terms and conditions of the BDCP, and second it offers "no surprises" for deviations between the Biological Opinions and the BDCP and for future changes to the BDCP itself. The BDCP states:</p> <p>"Under ESA regulations, if unforeseen circumstances arise during the life of the BDCP, USFWS and/or NMFS may not require the commitment of additional land or financial compensation, or additional restrictions on the use of land, water, or other natural resources other than those agreed to in the plan, unless the Authorized Entities consent."</p> <p>"In the event of unforeseen circumstances, CDFW will not require additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources without the consent of the plan participants for a period of time specified in the Implementation Agreement."</p> <p>"Furthermore, USFWS and NMFS will not require additional land, water, or other natural</p>	<p>For detailed responses on the primary issues being raised with regard to the BDCP or Alternative 4 please see Master Response 5. For additional discussion of permitting please see Master Response 45. Please see also response to comment 1652-50 for discussion of the implementing agreement and response to comment 1652-8 for discussion of water rights and Master Response 32.</p> <p>New water storage facilities are not part of the proposed project. Please see the Final EIR/EIS, Chapter 1, Appendix 1B. For additional information regarding storage, please see Master Response 37.</p> <p>For issues raised related to the Water Quality analysis, please refer to Chapter 8 in the final EIR/EIS and Master Response 14.</p> <p>With regards to the "no injury", please refer to updated information related to the Change Petition pending before the SWRCB.</p> <p><a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/water_r">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/water_r</a></p>

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		<p>resources, or financial compensation or additional restrictions on the use of land, water, or other natural resources regarding the implementation of covered activities beyond the measures provided for under the BDCP, the Implementing Agreement, the incidental take permits, and the integrated BiOp."</p> <p>The purpose of the assurances provided to the Authorized Entities is to exempt them from any of the costs of complying with the federal and state Endangered Species Acts except as agreed to in the BDCP. The assurances proposed are of great concern to those who are not party to the BDCP given the multitude of uncertainties as noted elsewhere. For example, if additional flows are required due to species decline the only other source of water is that of other water right holders not party to the BDCP. However, requiring these other water right holders to forgo water to benefit a species in decline would in turn violate California water law i.e. the "no injury" rule (Water Code Section 1701.2) and the water right priority system which is one of the fundamental principles of California water law. There have been a number of legal decisions upholding the water right priority system including El Dorado Irrigation District v. State Water Resources Control Board (2006) and City of Barstow v. Mojave Water Agency (2000).</p> <p>The report of the independent panel of experts convened by Dr. Jeff Mount on behalf of American Rivers and The Nature Conservancy pointed out that if it was determined during the permit term it was necessary to construct additional upstream storage to protect salmon, for example, that this action would constitute an "unforeseen circumstance" because it falls outside the defined responses to climate change contained in the BDCP. As a consequence, state and federal taxpayers would have to bear all the costs of constructing and operating the new or expanded storage.</p> <p>The same report also notes that if funding were not available to construct new storage capacity, and the fisheries agencies made jeopardy findings and issued new Biological Opinions that altered reservoir release requirements in a manner that reduced water supply or export capacity, the state and federal governments would have to compensate the Authorized Entities for the value of the lost water or the cost of replacement supplies.</p> <p>The upstream of the Delta water right holders are rightly concerned that, in the absence of assurances for upstream water right holders, the state and federal agencies will look upstream for replacement water and/or funding to the detriment of upstream regional water sustainability as well as the region's economy and environment.</p> <p>While it is understandable that the BDCP proponents desire the 50-year "no surprises" guarantee, the federal and state agencies must carefully consider the public policy implications of the no surprises guarantee as currently written.</p> <p>Rural County Representatives of California supports incorporation of the recommendations of the independent panel into the BDCP as follows:</p> <ol style="list-style-type: none"> <li>1. If the parties to the BDCP do not intend for the "no surprises" guarantee to cover new construction and project operational changes outside the plan area, then the BDCP should say so explicitly.</li> <li>2. Delete the sentence which exempts the Authorized Entities from all costs associated with Section 7 consultations to project facilities and operations other than BDCP covered activities. This sentence states: "USFWS and NMFS will further ensure that the terms of any BiOp issued in connection with projects that are independent of the covered activities and</li> </ol>	<p>ight_petition.shtml</p> <p>Please see the proposed project Real Time Operations (Master Response 28), storage response above and Master Response 33 for proposed Adaptive Management for the proposed project.</p> <p>Related to unforeseen circumstances also see Master Response 23, Other Stressors, and the Final EIR/EIS, Appendix 6A.</p>

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		<p>associated federal actions do not create or result in any additional obligation, cost, or expense to the Authorized Entities."</p> <p>The full report titled Panel Review of the Draft Bay Delta Conservation Plan: Prepared for the Nature Conservancy and American Rivers can be accessed at: <a href="https://watershed.ucdavis.edu/files/biblio/FINAL-BDCP-REVIEW-for-TNC-and-AR-Sept-2013.pdf">https://watershed.ucdavis.edu/files/biblio/FINAL-BDCP-REVIEW-for-TNC-and-AR-Sept-2013.pdf</a>.</p>	
1652	54	<p>Chapter 7. Implementation Structure:</p> <p>The BDCP implementation structure is complex and convoluted.</p> <p>The primary authority for BDCP implementation is placed in the hands of a Program Manager with broad authority, among other things, for planning, oversight, and implementation of actions set out in the CMs. However, the Program Manager does not appear to have the full authority required to successfully implement the Implementation Office responsibilities. For example, the Implementation Office does not have contracting authority. The Implementing Agreement proposes instead that the Implementation Office (which will not be a legal entity) will administer the implementation of the BDCP under the existing authorities of the Authorized Entities.</p> <p>The Program Manager is subject to oversight by the Authorized Entity Group which is composed of the Director of the Department of Water Resources (DWR), the Regional Director of the U.S. Bureau of Reclamation (Bureau), a representative of the CVP contractors, and a representative of the SWP contractors. The Authorized Entity Group's authority over the Program Manager is also broad. The BDCP states that the Program Manager "will report to the Authorized Entity Group, and act in accordance with the group's direction."</p> <p>Regulatory authority is placed in the hands of a "Permit Oversight Group" which is composed of the Regional Director of the U.S. Fish and Wildlife Service (USFWS), the Regional Administrator of the National Marine Fisheries Service (NMFS), and the Director of the Department of Fish and Wildlife (DFW). The Permit Oversight Group has a significant role in implementing the conservation goals and adaptive management strategies of the BDCP.</p> <p>It is an issue of concern that the Authorized Entity Group is granted a significant level of decision-making authority. For example, the Authorized Entity Group, as opposed to the Permit Oversight Group, is granted veto authority over changes to the conservation measures, biological objectives, adaptive management strategies, and amendments to the BDCP. The Permit Oversight Group, composed of the regulatory agencies, should have the authority to revise the biological objectives, conservation measures, and other adaptive management strategies as needed. Additionally, the Permit Oversight Group's role should be limited to regulatory oversight so as not to impair its independent judgment.</p> <p>The veto authority proposed to be provided to the Authorized Entities/Authorized Entity Group appears to violate the California Delta Reform Act which states that the fisheries agencies shall "ensure that applicable biological performance measures are achieved in a timely manner with respect to water system operations." (California Water Code Section 85321)</p> <p>As the state and federal agencies are aware, the Delta counties that will be directly</p>	<p>Comments regarding the draft BDCP, IA and possible governance structure(s), please refer to Master Response 5.</p> <p>The fish agencies will continue it its role of overseeing operations as described in the Final EIR/EIS, Chapter 3 and 4.</p>

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		<p>impacted by BDCP implementation have advocated for a role in decision-making. Instead, the BDCP has relegated Delta county participation to membership on the Stakeholder Council whose function is limited to the exchange of information and providing recommendations to the Program Manager. Given the impact the BDCP will have on the citizens of these counties, Rural County Representatives of California urges the state and federal agencies to give further thought to the role of the locally elected Delta county supervisors.</p> <p>Lastly, the BDCP is silent with respect to the federal and state open meeting (Brown Act) and records laws, and the applicability of these laws to the Authorized Entity Group, the Permit Oversight Group, and the Stakeholder Council. The final BDCP should clearly describe the state and federal statutes relevant to the activities of these BDCP governing/advisory bodies.</p>	
1652	55	<p>Chapter 8. Implementation Costs and Funding Sources:</p> <p>As noted previously, all of the conservation measures in the BDCP, with the exception of CM 1, are programmatic in nature and lack the detail and level of analysis needed to inform the public, develop realistic and reliable estimates of costs, and identify who will pay and whether adequate funding is available. It is also unclear whether the BDCP cost estimates reflect the added cost for planning and implementing adaptive management.</p> <p>Funding for CMs 2 - 22 is far from assured. The BDCP would require the majority (almost 90 percent) of these costs to be borne by state and federal taxpayers. According to the ARCADIS Report, the water contractors' contribution to fish and wildlife ranges from as little as 2.7 percent of the cost for riparian habitat restoration (CM 7), up to 40.7 percent for CM 15 (Localized Reduction of Predatory Fishes). The ARCADIS Report also notes that the water contractors will not fund any portion of 11 of the CMs.</p>	<p>Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement and funding.</p> <p>For issues related to predation, please refer to Master Response 23, Other Stressors and Chapter 11 of the final EIR/EIS.</p>
1652	56	<p>Questions have been raised regarding the imposition of costs of certain conservation measures, CM 4 for example, on the general public when the water contractors benefit. Currently the BDCP suggests that the water contractors' share of CM 4 is 12.6 percent of the cost as a small portion of the restoration occurring under CM 4 is now required by the USFWS Biological Opinion for the Long-Term Operational and Criteria Plan (OCAP BiOp). Not disclosed is that tidal land restoration will also help mitigate the adverse impacts of relocating the North Delta diversion facilities. Rural County Representatives of California strongly encourages the State and federal agencies to closely review each of the proposed CMs' cost allocations to ensure that State and federal taxpayers are not burdened with costs that rightly should be the responsibility of the BDCP beneficiaries.</p> <p>Doubts have been raised regarding the ability and commitment of the water contractors to fund CM 1 and the mitigation necessary to address the multiple impacts associated with construction and ongoing operation of new water facilities. The individual governing boards of the various water contractors who would benefit have reportedly been reluctant to formally authorize a financial commitment. As a result the current "commitment" so often cited cannot be legally relied upon.</p> <p>The BDCP states that state water contractors "commitment" will require the amendment of existing contracts. However, no mention is made of the renegotiating of the existing contracts that is currently underway and nearing completion. See: <a href="http://www.water.ca.gov/swpao/watercontractextension/index.cfm">http://www.water.ca.gov/swpao/watercontractextension/index.cfm</a>. Contract extension negotiations, which began in 2013, will extend SWP contracts to December 31, 2085 and</p>	<p>For information regarding costs, assurances, participants please refer to Master Response 5.</p> <p>For the feasibility and assurances related to proposed mitigation, please refer to Master Response 22.</p> <p>As shown in the comment, the process of amending contracts is best followed in the link for that program as indicated.</p>

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		make other changes relating to financing. Reportedly the water contractors were not prepared to engage in any meaningful discussions on BDCP financial obligations during the current negotiations.	
1652	57	<p>The San Diego County Water Authority (SDCWA) in its May 30, 2014 BDCP comment letter, sheds some light on the perspective of the water contractors who are potential beneficiaries of the BDCP. The SDCWA is the largest customer of the largest state water contractor, the Metropolitan Water District of Southern California. The SDCWA BDCP comment letter states "Chapter 8 of the current BDCP does not provide the detailed information necessary for potential participating agencies to evaluate individual agency cost-benefit (or feasibility) of the proposed project. The Final BDCP should contain details on: how participating water contractors intend to guarantee the revenue necessary to pay for the BDCP; the provisions for "step-up" should individual water contractor's default on funding obligations; and a legal analysis of relying on property taxes as a back-up security for project debt."</p> <p>Other comments by the SDCWA regarding the lack of clarity relating to the water supply implications of water contractors declining to participate in BDCP implementation, water contractors deciding to "opt out" of the BDCP, the ability of non-participants to obtain HCP coverage through the execution of side agreements, etc., demonstrate the importance of and the need to identify in the final BDCP (or final IA) those water contractors who are financially committed to the BDCP. Only then can it be established if there is sufficient funding for CM 1 and the related costs of mitigation.</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate your previous comment letter and Lead Agencies' responses.</p> <p>Also refer to Master Response 5 related to comments about funding, cost-benefit issues and participating agencies.</p> <p>For responses to the EIR/EIS draft documents like SDCWA, please refer to the index of comment letters to locate the letter and table of responses.</p>
1652	58	Chapter 8 assumes that federal water will be moved through the new conveyance facilities, and it is clear that for Conservation Measure [CM] 1 to be financially viable, the Bureau must commit to utilizing the new facilities. However, the Bureau is not a BDCP permittee, the Bureau is not party to the Implementation Agreement [IA], and there is no Bureau/DWR agreement to wheel federal water. With no agreement in place, the State and federal permitting agencies cannot assume that the CVP contractors will participate in funding CM 1.	Please refer to Master Response 5 regarding funding.
1652	59	<p>Chapter 8 states that "Consistent with the 'beneficiary pays' principle and in recognition of public benefits associated with environmental restoration of this important region, it is assumed that a state and federal investment will be available and necessary to implement the BDCP, as described in Section 8.3, Funding Sources." The draft BDCP does list possible funding sources, but these are very speculative in nature.</p> <p>The passage of future bond measures and the willingness of the California Legislature or Congress to fund habitat and ecosystem creation and restoration are uncertain at best. For example, in California an alternative water bond to replace the existing \$11.1 billion water bond on the November 2014 ballot is currently being negotiated. Governor Brown has stated that the alternative bond dollar amount must be smaller (in the range of \$6 billion, \$2 billion of which would be for the public benefits associated with water storage) and that the bond must be "tunnel neutral" meaning that it will not fund Delta habitat and ecosystem creation and improvements that could be associated with mitigation for the BDCP. This stance is intended to forestall active opposition to a water bond on the ballot as opposition could potentially result in failure to secure the votes required for passage. Despite this proposed strategy, opponents to the BDCP have publically stated that they would oppose any funding contained in a water bond for habitat and ecosystem creation and restoration in the Delta. As nearly all of the state funds for habitat and ecosystem creation and restoration proposed in the BDCP are to be paid by future water bonds, it is</p>	Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement and funding.

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		purely speculative as to when and if the habitat and ecosystem creation and restoration will occur.	
1652	60	<p>The federal government, according to the ARCADIS Report, would be responsible for 48% of the program administration costs; 77% of the Monitoring, Research, Adaptive Management, and Remedial Measure costs; 37% of the Natural Community Protection and Management costs; 29% of the Natural Community Restoration costs; and 41% of the Other Stressors cost. Members of Congress have made known their concerns regarding the assumption that federal funding will be required for the BDCP. The August 30, 2013 letter to Governor Jerry Brown signed by seven California members of Congress (Doris Matsui, George Miller, Mike Thompson, Jerry McNerney, John Garamendi, Anna Eshoo, and Ami Bera) can be accessed at:  <a href="http://matsui.house.gov/uploads/8.30.13%20Letter%20to%20Gov%20Brown%20on%20BD%20CP.pdf">http://matsui.house.gov/uploads/8.30.13%20Letter%20to%20Gov%20Brown%20on%20BD%20CP.pdf</a>.</p> <p>Rural County Representatives of California agrees with the ARCADIS Report which states "There are significant uncertainties about the availability, reliability, and sources of funding for implementation of BDCP's Conservation Measures (other than conveyance facilities)."</p>	Please see response to comment 1652-50.
1652	61	<p>The final BDCP should explain how funding assurances required to secure HCP/NCCP permits will be achieved given the uncertain nature of future state (water bond) and federal (congressional appropriations/grants) funding. If the public funding (almost 90% of the costs for ecosystem creation and restoration and program administration) does not materialize for CMs 2-22, what is the state and federal planned response in light of the fact that the BDCP specifies that "...the Authorized Entities will not be required to provide land, water, or monetary resources beyond their commitments in this Plan in the event of a shortfall in state and federal funding."? The response to this question should be explained in some detail in the BDCP and/or IA. Areas upstream of the Delta as well as others who are not party to the BDCP, such as Rural County Representatives of California member county and SWP water contractor Butte County, are concerned that the state and federal agencies will look to them for additional water, funding, etc. which is a key reason for the repeated requests for "assurances" for those areas of the State that will not benefit from the BDCP.</p>	Please refer to Master Response 5 regarding funding.
1652	62	<p>Rural County Representatives of California read with interest the statement that the Implementation Office (although not legally required to do so) will offset the loss of local property tax and assessment revenue resulting from fee title acquisition of land for the reserve system during the permit term. The source of funding for Payment-in-Lieu-of-Taxes (PILT) to the Delta counties for the conversion of agricultural land to habitat is not identified. The Delta counties, and in particular Yolo County, may well be somewhat skeptical as to whether the State of California will honor this statement of intent given the State's track record. The DFW has not made statutorily required PILT payments to 36 counties for private lands taken off the tax rolls and converted to wildlife management areas in over a decade. As of May 16, 2014, the State of California owes these 36 counties in excess of \$18 million and an additional \$1.5 million annually going forward. As of May 16, 2014 the State owes \$1,533,148.00 in past due PILT payments to Yolo County.</p> <p>The lack of firm funding commitments is clearly a serious deficiency that must be remedied as both the HCP and NCCP regulations require the BDCP to demonstrate that it has funding assurances from those expected to pay - including the state and federal governments.</p> <p>RCRC believes that the BDCP must be significantly revised to address the substantive issues</p>	<p>Property tax revenue effects of land acquisitions required for construction of water conveyance facilities are discussed in Chapter 16, Socioeconomics, Impact ECON-4, EIR/EIS. As discussed for this impact under each alternative, the lead agencies 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. Notably, California Water Code section 85089 provides that "[c]onstruction of a new Delta conveyance facility shall not be initiated" until the benefitting federal and state water contractors, or a joint powers authority representing them, have made arrangements or entered into contracts requiring them to pay for both (a) the "costs of the environmental review, planning, design, construction, and mitigation" required for such a facility and (b) "[f]ull mitigation of property tax or assessments levied by local governments or special districts for land use in the construction, location, mitigation, or operation of new Delta conveyance facilities."</p> <p>Similarly, for land acquired for habitat restoration measures under the environmental commitments (see Impact ECON-16), the lead agencies would compensate local governments and special districts for forgone revenue.</p> <p>As a result, although land would be removed from the local tax base for project purposes, local governments</p>

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		raised, and recirculated for public comment.	and special districts would be compensated for lost property tax revenues.  Please see also Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement and funding.
1652	63	<p>Implementing Agreement</p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states that "The overall goal of the BDCP is to restore and protect ecosystem health, water supply, and water quality..." (2.1.8). As has been noted elsewhere, the impact of the BDCP on salmon appears to be negative, water supply impacts on areas upstream of the Delta and in-Delta are of concern, as are the negative water quality impacts on portions of the Delta.</p>	<p>Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.</p> <p>Please see also response to comment 1652-19 for discussion of proposed project impacts, response to comment 1652-21 for discussion of in-Delta impacts, and response to comment 1652-27 for a discussion of water quality. Also see the Final EIR/EIS, Chapter 8 and Master Response 14.</p>
1652	64	<p>IMPLEMENTING AGREEMENT (IA)</p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California (RCRC) had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement lists the findings that must be made by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) regarding the adequacy of the BDCP to meet the permitting requirements of the ESA (4.1). RCRC's comments throughout this document call into question the ability of the USFWS and NMFS to make these findings unless significant revisions to the BDCP and DEIR/EIS are made.</p> <p>The Implementing Agreement lists the findings that must be made by the Department of Fish and Wildlife regarding the BDCP and the IA relating to the permitting requirements of the NCCPA (4.2). RCRC's comments elsewhere on adaptive management, Conservation Measure implementation schedule, funding, etc. call into question the ability of the California Department of Fish and Wildlife (DFW) to make these findings unless significant revisions to the BDCP and DEIR/EIS are made.</p>	<p>This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4).</p> <p>For issues related to unforeseen circumstances please refer the Master Response 33 Adaptive management and the Final EIR/IES Real time Operations, Chapter 3 and Chapter 6, Appendix 6A as well as Master Response 23, Other Stressors.</p>
1652	65	<p>Implementing Agreement (IA)</p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California (RCRC) had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states that the Bureau of Reclamation will enter into a Memorandum of Understanding (MOU) or similar agreement that sets out the Bureau's roles and responsibilities as well as establishing processes to ensure its actions are consistent with the BDCP (5.0). RCRC believes that the MOU or similar agreement should be</p>	<p>Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.</p> <p>Future agreements between the Lead Agencies and the regulatory agencies are anticipated to be focused on project implementation as described in the proposed project.</p>

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		<p>finalized and included as part of the BDCP (and/or the details of the Bureau's commitments included in the IA) as until such time as the agreement is finalized there is no assurance that the Bureau will commit to any action or provide any funding to support the BDCP. The MOU and/or IA should specifically discuss the implications of the fact that the Bureau cannot obtain regulatory assurances under Section 10 of the ESA.</p>	
1652	66	<p><b>IMPLEMENTING AGREEMENT</b></p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states that the water contractors will provide funding equal to the costs associated with the construction, operation, and maintenance of the new conveyance infrastructure (CM 1) and for the mitigation associated with such infrastructure. States that the water contractors shall not be obligated to provide, either directly or through another agency, funding to implement any other element of the Plan. The "Note" in table 8-41 of the draft BDCP states that the "Amount Paid by Contractors" totals \$903 million. (13.1.1). If one assumes that the "official" BDCP cost estimate of \$24.9 billion is relatively accurate, state and federal taxpayers will be expected to pay slightly less than \$24 billion of the cost of the BDCP. Given the multiple uncertainties associated with the BDCP, RCRC believes that the final price tag is very likely to become significantly more than the "official" cost estimate. Other organizations have put forward various estimated costs, the most recent of which is \$67 billion per the Natural Resources Defense Council and Defenders of Wildlife in a July 29, 2014 Sacramento Bee Viewpoints article authored by Doug Obegi and Kim Delfino.</p>	<p>Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.</p>
1652	67	<p><b>Implementing Agreement (IA)</b></p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California (RCRC) had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states that the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) agree that once the Integrated Biological Opinion has been issued: (1) to the maximum extent allowed by law, the Bureau of Reclamation's ongoing responsibilities for Associated Federal Actions under Section 7(a) (2) of the Endangered Species Act (ESA) will be fulfilled through Reclamation's participation in the BDCP; and, (2) USFWS and NMFS agree that Reclamation will not be required to provide additional commitments or measures for Associated Federal Actions beyond those in the BDCP without the attempt to resolve the issues as provided in the Implementing Agreement (14.3.2). RCRC believes that the formal agreement between the federal agencies, whether it is a Memorandum of Understanding or takes some other form, should be included in or as an attachment to the IA.</p>	<p>Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.</p> <p>Future agreements between the Lead Agencies and the regulatory agencies are anticipated to be focused on project implementation as described in the proposed project.</p>
1652	68	<p><b>IMPLEMENTING AGREEMENT</b></p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County</p>	<p>Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement. For issues related to unforeseen circumstances please refer the Master Response 33 Adaptive management and the Final EIR/IES Real time Operations, Chapter 3 and Chapter 6, Appendix 6A as well as</p>

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		<p>Representatives of California had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states that within the constraints imposed by the No Surprises Rule, the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service may require additional measures, but only if certain conditions apply (14.3.3). These conditions include that the agencies prove that all the conditions apply including that an unforeseen circumstance exists and that the overall cost of implementing the BDCP is not increased by the modification.</p>	Master Response 23, Other Stressors.
1652	69	<p><b>IMPLEMENTING AGREEMENT</b></p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states that the Authorized Entity Group will consist of the Director of DWR, the Regional Director for Reclamation, a representative of the SWP contractors and a representative of the CVP contractors (15.3.1). The makeup of the Authorized Entity Group appears to be an issue for some of the water contractors who are urging that the membership of the Authorized Entity Group be revised to include all BDCP permittees. Given the broad decision-making authority of the Authorized Entity Group, RCRC does not believe it wise to place the State and federal representatives in a minority membership position given that some already question the membership of the proposed SWP/CVP representatives.</p>	Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement. The real time operations and governance issues related to Adaptive Management is described in the Final EIR/EIS, Chapter 3. For additional information regarding Adaptive Management, please see Master Response 33.
1652	70	<p><b>Implementing Agreement</b></p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states the process to be followed for review of disputes regarding implementation matters. States that the entity with decision-making authority will make the final decision, but allows the initiation of a non-binding review process which includes a three member panel and written recommendations which the decision-making authority must consider (15.8-15.8.3). RCRC is of the opinion that this proposed process, which includes the submittal of letter briefs and documentary evidence and the potential for rebuttals and responses, is overly complex.</p>	This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). 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. Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.
1652	71	<p><b>Implentation Agreement (IA)</b></p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, rural county representatives of California had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to, and how the BDCP is proposed to be implemented and funded. The draft IA is extremely</p>	This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). 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. Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.

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		<p>disappointing in this regard.</p> <p>The IA states that the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), to the maximum extent possible, shall rely on, and use relevant portions of, the EIS and NEPA [National Environmental Policy Act] findings, when conducting future environmental review of covered activities and associated federal actions. Section (20.1.9 states that, unless otherwise required by law, the Permittees and the Department of Fish and Wildlife (CDFW) shall rely on, and use relevant portions of, the EIS/EIR and the California Environmental Quality Act (CEQA) findings, when conducting future environmental review of covered activities.</p>	
1652	72	<p>Implementing Agreement (IA)</p> <p>Given the lack of detail on key points in the BDCP and DEIR/EIS, Rural County Representatives of California had anticipated that the IA for the BDCP would fill in the missing blanks and provide an understanding of exactly what assurances and commitments are being agreed to and how the BDCP is proposed to be implemented and funded. The draft IA is extremely disappointing in this regard.</p> <p>The Implementing Agreement states the 50-year term of the permits (21.2), allows for renewal of the permits (21.3), discusses the suspension of federal permits (22.1), the reinstatement of suspended federal permits (22.2), the revocation of federal permits (22.3), the suspension or revocation of the State permit (22.4), the dispute resolution process for revocation or suspension of the federal permits or invalidation of the Incidental Take Statement related to a Jeopardy Determination (22.5), and the dispute resolution process for revocation or suspension of the State permit related to a Jeopardy Determination (22.6).</p>	<p>This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4 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. Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.</p>
1652	73	<p>Rural County Representatives of California (RCRC) believes that the Implementing Agreement (IA) must be revised to address the issues raised, and recirculated for public comment.</p> <p>RCRC appreciates the opportunity to provide comments on the draft BDCP, DEIR/EIS, and IA. RCRC recognizes the difficulty of preparing a legally adequate BDCP and EIR/EIS for a complex program like the BDCP. RCRC has endeavored to evaluate the draft BDCP and DEIR/EIS in a constructive manner, but significant deficiencies have been identified by the scientific community and others.</p> <p>The BDCP and DEIR/EIS is voluminous, and often difficult to understand. In addition, both documents are incomplete. As a result, decision-makers and the public are not properly informed about the potentially significant effects of the BDCP, thus the BDCP is in violation of CEQA and NEPA requirements.</p>	<p>This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). 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. Please see Master Response 5 and response to comment 1652-50 for discussion of the implementing agreement.</p> <p>With regards to the voluminous of the document, please refer to Master Response 38.</p>
1652	74	<p>A number of flaws in the BDCP and DEIR/EIS are the result of the use of an outdated existing conditions baseline tied to the 2009 date of publication of the Notice of Preparation. The baseline must be updated to include current available data as work to revise the DEIR/EIS proceeds.</p> <p>Equally as important, the updated hydrologic model must be utilized as the issues surrounding Delta flows and exports, among other things, is key to analyzing the BDCP. The best available and the most accurate tools must be used to evaluate the BDCP's impacts.</p> <p>As currently written, the draft BDCP and the DEIR/EIS are also not in compliance with the</p>	<p>Please see Master Response 1 for a discussion of the environmental baseline. See also Master Response 30 for a discussion of the modeling effort.</p>

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		<p>Natural Community Conservation Planning Act (NCCPA), and the U.S. Endangered Species Act (ESA). Rural County Representatives of California has provided several specific examples of this noncompliance.</p>	
1652	75	<p>Rural County Representatives of California understands that years of effort and millions of dollars have been spent on development of the BDCP, DEIR/EIS, and IA. However, the years and dollars spent to date cannot be used to justify the federal and state regulatory agencies ignoring the identified deficiencies. A detailed financing agreement with firm legal commitments, and missing BDCP related documents such as the DWR/Bureau Memorandum of Understanding, should be included as part of the package so that the public may provide informed commentary and the decision-makers can make well-informed decisions.</p> <p>Given the significant nature of the deficiencies noted, among others not addressed, Rural County Representatives of California (RCRC) believes that the federal and state agencies must significantly revise and recirculate for public review and comment the draft BDCP, DEIR/EIS (CEQA Guidelines, Section 15088.5 (a)), and IA.</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, along with the BDCP Draft EIR/EIS, 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. As implementation of the proposed project or any of the action alternatives will require permits and approvals from public agencies other than the Lead Agencies, the CEQA and NEPA documents are prepared to support the various public agency permit approvals and other discretionary decisions. These other public agencies are referred to as responsible agencies and 20 trustee agencies under CEQA (State CEQA Guidelines Sections 15381 and 15386) and cooperating agencies under NEPA (e.g., USACE and EPA). See also Master Response 46 for discussion of why recirculation is not required.</p> <p>For more information please see 1.1.5 of Section 1 Introduction of the RDERI/SDEIS.</p> <p>For more information regarding cost and financing of the proposed project please see Master Response 5.</p>
1653	1	<p>Representatives Huffman, Miller, Thompson, Matsui, Garamendi, Lee, Speier, and McNerney write today to offer comments on the Bay Delta Conservation Plan (BDCP) and its Draft Environmental Impact Statement and Report under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Our congressional districts include much of the San Francisco Bay-Delta region and other areas that would be impacted by the proposed project. We represent millions of residents - both upstream and downstream of the Bay-Delta -who rely on the estuary for their livelihoods, as a source of drinking water, for recreation, and for numerous other values. In addition, our congressional districts include numerous tribes, counties, cities, water utilities and other public agencies, commercial businesses, and conservation organizations, many of which will be submitting their own comments on the plan.</p> <p>Over the last decade we have submitted numerous comment letters and participated in countless hearings and meetings with the relevant state and federal agency officials. Unfortunately, the fatal flaws that we and others have identified - repeatedly -remain uncorrected in the documents available for comment, which confirms that the plan is legally deficient under NEPA, CEQA, and several other statutes, and represents the wrong direction for the people of California. This is a significant missed opportunity, and given the persistent failure to address these fundamental problems, it is becoming increasingly doubtful that the BDCP can be salvaged. The comments below are representative, not exhaustive, of problems that we and others have been calling out.</p>	<p>This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. In response to comments received during the 2013-2014 Public Draft EIR/EIS public comment period, State and Federal agencies decided to change the approach. A modified proposed project (Alternative 4A/California WaterFix) has been developed 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 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 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>
1653	2	<p>BDCP fails to reduce reliance on the Delta as required by California law. The passage of California's historic package of water reforms in 2009 established several important new tenets of state water policy. The Delta Reform Act directed state agencies to reduce reliance on the Bay-Delta estuary as a source of water exports: "The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency."</p> <p>Despite this clear, overarching policy directive, BDCP proponents have gone out of their way to reject alternatives that would reduce reliance on the Delta and invest in improved</p>	<p>This comment addresses Alternative 4/BDCP. The Preferred Alternative is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1. The proponents of the proposed project intend to fully comply with the Delta Reform Act. For a discussion of compliance with the Delta Reform Act, please refer to Master Response 31, and Appendices 3I and 3J of the Final EIR/EIS.</p>

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		regional supplies, conservation, and water use efficiency. Instead, BDCP proposes to flout the Delta Reform Act and take California in the direction of increased water diversions and exports from the Delta.	
1653	3	The BDCP would lock-in -for decades to come -levels of water exports from the Delta that are unsustainable, environmentally destructive, and legally indefensible. Moreover, proponents of this plan have sought guarantees from state and federal agencies that water exports would not be reduced. These guarantees are impermissible under numerous laws including the Central Valley Project Improvement Act and the state and federal Endangered Species Acts. The BDCP fails to resolve this dilemma and instead would lead to using public funds to purchase water as mitigation - a taxpayer-financed bailout plan that is not only bad fiscal policy, but ignores the failure of the similarly conceived Environmental Water Account (EWA). Simply put, water exports at the levels proposed in this plan, especially when coupled with the assurances sought by Delta exporters, are completely at odds with state and federal law and cannot be remedied by repeating the failed "buying water for the environment" approach of the EWA.	This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1. By establishing a point of water diversion in the north Delta and new operating criteria to improve water volume, timing, and salinity, the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility. The proposed project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. Water deliveries from the federal and state water projects under a fully-implemented Alternative 4A are projected to be about the same as 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.
1653	4	BDCP fails to respond to California law's Public Trust requirements. The 2009 California water reforms also directed the State Water Resources Control Board (SWRCB) to develop new flow criteria to protect public trust resources for the Sacramento-San Joaquin Delta ecosystem, for the "purpose of informing planning decisions" for the Bay Delta Conservation Plan. The law was very clear: a conservation plan for the estuary, established under the State's Natural Community Conservation Planning Act and the federal Endangered Species Act (ESA), should be informed by an understanding of the public trust values of the estuary. The BDCP has violated this provision of state law. The plan shows no evidence of being informed by the state board's 2010 flow criteria report, reflecting a fatal flaw that has been evident from the beginning of the process: the BDCP is structured to maintain or increase current water export levels, and has never reconciled this purpose with the amount of water needed to sustain a healthy estuary.	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1. As described in Appendix 3A, Section 3A.9.3, of the 2013 Public Draft EIR/EIS the State Water Resources Control Board prepared a Delta Flow Criteria Report in accordance with the requirements of the Sacramento-San Joaquin Delta Reform Act of 2009. Information from that report included "determinations of flow criteria for the Delta ecosystem to protect public trust resources. The report makes clear, however, that the flow criteria do not consider the balancing of public trust resource protection with public interest needs for water. The flow criteria also did not consider other public trust resource needs such as the need to manage cold-water resources in reservoirs tributary to the Delta. Nonetheless, the flow determinations contained in the Delta Flow Criteria Report, together with recent scientific conclusions of other State and federal agencies, including the Department of Fish and Wildlife, National Marine Fisheries Service, and the Interagency Ecological Program provide a useful guide to establish one side of a reasonable range of alternatives" (State Water Resources Board letter dated April 19, 2011). The information in the flow criteria report was used to inform the development of the proposed project.</p> <p>Please refer to Master Response 13 regarding Public Trust requirements. Please also see Appendix C of the RDEIR/SDEIS Supplemental Modeling Requested by State Water Resources Control Board Related to Increased Delta Outflows.</p>
1653	5	<p>BDCP confuses and conflates the proper role of agencies. Numerous analyses of the BDCP over the past decade have identified the plan's significant internal confusion regarding the roles of project proponents and the various state and federal agencies. It is clear from the present documents that those problems have not been resolved. It is improper for the state and federal governments to delegate such a significant role in adaptive management and project governance to non-agency entities, such as water districts that rely on water exports, and to make those water districts "permittees" for activities and decisions that should be carried out by federal and state agencies. We incorporate by reference a series of letters and statements from 2011 regarding the amended Memorandum of Agreement that allowed water exporters a major role in the governance and development of the BDCP in exchange for continued funding. [footnote 1: Congressional letter of October 24, 2011, and State Legislature letter of November 22, 2011, as well as subsequent statements, available at;</p> <ul style="list-style-type: none"> <li>• <a href="http://blogs.esan-joaquin.com/san-joaquin-river-delta/files/2011/11/">http://blogs.esan-joaquin.com/san-joaquin-river-delta/files/2011/11/</a></li> </ul>	This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to comment 1653-1. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The comment suggests there is confusion regarding the roles of project proponents and various public agencies. The comment also refers to three URLs for a series of letters and statements from 2011. All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.

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		<p>/bdcp-sign.pdf</p> <ul style="list-style-type: none"> <li>• <a href="https://georgemiller.house.gov/press-release/interior-department%E2%80%99s-bay-delta-negotiations-draw-rebuke-california-members-congress">https://georgemiller.house.gov/press-release/interior-department%E2%80%99s-bay-delta-negotiations-draw-rebuke-california-members-congress</a></li> <li>• <a href="http://georgemiller.house.gov/press-release/bay-delta-members-congress-respond-bdcp-statement-transparency">http://georgemiller.house.gov/press-release/bay-delta-members-congress-respond-bdcp-statement-transparency</a>] The confused structure is the result of an arbitrary and capricious decision to imbue some water districts with independent legal authority to challenge agency decisions regarding the State Water Project and Central Valley Project facilities. This arrangement is impermissible under CEQA and the federal Endangered Species Act, at the very least, and inappropriate as a matter of public policy.</li> </ul>	
1653	6	<p>BDCP illegally narrows the range of alternatives. One of the most important roles of NEPA and CEQA is to provide a wide range of alternatives so the public may determine whether the preferred alternative is the best of all possible options. The BDCP fails to do this by improperly screening out numerous viable alternatives - indeed, at least one of the missing alternatives appears more viable, affordable, and comprehensive than the alternatives presented in these documents. We incorporate by reference a letter sent in 2013 asking that BDCP include the analysis of a "Portfolio Alternative" or similar approaches. [footnote 2: Available at <a href="https://georgemiller.house.gov/press-release/rep-miller-and-matsui-call-consideration-alternative-bdcp">https://georgemiller.house.gov/press-release/rep-miller-and-matsui-call-consideration-alternative-bdcp</a>] Since the outset, project proponents have only considered minor variations on the idea of a large export facility, and have sidelined viable proposals that would genuinely reduce reliance on the Delta and increase the reliability of the state's water supply through alternative water supply tools.</p>	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to comment 1653-1.</p> <p>For a discussion of alternatives, including the selection of alternatives, please see Master Response 4.</p> <p>Regarding the 2013 letter requesting analysis of a "Portfolio Alternative," 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 BDCP. For additional information regarding alternatives, see Master Response 4.</p> <p>The proposed project is not the sole project in California tasked with solving California's water supply future.</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, including reliability of exported supplies, and the recovery and conservation of threatened and endangered species that depend on the Delta.</p> <p>Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the proposed project. 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, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.</p> <p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.</p>
1653	7	<p>BDCP is inconsistent with the Central Valley Project Improvement Act. Federal law requires the Bureau of Reclamation to operate the Central Valley Project to "protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California," and to implement a plan to double the region's naturally returning anadromous fish populations. The proposed BDCP fails to establish appropriate objectives for species recovery, let alone for achieving the fish-doubling goal, and fails to protect</p>	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1.</p> <p>The Lead Agencies strived to use the best available science throughout the effects analysis. 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</p>

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		<p>water from the Trinity River basin and its already-threatened fish and wildlife from continued unsustainable diversions into the Central Valley Project.</p>	<p>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, "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>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]). Implementing the conveyance facilities would help resolve many of the concerns with the current south Delta conveyance system, and would help reduce threats to endangered and threatened species in the Delta, including entrainment at south Delta export facilities. For instance, implementing a dual conveyance system would align water operations, and their location, to better reflect natural seasonal flow patterns by creating new water diversions in the north Delta equipped with State-of-the-art fish screens, thus reducing reliance on south Delta exports during times of the year when listed aquatic species are present and most vulnerable. For more information on mitigation measures to minimize contraction and operational-related impacts to fish species, including Delta and longfin smelt, please see Chapter 11, EIR/EIS.</p>
1653	8	<p>BDCP would not restore the Delta ecosystem or listed species. The BDCP is designed as a Habitat Conservation Plan (HCP) under the ESA and a Natural Community Conservation Plan (NCCP) under state law. Among many other things, an HCP must establish clear and enforceable biological goals and objectives that lead to recovery. Unfortunately, the plan's biological goals and objectives would undermine rather than enhance the recovery of several covered fish species such as longfin smelt, delta smelt, steelhead trout, and numerous Chinook salmon runs, by negatively impacting their habitat among other things. In addition, the draft Implementing Agreement is legally flawed as it proposes to make even these inadequate goals and objectives unenforceable by stating they "shall not be a basis for a determination by the Fish and Wildlife Agencies of non-compliance with the Plan or suspension or revocation of the Permits..." In this way and others, the plan fails to meet the high "conservation" standard that a NCCP must meet to be successful. Finally, there is significant uncertainty as to whether the plan will improve the health of the estuary, yet it would provide 50 year Incidental Take Permits to the project proponents, leaving listed species to bear the risk. Failure to demonstrate that the environmental benefits are reasonably certain to occur is a fatal flaw for any NCCP/HCP, let alone one of this scale. For these reasons, the BDCP cannot credibly or lawfully be permitted as either a HCP or NCCP.</p>	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1. Alternative 4A no longer includes habitat restoration beyond what is required to mitigate effects of constructing and operating the project. Alternative 4A would not serve as habitat conservation plans/natural community conservation plans (HCPs/NCCPs) under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b).</p> <p>The comment does not explain how the BDCP biological goals and objectives would undermine rather than enhance recovery of covered fish species or would "negatively impact habitat, among other things."</p>
1653	9	<p>The BDCP does not use the best available science. Independent scientific reviews of the plan's earlier iterations have been scathing in their analysis of the plan's structure and scientific inadequacy. The latest version of the BDCP has not corrected the majority of the flaws identified over the last decade by the National Research Council, the Delta Independent Science Board, and other federal and state agencies, and it clearly does not reflect the best available science. [footnote 3: Including but not limited to those of the U.S.</p>	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1.</p> <p>Since 2006, the proposed project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings. Please refer to Response</p>

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		<p>Environmental Protection Agency, Bureau of Reclamation, Fish &amp; Wildlife Service, National Marine Fisheries Service, and the California Department of Fish &amp; Wildlife:</p> <p><a href="http://baydeltaconservationplan.com/Libraries/Dvnamic_Document_Library/NMFS_Progress_Assessment_Regarding_the_BDCP_Administrative_Draft_4-11-13.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dvnamic_Document_Library/NMFS_Progress_Assessment_Regarding_the_BDCP_Administrative_Draft_4-11-13.sflb.ashx</a></p> <p><a href="http://baydeltaconservationplan.com/Libraries/Dyn_amic_Document_Libra ry_-_Archived/Effects_Analysis_-_Bureau_of_Reclamation_Red_Flag_Comments_and_Respon ses_5-31-12.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dyn_amic_Document_Libra ry_-_Archived/Effects_Analysis_-_Bureau_of_Reclamation_Red_Flag_Comments_and_Respon ses_5-31-12.sflb.ashx</a></p> <p><a href="http://baydeltaconservationplan.com/Libraries/Dyn_amic_Document_Libra ry_-_Archived/Effects_Analysis_-_Fish_Agency_Red_Flag_Comments_and_Respon ses_4-25-12.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dyn_amic_Document_Libra ry_-_Archived/Effects_Analysis_-_Fish_Agency_Red_Flag_Comments_and_Respon ses_4-25-12.sflb.ashx</a></p> <p><a href="http://www2.epa.gov/sfbay-delta/bay-delta-conservation-plan-epa-documents">http://www2.epa.gov/sfbay-delta/bay-delta-conservation-plan-epa-documents</a></p> <p><a href="http://deltacouncil.ca.gov/science-board/delta-isb-products">http://deltacouncil.ca.gov/science-board/delta-isb-products</a></p> <p><a href="http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=13148">http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=13148</a> Among other flaws, these independent scientific reviewers have noted that the BDCP relies on overly optimistic assessments of the effects of restoration activities, and that the plan is a "post hoc rationalization" that offers no scientific reasons to ignore viable and less-damaging alternatives.</p>	<p>to Comment 1653-7 above regarding use of the best available science throughout the effects analysis.</p> <p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.</p> <p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1653	10	<p>The BDCP is too expensive and is overbuilt for the stated purpose. As previously discussed, the BDCP documents inappropriately eliminate alternatives that would provide similar benefits with a greater certainty of success. One consequence of this narrowing of alternatives is that the only proposals contained in the BDCP are unnecessarily expensive and are overbuilt for the stated purpose of the project. The BDCP has focused on a massive plumbing solution only, proposing two tunnels that will cost tens of billions of dollars and will be enormously disruptive to construct and maintain, and which are large enough to be operated at levels that would cause great environmental damage. The BDCP should have included far smaller options paired with meaningful conservation and alternative supply investments, rather than putting taxpayers on the hook to build oversized tunnels that could operate beyond permissible levels. In addition, the public should have been allowed to evaluate at least one alternative in which the proposed project is phased in, which would reduce costs and allow for more meaningful adaptive management.</p>	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1. For a discussion of alternatives, including the selection of alternatives, please see Master Response 4. Also, please see Master Response 5 for more information on project costs and funding.</p>
1653	11	<p>The BDCP lacks a suitable financing plan. Numerous state and federal statutes require clarity as to the source of a project's funding, and the certainty of the funds' availability, for approval, and state law is very clear that the mitigation required for the construction of this particular project cannot be borne by the public. The BDCP provides neither clarity nor certainty as to project financing, and does not follow the long-established principle of "beneficiary pays." BDCP does not even come close to answering the basic question: who is going to pay for it? Whether the unallocated costs of the BDCP's construction and mitigation will ultimately be borne by taxpayers throughout the state, the nation, other federal water contractors (even those who oppose the plan and would not benefit from it), or some other party is entirely unclear, but any public subsidy of this type would be unacceptable and unlawful.</p>	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1. The proposed project would be funded through a "beneficiary pays" principle, meaning the cost will be borne by those who receive the benefit. Please refer to Master Response 5 for a discussion about project costs and funding sources.</p>

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1653	12	<p>The BDCP does not explain how new facilities will be operated nor how it will impact existing facilities. The plan does not include a clear operations plan so that the public can meaningfully analyze or comment on the proposed project including the new tunnels' impacts on upstream reservoirs, the Trinity River, or flood control facilities, nor does it explain how the new facilities and other activities will affect the operations of the Central Valley Project and the State Water Project. It is impossible to determine the direct effects, indirect effects, and cumulative impact, without this information.</p> <p>As these comments make clear, the BDCP would neither restore the Bay-Delta ecosystem to health, nor increase statewide water supply reliability. The plan falls far short of federal and state standards for the type of long-term permit it seeks. Implementing the BDCP as presently described would be far too expensive, would undermine the health of the Bay-Delta estuary and Northern California fisheries, harm tribes as well as communities in the Bay-Delta region, and violate numerous state and federal laws -including several laws that the authors of this letter have written and championed. Given the fundamental flaws that have been repeatedly identified over the years, we expected that there would be a "reality check" that would re-direct the BDCP to something that complies with state and federal laws, meets the HCP/NCCP standards, and is financeable. Clearly, that "reality check" has not occurred. If BDCP is to be salvaged, it would need to be completely overhauled, its proposals redesigned, and its documents subjected to additional peer- and public review.</p>	<p>This comment addresses Alternative 4/BDCP. The proposed project is now Alternative 4A/California WaterFix, as explained above in the response to Comment 1653-1. For a general discussion about the impacts of the proposed project, please refer to Master Response 5.</p>
1654	1	<p>The City of Lodi appreciates the opportunity to provide comments on the Bay Delta Conservation Plan (BDCP), which includes the December 13, 2013, Draft BDCP, the BDCP Environmental Impact Report (EIR) and Environmental Impact Statement (EIS). The City would like to express its concerns regarding the BDCP and related documents and its effect on the Sacramento-San Joaquin Delta.</p> <p>The City of Lodi is located in San Joaquin County and borders the Mokelumne River to the north, and is subject to the stormwater general permit for municipal separate storm sewer system (MS4), National Pollutant Discharge Elimination System permit (NPDES) Number C4S000004, Order 2013-0001-DWQ. The City's White Slough Water Pollution Control Facility (a Publicly Owned Treatment Works -- POTW), which is located within the boundary of the BDCP, is located adjacent to the White Slough Wildlife Area and discharges tertiary treated effluent to Dredger Cut near the confluence of White Slough and Bishop Cut in compliance with NPDES permit Number C40079243, Order R5-2007-0113-01 .</p> <p>The City of Lodi supports comments sent separately by the Central Valley Clean Water Association (CVCWA), the San Joaquin County Board of Supervisors, as well as the Sacramento Storm Water Quality Partnership. Additionally, the City also is concerned that the BDCP does not sufficiently address potential impacts (regulatory, fiscally, etc.) to municipalities and POTWs that are subject to NPDES permits. The City further requests that these impacts, as well as those described in the comments supported be evaluated.</p>	<p>Please see Chapter 8, Water Quality, and associated appendices of the Final EIR/EIS for analysis of water quality impacts. An environmental commitment has been developed that would provide a mechanism for implementing stormwater treatment measures that would result in decreased discharge of contaminants to the Delta, which is intended to reduce the amount of pollution in stormwater runoff entering Delta waterways. Please refer to Appendix 3B, Environmental Commitments, in Appendix A of the RDEIR/SDEIS. Chapter 8, Water Quality, takes into consideration existing discharges from municipal facilities in its assessment of water quality impacts related to implementation of the proposed project. Please see also Master Response 14.</p> <p>Please also note that 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>
1655	1	<p>Despite the fact that the City of Stockton provided detailed comments on the Notice of Preparation (NOP) requesting evaluation of the BDCP effects on the Delta Water Supply Project Water Treatment Plant, the DEIR/EIS omits any analysis of the effects on this critical drinking water source for the City's residents. (See May 30, 2008 letter from City of Stockton to Delores Brown re: City of Stockton Comments on Notice of Preparation of an EIR/EIS for the Bay Delta Conservation Plan (attached hereto as Exhibit A).) As noted in our comments on the NOP, the City is concerned about the BDCP's effect on flows in the San Joaquin River and water quality. Information in the DEIR/EIS indicates the BDCP will substantially reduce</p>	<p>As noted in the comment, San Joaquin River flows near Stockton are presented in Appendix 5A of the Final EIR/EIS. Water quality effects are presented in Chapter 8 of the Final EIR/EIS. Data from the assessment location at Buckley Cove is taken as representative of the city of Stockton's intake on the San Joaquin River and is used in the water quality analysis presented in the EIR/EIS.</p>

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		flows in the San Joaquin River in the area of the City's intake and wastewater discharges. Reduced flows could adversely affect the quality of the City's drinking water supply.	
1655	2	The DEIR/EIS fails to recognize the City of Stockton as a major diverter of water for municipal and industrial uses whose supply could be at risk by the BDCP. Because of the DEIR/EIS's lack of water quality analysis in the vicinity of the City's drinking water intake on the San Joaquin River, it is clear that the Department of Water Resources (DWR) and BDCP proponents cannot adequately predict the impacts of the BDCP to the City's drinking water supply.	As noted in Final EIR/EIS Appendix 5A, Section B, the City of Stockton's surface water supply is included in the No Action Alternative and Alternatives 1 through 9. Water quality effects are presented in Chapter 8 of the Final EIR/EIS.
1655	3	The state policy regarding the Delta, as set forth in the Delta Reform Act of 2009, states, "it is the intent of the Legislature . . . to provide for a more reliable water supply for the state, to protect and enhance the quality of water supply from the Delta, and to establish a governance structure that will direct efforts across state agencies to develop a legally enforceable Delta Plan." (Wat. Code, [Section] 85001(c).) The state's co-equal goals for the Delta call for "providing a more reliable water supply for California." (Wat. Code, [Section] 85054.) This includes areas in the Delta, and reliable water supplies for all beneficial uses, including cities and farmlands. The BDCP and DEIR/EIS fail to demonstrate the protection or enhancement of the quality of water supply from the Delta for users other than the BDCP proponents. It appears that rather than provide a thorough assessment of impacts and meaningful mitigation, the proponents have elected to declare impacts significant and unavoidable, with the intent of relying on a statement of overriding considerations, and leave impacted users to deal with the consequences. It is clear from the DEIR/EIS that the preferred project alternative serves only to satisfy the needs of the project proponents.	The Draft EIR/EIS and the Draft BDCP were prepared in a manner to comply with the 2009 Delta Reform Act, as described in Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, of the Draft BDCP EIR/EIS. For more information regarding the proposed project's compliance with the Delta Reform Act please see Master Response 31 and Final EIR/EIS Appendices 3I and 3J.
1655	4	The DEIR/EIS states: "DWR's fundamental purpose in proposing the BDCP is to make necessary physical and operational improvements to the SWP system in the Delta to restore and protect ecosystem health, water supplies of the SWP and CVP south-of-Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations." What defines water quality within a stable regulatory framework? Is this water quality in the water supplies of the State Water Project (SWP) and Central Valley Project (CVP) south-of-Delta? What about existing in-Delta users? Viability of the City's Delta Water Supply Project was due in part to demonstrating through the CEQA process that its Delta diversion would not significantly impact other Delta users and to provide mitigation to protect the ecosystem. The BDCP and DEIR/EIS fail to provide a similar demonstration.	<p>The purpose of the EIR/EIS is to disclose both beneficial and adverse impacts of Alternatives 1 through 9 as compared to the Existing Conditions and the No Action Alternative. Chapters 5-30 provide such disclosure and offer mitigation measures to avoid or reduce impacts. Changes in water quality are described in Chapter 8 of the Final EIR/EIS. Additionally, a cumulative analysis is provided for each resource area in Chapters 5-30 which addresses the proposed project's potential for incremental contributions to significant cumulative effects from multiple projects.</p> <p>In response to comments received during the 2013-2014 public comment period, State and Federal agencies decided to add three additional alternatives that potentially achieved meeting the project objectives without preparing an HCP or natural community conservation plan (NCCP). Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. For additional detail on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the current status of the draft BDCP Effects Analysis, please see Master Response 5.</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 elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises 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's and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis of financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on 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, a response is provided generally referring the commenter to relevant information (e.g., request of specific revisions to the BDCP related to mapping or references).</p>

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1655	5	<p>The DEIR/EIS acknowledges:</p> <p>The water rights of the SWP and CVP are conditioned by the State Water Board to protect the beneficial uses of water within the Delta under each respective project's water rights. In addition, under the Coordinated Operations Agreement, DWR and the United States Bureau of Reclamation (USBR) coordinate their reservoir releases and Delta exports to enable each project to achieve benefit from their water supplies and to operate in a manner protective of beneficial uses as required by their water right permits. It is the responsibility of the SWP and CVP to meet these obligations regardless of hydrologic conditions.</p> <p>The Governor, Secretary of Interior, and policy leaders in the BDCP process have emphasized that the BDCP will not redirect any impacts to those in the Delta watershed. In their July 25, 2012 statement, the Governor and Secretaries confirmed that "State and U.S. governments will make sure implementation of BDCP will not result in adverse effects on the water rights of those in the watershed of the Delta, nor will it impose any obligations on water users upstream of the Delta to supplement flows in and through the Delta." The City is neither a party to nor a direct beneficiary of the BDCP, thus there must be no resultant impacts to its water supplies, economy, and environment.</p> <p>For all these reasons, it is imperative the analysis of BDCP impacts demonstrates that beneficial uses have been protected. The DEIR/EIS fails to meet this objective. The BDCP has the potential to affect the City's water supply and make it less reliable, but the DEIR/EIS does not provide information sufficient to evaluate this critical impact.</p>	<p>The preferred alternative is now Alternative 4A and no longer includes an HCP.</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>Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two 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. See also Master Response 32 regarding water rights.</p> <p>Please see Master Response 34 for a discussion of beneficial use of water. See Master Response 5 regarding the BDCP.</p>
1655	6	<p>As noted, the water required to meet more than half of the Stockton Metropolitan Area's Municipal and Industrial potable water demand is supplied by two primary sources: (1) the City's Delta Water Supply Project Water Treatment Plant, which derives its source water from the Sacramento/San Joaquin Delta at the southwest tip of Empire Tract, and (2) contracted surface water and groundwater supplied by the City as well as the California Water Service Company (CalWater) and San Joaquin County (County). As stated above, the BDCP's potential to degrade the quality of the City's Delta drinking water source most certainly will have a significant negative effect on the ability of the City, CalWater, and the County to meet the potable water needs of Stockton residents and businesses. The only likely source alternative will be groundwater pumping from a state-declared critically overdrafted basin that also has elevated levels of Total Dissolved Solids (TDS).</p> <p>The reason the City pursued contracted surface supplies and the DWSP was to protect the groundwater basin from further overdraft and reduce the amount of TDS that eventually is discharged to the Delta. If the DWSP supply water is decreased, the resulting TDS increases at the City's wastewater treatment facility will impact strides made in pollution prevention measures to limit salt discharged to the Delta. The impact could be far reaching by decreasing allocations of salt loading provided to industry thus reducing the City's ability to attract, grow, and encourage industry.</p>	<p>Please see Response to Comment 1655-9.</p>
1655	7	<p>Groundwater has and will continue to be an integral part of the City's drought water supply. Efforts to protect the groundwater basin over the past 30 years have resulted in increases in groundwater levels on the order of 30 feet. If groundwater becomes a major source of supply to mitigate the project's impacts, then the Stockton Metropolitan Area will once again be negatively impacted by declining groundwater levels, saline intrusion, and increased Total Dissolved Solids discharges to the Delta.</p>	<p>As noted in Final EIR/EIS Appendix 5A, Section B, the City of Stockton's surface water supply is included in the No Action Alternative and the action alternatives. Also, please see Response to Comment 1655-9.</p>

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1655	8	Reduced San Joaquin River flows also could have a significant impact on the City's operation of its wastewater treatment facility if flows necessitate higher levels of treatment. Many of the City's National Pollutant Discharge Elimination System permit requirements are tied to San Joaquin River conditions and the Delta ecosystem. Changes in those conditions can affect the City adversely by leading to modifications of the permit that impose costs on its residents that would not otherwise occur. In addition, significant environmental effects can result from construction and operation of new or modified facilities to meet permit requirements. The DEIR/EIS fails to adequately characterize water quality impacts to the City and suggests that any future impacts will have to be dealt with by the injured party within its own treatment plant process. This approach improperly defers analysis of possibly significant adverse effects caused by the BDCP, and shifts the burden of mitigating them to the City and other non-BDCP participants.	The flow reductions described for the San Joaquin River are relative to Existing Conditions, and are due to climate change and increased water demands, not the project alternatives. As described in the Draft EIR/EIS (for example, on page 8-416, lines 24-25 for bromide and page 8-448, lines 1-2 for nitrate), relative to the No Action Alternative, the long-term average annual flows at Vernalis would be similar (citing Draft EIR/EIS, Appendix 5A). Thus, the project alternatives would not contribute to flow-related effects on wastewater discharge operations. Also refer to Master Response 15 for a response regarding the effects assessment relative to NPDES requirements.
1655	9	Any adverse effects that require new water treatment processes or facilities, or new water supplies, will have an adverse economic impact on the City and its residents.	For most constituents assessed in Final EIR/EIS Chapter 8, Water Quality, there would not be adverse effects/significant impacts to water quality at the City's drinking water intake. For Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8, and 9, where significant water quality impacts in the Delta would occur, mitigation has been provided. The Final EIR/EIS analyzes all alternatives, including the new preferred alternative, Alternative 4A. Alternative 4A would have substantially less effect on Delta water quality such that significant impacts were only identified for electrical conductivity (EC) at Emmatton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based.  See the Executive Summary of the Final EIR/EIS that provides a summary of all of the impacts, mitigation measures and significance conclusions.
1655	10	The BDCP's significant adverse effect on Delta agriculture will also have substantial adverse socioeconomic impacts within the City, due to the resulting impact on agricultural processing jobs, and overall economic impacts from loss of farmworker jobs, farm income, and impacts on City businesses that depend on spending resulting from the Delta agricultural economy.	Final EIR/EIS Chapter 16, Socioeconomics, looks at the Delta as a five-county region; therefore, Stockton is included in the analyses under each impact. Please refer to Impacts ECON-6, 12, and 18 to see the discussions related to agricultural economics.
1655	11	Reduced economic activity will result in empty buildings, decreased investment, reduced tax revenues (which will further constrain the City's ability to maintain public infrastructure), and therefore physical blight through deterioration of physical and aesthetic conditions within the City.	The socioeconomic effects of the proposed project are addressed in Chapter 16, Socioeconomics, Final EIR/EIS. In particular, effects of construction of the proposed project's water conveyance facilities on agricultural employment and income in the Delta region, and mitigation for effects, are addressed in Impact ECON-1: Temporary effects on regional economics in the Delta region during construction of the proposed water conveyance facilities; effects on community characteristics are discussed in Impact ECON-3: Changes in community character as a result of constructing the proposed water conveyance facilities; effects on the recreation and tourism economy are discussed in Impact ECON-5: effects on recreational economics as a result of constructing the proposed water conveyance facilities; and effects on agricultural production values are discussed in Impact ECON-6: Effects on agricultural economics in the Delta region during construction of the proposed water conveyance facilities. The permanent operations and maintenance effects on these socioeconomic impact topics are discussed in Impact ECON-7, Impact ECON-9, Impact ECON-11, and Impact ECON-12. Additionally, effects on recreational resources, including specific businesses such as marinas, are addressed in Chapter 15, Recreation, Final EIR/EIS. (See Impact REC-1 and Impact REC-2 for impact discussions and mitigation.)
1655	12	The City of Stockton is concerned that the BDCP intends to shift the costs of mitigating adverse impacts of the existing South Delta and massive new North Delta diversions to the general public, instead of the water exporters and south of Delta residents whose diversions have contributed to the decline of aquatic species in the Delta and who, exclusively, will	Please see Master Response 5 regarding costs of BDCP implementation and more information regarding funding.

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		benefit from the water supply.	
1655	13	BDCP construction is likely to have significant adverse effects on City of Stockton roads that are not adequately mitigated in the DEIR/EIS.	The Lead Agencies acknowledge the commenter's concerns about adequate mitigation of all adverse effects. The mitigation measures described in Draft EIR/EIS Chapter 19, Transportation, are intended to address these impacts. However, the Lead Agencies realize that implementation of measures TRANS-1c and -2c are dependent upon the timely conclusion of successful good-faith negotiation with other affected agencies. For more information regarding the preferred alternative and its impacts and associated mitigation measures on transportation please see 4.3.15 Section 4 of the Recirculated Draft EIR/ Supplemental Draft EIS (RDEIR/SDEIS). For additional information regarding mitigation, please review Master Response 22.
1655	14	The BDCP's governing framework does not give a meaningful voice to affected local governments, including the City of Stockton.	Please see Master Response 5 for a discussion of the governance structure proposed in the 2013 public draft BDCP.  The BDCP is no longer the preferred alternative. The Final EIR/EIS analyzes all alternatives, including the new preferred alternative, Alternative 4A.
1655	15	The proposed BDCP would have significant adverse effects on the City and its environment. The City therefore cannot and does not support the proposed BDCP.	The preferred alternative, Alternative 4A (i.e., the California WaterFix Project) no longer includes an HCP. The commenter does not offer any evidence on how the project would result in significant adverse effects on the City related to the 2013 Draft EIR/EIS or to the 2015 RDEIR/SDEIS.
1655	16	The BDCP fails to satisfy HCP and NCCP requirements  The overwhelming evidence demonstrates the BDCP does not meet the criteria for issuance of incidental take authorization under the federal Endangered Species Act (ESA) or NCCPA because it will not adequately protect listed and threatened species and may, in fact, reduce the likelihood of their survival and recovery in the wild. [footnote 1: See, e.g., May 15, 2014 Comments on BDCP of Delta Independent Science Board; February 26, 2014, letter to Charlton H. Bonham, Director, California Department of Fish and Wildlife, from California Advisory Committee on Salmon and Steelhead Trout Re: Recommendation to Deny Incidental Take Permit and Natural Communities Conservation Plan for Bay Delta Conservation Plan; Comments on BDCP DEIR/EIS of North State Water Alliance, including expert reports of Dave Vogel and Robert J. Latour, Ph.D.]	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. For additional detail on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the current status of the draft BDCP Effects Analysis, please see Master Response 5.  For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.
1655	17	Despite the myriad of financial sources discussed in the BDCP, it is clear that there is not adequate funding available to implement its terms and conditions as required by the Endangered Species Act.	See Response to Comment 1655-16.
1655	18	In order for incidental take coverage to be authorized under the federal ESA, United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) both (as applicable) must find that a HCP will: (1) "to the maximum extent practicable, minimize and mitigate" the impacts of the taking; and (2) "not appreciably reduce the likelihood of the survival and recovery of the species in the wild." (16 U.S.C. [Sections] 1539(a)(2)(B)(ii), (a)(2)(B)(iv).)	See Response to Comment 1655-16. The proposed project has been developed with the goals of minimizing and avoiding incidental take of listed species to the maximum extent practicable. Chapter 11, Fish and Aquatic Resources, and Chapter 12, Terrestrial Biological Resources, Final EIR/EIS, describe effects of the proposed project on fish and wildlife species in the Plan Area. Section 7 requires that federal agencies, in consultation with the federal fish and wildlife agencies, ensure that their actions are not likely to jeopardize the continued existence of species or result in modification or destruction of critical habitat.  A biological opinion was not required prior to the release of the Draft EIR/EIS. For the Proposed Action, the USFWS and NMFS will conduct an internal ESA Section 7 consultation prior to issuance of a 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 (Reclamation) to complete biological opinions or a joint biological opinion prior to federal action to carry out the proposed project. The proposed project is going to mitigate for impacts and restore habitat for fish and wildlife listed in Section 4.3.7 and 4.3.8 of the RDEIR/SDEIS. The RDEIR/SDEIS

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			addresses effects on special-status species, including non-listed species. Impacts that are going to potentially occur during the implementation timeline are fully disclosed with associated mitigation measures to decrease the severity of impact to covered species. Please see Appendix 1A Evaluation of Species Considered for Coverage of the BDCP for additional information on screening criteria of fish and wildlife species that were selected for the other 15 conveyance alternatives.
1655	19	<p>For the California Department of Fish and Wildlife (CDFW) to approve an NCCP, the NCCPA requires, among other things, that:</p> <p>--"The plan contains specific Conservation Measures that meet the biological needs of covered species and that are based on the best available scientific information regarding the status of the covered species and the impacts of the permitted activities on those species." (Fish &amp; G. Code, [Section] 2820(a)(6).)</p> <p>--"The plan provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves or other measures that provide equivalent conservation of covered species appropriate for land, aquatic, and marine habitats within the plan area." (Fish &amp; G. Code, [Section] 2820(a)(3).)</p> <p>These standards necessarily require that a proposed HCP/NCCP contain well- defined and specific conservation actions. Similarly, NEPA and CEQA require that the project analyzed in an environmental document be sufficiently well-defined to inform the public of what is proposed and of the projected environmental effects of implementing that project. Yet the BDCP and DEIR/EIS project description do not provide enough information about the project or its operations to satisfy ESA, NCCPA, or CEQA and NEPA standards, let alone to allow the City to evaluate effects on the City's operations or the environment. For example, nearly every project element other than the north Delta intake and tunnels is subject to further development following later EIRs, more studies, or uncertain adaptive management. There is no description of how SWP and CVP facilities upstream of the Delta actually would operate with the proposed tunnels.</p>	<p>The preferred alternative, Alternative 4A, no longer includes an HCP.</p> <p>Please see Master Response 2 regarding the combination of program-level and project-level analysis and the adequacy of that approach. Please see Master Response 5 regarding the BDCP.</p> <p>At this time it is anticipated that CVP upstream operations will not change to accommodate construction and operation of new water conveyance facilities as may be proposed. However, if Reclamation determines that changes in upstream operations are warranted to maintain operational efficiencies or for other reasons, Reclamation may undertake additional environmental analysis.</p>
1655	20	<p>The "high outflow" scenario not only relies on speculative water transfers, but also assumes that the CVP would accrue undefined obligations to the SWP under the Coordinated Operations Agreement. (BDCP, p. 3.4-19.) On the critical issue of what streamflows will be required for the BDCP to be permitted, the studies that would drive the decision tree's results "have not yet been determined." (BDCP, p. 3.4-32.)</p>	<p>Please see Master Response 30 regarding modeling.</p>
1655	21	<p>The structure and operation of the proposed Implementation Office and related groups, councils, and teams is unclear (BDCP, ch. 7). Moreover, Conservation Measures (CMs) 2 through 22 are discussed only at a programmatic level, leaving the City to guess at what the impacts of those measures might be.</p> <p>This lack of information prevents the BDCP from being adequate to support the issuance of any permits under the ESA and NCCPA. The available information about the decision tree would not support the U.S. Fish and Wildlife Service [USFWS], the National Marine Fisheries Service [NMFS], or the California Department of Fish and Wildlife [DFW], to make the specific determinations concerning the effect of the BDCP on the covered species under Section 10 of the ESA, and Fish and Game Code Section 2820 that would be required for these agencies to issue the necessary permits for the north Delta diversions. For example, given that even the studies to support the decision tree are not defined, CDFW could not determine that the outcome of the decision tree would be a "specific Conservation Measure</p>	<p>Please see Master Responses 2 (Project Level versus Program Level), Master Response 45 (Permitting), Master Response 22 (Mitigation, Environmental Commitments, Avoidance and Minimization Measures and Alternative-Specific Environmental Commitments) and Master Response 5 (BDCP).</p>

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		that meets the biological needs of the covered species and that is based on the best available scientific information," as required by Fish and Game Code section 2820(a)(6).	
1655	22	The fact that the BDCP does not even identify the studies that will be necessary to resolve the decision tree causes the DEIR/EIS to be inadequate under NEPA and CEQA. The DEIR/EIS indicates that not even the hypotheses that would drive the decision tree studies have been determined, stating that the decision tree's first step would be as follows: "Clearly articulate scientific hypotheses designed to reduce uncertainty about what outflow criteria are needed . . . ." (DEIR/EIS, p. 3-207.)	Please see Master Response 44 regarding the decision tree. The decision tree is no longer being proposed in the Final EIR/EIS. The Proposed Project, Alternative 4A, will include a Collaborative Science and Adaptive Management Program, in addition to operational criteria and real-time monitoring to minimize and avoid impacts to aquatic species.
1655	23	The DEIR/EIS attempts to navigate the decision-tree's uncertainties by including an analysis for each of the decision-tree's four possible outcomes. This expansion of the possible proposed-project scenarios only creates confusion, however, because the DEIR/EIS also says that the four decision-tree/Scenario H outflow regimes could be combined with any of the project alternatives, not just the proposed project Alternative 4, to create a "hybrid alternative." (DEIR/EIS, p. 3-202.) The DEIR/EIS therefore presents a range of 36 different possible action alternatives, many of which are only addressed by the DEIR/EIS as being within "the bookends created by the entire range of alternatives addressed in the EIR/EIS." (DEIR/EIS, p. 3-202.) This application of the decision-tree to expand the DEIR/EIS's scope means that the document actually does not identify for the public what project may actually be implemented.	See Response to Comment 1655-22.
1655	24	<p>Based on the information in the BDCP and DEIR/EIS, the City can only assume the Endangered Species Act (ESA) and Natural Community Conservation Plan (NCCP) permits for the BDCP will include the operational and flow criteria related to the high-outflow scenario in the application of the H4/high outflow standards as the default terms for BDCP operations, subject to possible change under the decision tree. (BDCP, p. 3.4-24.) The BDCP contains no meaningful description of how the H4/high outflow scenario would be implemented. Concerning the Delta outflow criteria that would be implemented in the H4/high outflow scenario, the BDCP states only the following:</p> <p>March-May outflow targets are achieved using flow supplementation provided through an approved water transfer, by limiting CVP and SWP Delta exports to a total of 1,500 cubic feet per second (cfs), and finally, if these two water sources have been utilized, through releases from Oroville, with subsequent appropriate accounting adjustments between the SWP and the CVP. (BDCP, p. 3.4-19.)</p> <p>Other than the 1,500 cfs limitation that could be imposed on CVP/SWP Delta exports, none of these key means of implementing the H4/high outflow scenario appears to be defined anywhere in the BDCP documents. Those documents do not identify the source and amounts of any transfer water that would contribute to meeting the H4/high outflow requirements. It is impossible to determine what resources could be affected by the water transfers that apparently would be necessary to implement the decision tree variant that is the most likely to be reflected in any ESA or NCCPA permits that would be issued in the near term.</p>	See Master Response 5 regarding the BDCP.
1655	25	Even if it were possible for the decision tree to support adequate environmental analysis at this time, the BDCP appears to indicate that the decision tree's results could be substantially revised as a result of periodic review. (BDCP, pp. 3.4-354 to 3.4-355.) "Every 5 years, water facility operating criteria will be comprehensively reevaluated as part of the program-level assessment conducted by the Implementation Office, as described in Chapter 6, Section	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

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		<p>6.3.5, Five-Year Comprehensive Review." (BDCP, p. 3.4-354.) While this portion of the BDCP points to Section 6.3.5 as explaining how this comprehensive review of operating criteria would occur, Section 6.3.5 actually contains no detail on that subject. (BDCP, p. 6-27.) Moreover, it is unclear what role stakeholders such as the City will have in the process of reviewing and adopting any revised operating criteria. The BDCP must be revised to ensure that any revised operating criteria are subject to public review and comment pursuant to NEPA and CEQA.</p>	<p>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, and 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> <p>Alternative 4, which is an HCP/NCCP alternative and not the Preferred Alternative, is presented in the Final EIR/EIS as explicitly including the decision tree approach. Alternative 4A, as well as Alternatives 2D and 5A, added and described in the 2015 RDEIR/SDEIS do not explicitly call out the decision tree approach, however the basic concept has been retained. Through continued discussions with FWS, NMFS, and CDFW, it was recognized that necessary listed species authorizations under the Section 7 consultation and 2081(b) permitting processes would be better facilitated around a specific set of assumed initial operating criteria rather than around the four decision trees. This would not preclude, however, the same program of targeted research and studies that had been proposed under Alternative 4. The targeted research and studies could still proceed until the north Delta intakes become operational, with the results of those studies forming the basis for possible changes and refinements in the evaluated initial operations criteria. For more information about the Decision Tree, please see Master Response 44. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. For additional detail on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the current status of the draft BDCP Effects Analysis, please see Master Response 5.</p>
1655	26	<p>Section 10 of the ESA requires the USFWS and NMFS to find that the applicant for an incidental take permit (ITP) will ensure that sufficient funding be available to implement an HCP. (Southwest Center for Biological Diversity v. Bartel (S.Dist. Cal. 2006) 457 F.Supp.2d 1070, 1105.) Indeed, an HCP cannot be approved without identification of secured funding sources to implement its conservation actions. In particular, an HCP must ensure that there is adequate funding and specify the sources of funding available to implement the HCP's steps to minimize and mitigate impacts to its covered species. (16 U.S.C. [Sections] 1539(a)(2)(A), (B).)</p> <p>The BDCP does not meet this standard. It depends not only on funding from the current proposed statewide bond -- which keeps shrinking and being redefined, is subject to amendment and general election vote, and has already been delayed at least four years -- but also a second, as yet undefined, bond and equally vague federal funding. (BDCP, pp. 8-84 to 8-85, 8-109 to 8-110.) The Legislature at the end of June would not authorize even a modest water bond, only part of which would fund a portion of the BDCP. Moreover, Senate leadership, recognizing the lack of support for any financing of the twin tunnels, took great care in presenting the (failed) bond proposal not to link it to the BDCP.</p>	<p>Please see Master Response 5 regarding the BDCP.</p>
1655	27	<p>Many of the funding sources identified in the BDCP are speculative and otherwise insufficient to support the issuance of "take" permits under section 10 of the ESA. Indeed, DWR's representatives acknowledged complete funding might not be available and have even discussed the possibility that the BDCP might need to be scaled back in the future in the event anticipated funding is not available.</p>	<p>Please see Master Response 5 regarding the BDCP.</p>
1655	28	<p>Another defect in the BDCP is the assumption that funding responsibilities can simply be deferred to some future date. (BDCP, p. 8-2.) Without an understanding of who will pay and what funding is needed, there is no way to assess whether adequate funding exists sufficient to provide any regulatory assurances to the project proponents. Indeed, the BDCP</p>	<p>Please see Master Response 5 regarding the BDCP.</p>

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		itself admits that the BDCP is not intended to establish an allocation of costs or repayment responsibilities; instead, finance plans will be developed separately by "various funding agencies" through future discussions. (BDCP, p. 8-2.)	
1655	29	The BDCP does not contain adequate assurances that the water agencies that would receive incidental take coverage are the only agencies that would be asked to contribute funding to the project. Of significant concern to the City is the fact that the BDCP attempts to impose costs of certain conservation measures on the general public when those costs should be borne by the water contractors receiving the BDCP's benefits. For example, the BDCP suggests that the water contractors should be responsible for only 12.6 percent of the costs of CM 4. (BDCP, Table 8-41.) The rationale is that a small portion of restoration occurring under CM 4 is currently required by the USFWS Biological Opinion (BiOp) for the Long-Term Operational Criteria and Plan (OCAP). However, the BDCP fails to disclose that tidal restoration will also serve to mitigate the adverse impacts of relocating the diversion facilities to the North Delta. Without CM 4 (and CM 5), the relocation of pumping facilities to the North Delta would increase the frequency and severity of reverse flows in the Sacramento River. Restored tidal areas allow the incoming tide to dissipate and mask the effects of the new North Delta intakes. Indeed, many of the DEIR/EIS's impact analyses assume BDCP impacts would be reduced as a result of habitat restoration CMs. As such, the cost of CM 4 and other habitat conservation measures is more appropriately imposed on the contractors because CM 4 mitigates the operational impacts of the North Delta intake facilities.	In the 2013 BDCP, funding for Conservation Measure 4 is allocated according to the amount of tidal wetland restoration included in the USFWS Biological Opinion (8,000 acres) vs. the total amount of tidal wetland restoration included in the conservation strategy (65,000 acres). Contrary to the comment, the remaining tidal wetland restoration (57,000 acres) is not intended to mitigate for the impacts of the construction or operation of the new North Delta intakes or associated new water conveyance facilities. The operational criteria defined in the 2013 BDCP commits to no change in reverse flows in the Sacramento River as a result of the project.  Please see Master Response 5 regarding the BDCP. The EIR/EIS analyzes all alternatives, including the new preferred alternative, Alternative 4A. The cost of Alternative 4A, including all tidal wetland restoration, would be paid for entirely by the participating state and federal water contractors.
1655	30	The BDCP is intended to serve as an NCCP under California law. The BDCP also fails to meet the funding mandates of the NCCP Act. The NCCP Act demands an Implementation Agreement detailing, among other things: (1) provisions "specifying the actions [CDFW] shall take . . . if the plan participant fails to provide adequate funding"; and (2) "mechanisms to ensure adequate funding to carry out the conservation actions identified in the plan." (Fish & G. Code, [Section] 2820(b)(3).) The BDCP fails to comply with this mandate.	This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). For detailed responses on the primary issues being raised with regard to the IA, as well as a discussion of the current status of the IA, please see Master Response 5.
1655	31	While the ESA and NCCPA demand that adequate funding be identified and available to implement the projects outlined in an HCP/NCCP, the BDCP fails to satisfy any funding requirement. Even the BDCP's reliance on funding from federal water contractors based upon the delivery of federal CVP water is flawed, as the United States Bureau of Reclamation (USBR) will not be a permittee and will not sign the Implementing Agreement. The remaining sources of funding identified in the BDCP are too speculative to support the issuance of an Incidental Take Permit. The lack of adequate funding to ensure implementation of the BDCP's mitigation and other conditions is a fatal flaw.	See Response to Comment 1655-30.
1655	32	Assurances Sought by the BDCP Violate the No Injury Rule of Water Code Section 1702  The BDCP suggests that, if the terms and conditions of the Plan are being met, the federal government will not require additional conservation or mitigation measures, including land, water (including quantity and timing of delivery), money, or restrictions on the use of those resources. (BDCP, p. 6-28.) The BDCP recognizes that these assurances will not and cannot apply to the USBR, so it is only DWR that will receive the assurance that it will not be required to commit any additional (water) resources for the benefit of species covered by the Plan. However, the assurances the BDCP seeks contravene California water law, violating the "no injury" rule and disregarding the rule of priority of water rights.	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.  Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two 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. See also Master Response 32 regarding water rights.

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			<p>A detailed description of the Collaborative Science and Adaptive Management Program is included in Chapter 3, Description of Alternatives, of the Final EIR/EIS.</p> <p>For more information regarding aquatic impacts and its associated mitigation measures please see Chapter 11 of the Final EIR/EIS.</p> <p>For more information regarding changes in delta exports and purpose and need please see Master Responses 3 and 26.</p>
1655	33	<p>As part of the construction of CM 1, DWR will need to file with the SWRCB Petitions for Change in Point of Rediversion of water under the SWP water right permits to add the North Delta intakes as an additional point of diversion for SWP water. If the U.S. Bureau of Reclamation participates in the BDCP, the same will be true for the USBR's water right permits for the CVP, as CM 1 will not be feasible without including CVP water as part of the operations of CM 1. As defined in the current draft documents and their proposed assurances for project proponents, however, BDCP cannot meet the requirements for the SWRCB to approve the necessary Petitions for Change. Water Code section 1702 sets the key requirements for such petitions:</p> <p>Before permission to make such a change is granted the petitioner shall establish, to the satisfaction of the board, and it shall find, that the change will not operate to the injury of any legal user of the water involved.</p> <p>This requirement protects not only water users who hold their own water rights, but also those receiving water under contract. (State Water Resources Control Board Cases (2006) 136 Cal.App.4th 674.)</p>	<p>For additional detail on proceedings before the State Water Resources Control Board regarding the petition filed by DWR and Reclamation requesting changes in water rights for the preferred alternative, please see <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/water_right_petition.shtml">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/water_right_petition.shtml</a></p> <p>As clearly stated in the project objectives and purpose and need (see also Master Response 3), it is DWR's and Reclamation's intent that the Proposed Project be developed to operate consistent with existing SWP/CVP water right contracts. The Proposed Project does not propose new water rights contracts or changes to existing water rights contracts affecting the quantity, timing, purpose of use, or place of use of water. For more information about water rights in relation to the proposed project, please see Master Response 32.</p>
1655	34	<p>There are many reasons why the BDCP cannot satisfy Water Code section 1702's "no injury" requirement. If DWR is correct in the BDCP, that constructing CM 1 relieves it of any further obligation to forego any storage or diversion of water for species covered by the BDCP, then any additional water required would have to be provided by other water right holders. As species may continue to decline in the foreseeable future, granting the water-right changes necessary to implement the BDCP, with the assurances that BDCP contemplates, could injure other legal users of water and could require other water users to forego diversions for the benefit of DWR's and USBR's diversions of water to BDCP proponents.</p> <p>In addition to the foregoing, "area of origin" statutes [footnote 2: The area of origin statutes include Water Code sections 10500 et seq. and 11460 et seq.] mandate that water use within the area of origin -- in this case Northern California, or the Delta itself -- not be reduced due to the export of water for use outside the area of origin. In fact, the water rights granted by the state for the operation of the SWP and CVP are conditioned upon compliance with area of origin laws. Any attempt to subvert the area of origin statutes, whether through a private HCP/NCCP process (via regulatory assurances) or through the CEQA/NEPA process, will result in clear violations of those statutes intended to protect areas of origin, including the protection from injury by export projects.</p>	<p>The Final EIR/EIS analyzes all alternatives, including Alternative 4A, the new preferred alternative.</p> <p>The amount of water that can be diverted 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 (Final EIR/EIS Appendix 5B Section 3.B.3.3).</p> <p>See Response to Comment 1655-5 regarding water rights.</p> <p>For more information regarding changes in delta exports please see Master Response 26.</p>
1655	35	<p>The BDCP's Governance Structure Does Not Provide an Effective Voice for the City and Other Affected Local Stakeholders</p> <p>The governance of the BDCP is an important element of the Plan because all the important decisions (i.e., adaptive management questions, facility design and construction, habitat restoration, conservation measures, etc.) will be made under the framework proposed by</p>	<p>Please see Master Response 5 regarding the adequacy of the governance structure proposed for the BDCP.</p> <p>The preferred alternative, Alternative 4A, no longer includes an HCP. Because of the new regulatory approach of the preferred alternative, a Stakeholder Council is no longer proposed.</p> <p>A detailed description of the Collaborative Science and Adaptive Management Program is included in</p>

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		<p>the BDCP. For a plan so far-reaching and impactful as the BDCP, and subject to so much change after its initial approval, it is important to have as much representative governance as possible. Unfortunately, this is not the case for the BDCP.</p> <p>The proposed governance structure is notably lacking in any meaningful role for local stakeholders. The Stakeholder Council, which allows many stakeholders, including local counties and agencies, to convene and hold meetings on BDCP-related issues, has no authority in decision-making matters for the BDCP, even for issues that directly affect local counties and agencies. Moreover, only a small number of local government entities are included in the Stakeholder Council, and the City's participation is not guaranteed. Not only will not all local governments in the Delta be included, but those included will have no genuine voice because for disputed matters in BDCP governance, issues will be raised to the Authorized Entity Group and the Permit Oversight Group, the structure of which is biased in favor of water exporter interests.</p> <p>The governance structure of the BDCP is being created by water exporter interests, gives decision-making authority to water exporter interests, and grants dispute resolution authority to water exporter interests. There must be a more balanced approach to governance that does not exclude local authorities. Furthermore, for governance actions that could affect local stakeholders, including the City, there needs to be a mechanism to allow those stakeholders to have an effective role in representing their interests in the decision-making process.</p>	<p>Chapter 3, Description of Alternatives, of the Final EIR/EIS.</p>
1655	36	<p>The BDCP fails to comply with Delta Reform Act requirements</p> <p>The Delta Reform Act requires the BDCP to meet specified criteria or it will not be eligible for state funding. (Wat. Code, [Section] 85320(b).) Among those criteria are the requirements that the BDCP include a comprehensive review and analysis of all of the following:</p> <p>--A reasonable range of flow criteria, rates of diversion, and other operational criteria required to satisfy the criteria for approval of a natural community conservation plan as provided in subdivision (a) of section 2820 of the Fish and Game Code, and other operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries under a reasonable range of hydrologic conditions, which will identify the remaining water available for export and other beneficial uses.</p> <p>--A reasonable range of Delta conveyance alternatives, including through-Delta, dual conveyance, and isolated conveyance alternatives and including further capacity and design options of a lined canal, an unlined canal, and pipelines.</p> <p>--The potential effects of climate change, possible sea level rise up to 55 inches, and possible changes in total precipitation and runoff patterns on the conveyance alternatives and habitat restoration activities considered in the environmental impact report.</p> <p>To date, the BDCP has not included a comprehensive review and analysis of flows necessary for recovering the Delta ecosystem and restoring fisheries. While the BDCP does mention alternatives that DWR considered, the BDCP does not include a comprehensive review and analysis of those alternatives, as required by the Delta Reform Act. Rather, those alternatives are relegated to an appendix, with no meaningful consideration given in the environmental analysis or Plan itself. Further, the BDCP fails to include an appropriate analysis of the impacts of climate change on the system. While the BDCP recognizes that</p>	<p>Please see Appendices 3I and 3J of the Final EIR/EIS and Master Response 31 for a discussion of compliance with the Delta Reform Act.</p> <p>Fifteen alternatives and three additional subalternatives were analyzed in the Draft EIR/EIS and the RDEIR/RSEIS, respectively. Four major alignments have been included in the Final EIR/EIS: Through-Delta, East of the Sacramento River, West of the Sacramento River, and a Tunnel under the Delta. Many additional proposals by public and private individuals and organizations have also been evaluated and described in Chapter 3 of the Final EIR/EIS and Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1.</p> <p>Regarding development of alternatives for the EIR/EIS, a description of the process the Lead Agencies followed to develop and screen alternatives is provided in Master Response 4.</p> <p>For more information regarding climate change, please see Chapter 29 of the Final EIR/EIS.</p> <p>For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>

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		<p>climate change will occur, it fails to discuss the likely reaction (operational and regulatory) and fails to adequately discuss and analyze the impacts of climate change on restoration activities in the Delta. And while effects on migratory fish and aquatic resources are addressed, they are not addressed adequately, as demonstrated by the comments of the Delta Independent Science Board in its review of the BDCP Effects Analysis, the California Advisory Committee on Salmon and Steelhead Trout, as well as comments by experts such as Dave Vogel and Rob Latour, prepared on behalf of organizations like the North State Water Alliance.</p>	
1655	37	<p>The BDCP fails to account for and describe impacts of integration of the BDCP into the Delta Plan</p> <p>Water Code section 85320 provides that if the California Department of Fish and Wildlife approves the BDCP as an NCCP and determines that the BDCP meets the requirements of that section, and the BDCP has been approved as an HCP pursuant to the federal ESA, the Delta Stewardship Council must incorporate the BDCP into the Delta Plan. The BDCP recognizes, in passing, that the BDCP will be incorporated into the Delta Plan, but fails to discuss the consequences of that incorporation. (BDCP, pp. 1-27 to 1-28.) Later in the document, however, there is a recognition that the BDCP may stand in the way of future projects. Indeed, the BDCP goes so far as to suggest future regulations might be prohibited if they are inconsistent with the Plan. (See BDCP, p. 6-46 [future projects and regulations must evaluate effects on the BDCP and be evaluated for consistency with the BDCP].) The BDCP and the Draft Implementing Agreement suggest it will constrain future USFWS/NMFS consultations as well. (BDCP, p. 6-47; Draft Implementing Agreement for the BDCP, [Section] 20.1.9.)</p> <p>To the extent the BDCP will be a future measure of consistency, whether through the Delta Plan or otherwise, the BDCP and its accompanying DEIR/EIS must consider and evaluate the impacts of the BDCP on foreseeable future projects. The BDCP must, for example, analyze whether it will impact existing general plans in the Delta region, whether it will impact future transportation projects, recreational opportunities, and similar projects. Local agencies should have a full understanding of how the BDCP might impact the Delta and its residents, not just through the construction of physical facilities but also by any proscriptions on activities of various local agencies that may follow as the BDCP acts as a prohibition on future activities.</p>	<p>See Final EIR/EIS Appendices 3I and 3J and Master Response 31 regarding conformance with the Delta Reform Act and Master Response 5 regarding the BDCP.</p>
1655	38	<p>Conservation Measure 19 (CM 19) -- Urban Stormwater Treatment -- Should be modified to be consistent with other related Regulatory Programs</p> <p>The City is defined as a large municipality as described in federal stormwater regulations. (See 40 C.F.R. [Section] 122.26 (b)(4).) As such, the City is required to obtain an National Pollutant Discharge Elimination System Municipal Stormwater permit for the area under its jurisdiction. The County of San Joaquin contains urbanized areas and areas of potential growth that are either enclosed within the City limits or surround the City. Due to the proximity of the County's urbanized areas to the City, the County's physical interconnection with the City's storm drain system, and the locations of County discharges relative to the City's system, the County is designated as a part of the large Municipal Separate Storm Sewer System (MS4) in accordance with Code of Federal Regulations, Title 40, Section 122.26 (b)(4)(iii). The City complies with the requirements of its NPDES permit by implementing various stormwater pollution prevention activities.</p>	<p>The commenter's suggestions for Conservation Measure 19 are acknowledged. Pursuant to the requirements of the Construction General Permit for Construction and Land Disturbance Activities (Construction General Permit [CGP]) (currently Order 2010-0014-DWQ) and the National Pollutant Discharge Elimination System (NPDES [pursuant to Section 402 of the Clean Water Act]) permit, Lead Agencies will prepare multiple Stormwater Pollution Prevention Plans (SWPPPs) in advance of construction. A series of separate but related SWPPPs will be prepared and implemented and will take into consideration site-specific conditions (e.g., site sediment and receiving water risk) and site-specific construction activities. Measures specific to site and construction activity will be developed during the development of the SWPPPs for the project. The commenter is referred to Final EIR/EIS Appendix 3B, Environmental Commitments, Section 3B.1.5 for the types of best management practices that are required to be implemented as part of an SWPPP. See also Master Responses 15 and 22.</p>

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1655	39	<p>For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System (NPDES), we have the following suggestions for Conservation Measure 19:</p> <p>Page 3.4-326, lines 14-16. The City encourages the inclusion of the following language: "that will result in decreased discharge of contaminants to the Delta to the Maximum Extent Practical (MEP) and to the Maximum Extent Economically Feasible."</p>	See Response to Comment 1655-38.
1655	40	<p>For consistency purposes with other related regulatory programs, such as Phase I and II NPDES, we have the following suggestions for CM 19:</p> <p>Page 3.4-326, line 18. The City encourages the inclusion of the following language: "that help restore native fish habitat to the Maximum Extent Practical (MEP) and to the Maximum Extent Economically Feasible."</p>	See Response to Comment 1655-38.
1655	41	<p>For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System (NPDES), we have the following suggestions for Conservation Measure 19:</p> <p>Page 3.4-326 lines 24-26 and Page 3.4-327, lines 1-24. The City encourages the inclusion of the concepts which have been eloquently expressed in the "GAO's (Government Accountability Office) Report to Congressional Requesters" pertaining to the Clean Water Act dated December 2013, specifically in regard to total maximum daily loads (TMDLs), non-point source issues, the concept of voluntary compliance, legal authority to mandate compliance, and funding limitations. A copy of that report can be found at <a href="http://www.gao.gov/assets/660/659496.pdf">http://www.gao.gov/assets/660/659496.pdf</a>.</p>	See Response to Comment 1655-38.
1655	42	<p>For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System (NPDES), we have the following suggestions for Conservation Measure 19:</p> <p>Page 3.4-327, lines 17-24. The City requests that all jurisdictions within the Delta Watershed Region, i.e., all areas that contribute to the problem at hand, be listed, thus ensuring that all jurisdictions north, south, east, and west will be on notice of their expected participation, both financial and staff-wise, for this worthy endeavor.</p>	See Response to Comment 1655-38.
1655	43	<p>For consistency purposes with other related regulatory programs, such as Phase I and II NPDES, we have the following suggestions for CM 19:</p> <p>Page 3.4-327, section 3.4.19.2.1, Funding and Treatment Actions. The City encourages the consideration that funding for this worthwhile endeavor is allocated equally to all that have helped contribute to the degradation of local water quality and to those that directly benefit from this significant water resource statewide. Since nearly 75 percent of California's population is reliant upon the Delta Region for an adequate and reliable water resource, this project should be funded by all who will benefit from it equally. The water quality problems facing the Delta have been and are significantly exacerbated by the long-term diversion of local fresh water supplies from the Delta for use elsewhere throughout the state. Thus, it is suggested that either a statewide tax and/or bond initiative be passed to pay for the restorative nature of this invaluable endeavor, since the state's entire population will equally benefit from it (i.e., providing long-term stability to the state's precious limited water supply).</p>	The commenter's suggestions for Conservation Measure 19 are acknowledged. See Master Response 5 regarding the BDCP.

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1655	44	<p>For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System (NPDES), we (the City of Stockton) have the following suggestions for Conservation Measure 19:</p> <p>Page 3.4-327, lines 39-40. The City recommends that this list of reference sources be expanded to include website addresses and the following:</p> <p>Low Impact Development Center: <a href="http://lowimpactdevelopment.org/">http://lowimpactdevelopment.org/</a></p> <p>Central Coast Low Impact Development Initiative: <a href="http://centralcoastlidi.org/Central_Coast_LIDI/Home.html">http://centralcoastlidi.org/Central_Coast_LIDI/Home.html</a></p> <p>Washington Stormwater Center: <a href="http://www.wastormwatercenter.org/low-impact/">http://www.wastormwatercenter.org/low-impact/</a></p> <p>Center For Watershed Protection: <a href="http://cwp.org/">http://cwp.org/</a></p>	The commenter's suggestions for Conservation Measure 19 are acknowledged.
1655	45	<p>For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System (NPDES), we have the following suggestions for Conservation Measure 19:</p> <p>Page 3.4-328, lines 5-6. The City recommends that the types of actions "and/or projects" that could be funded be expanded to include the following:</p> <p>--Development of region-wide low impact development standards meeting the goals and objectives of this program that could then be included in any local development project that may have a potential beneficial impact.</p> <p>--Provide funding for modest commercial and industrial redevelopment projects, including parking facility resurfacing projects directly abutting waterways for the inclusion of stormwater treatment devices.</p> <p>--Provide funding for smart irrigation meters for properties abutting local waterways willing to replace an existing functioning irrigation timer, replacing at least 50 percent of existing "water thirsty" landscapes with native and drought tolerant landscapes that eventually lead to demonstrated water use reductions for a minimum of two years following complete installation.</p>	The commenter's suggestions for Conservation Measure 19 are acknowledged.
1655	46	<p>For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System [NPDES], we have the following suggestions for Conservation Measure [CM] 19:</p> <p>The BDCP (p. 3.4-328, lines 24-26) requires implementing entities to implement an effective operation and maintenance plan for each facility that includes devices funded through this program. The City recommends that implementing entities also require private property owners who receive funding through this program to enter into a private stormwater treatment device operation and maintenance agreement with the implementing entity that is recorded with the title of the property, to ensure that the device(s) are maintained and operated in perpetuity to standards detailed within a required private stormwater treatment device operation and maintenance manual.</p>	See Response to Comment 1655-38.
1655	47	For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System (NPDES), we have the following suggestions	See Master Responses 22 and 33 for information about mitigation measures and adaptive management and monitoring.

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		<p>for Conservation Measure 19:</p> <p>Page 3.4-330, Table 3.4.19-1. Effectiveness Monitoring Relevant to CM 19. The City encourages the inclusion of language that provides for a reduction in monitoring efforts for this worthwhile endeavor, if comparable monitoring is already being or will be conducted to meet the goals and objectives of a similar program (i.e., NPDES Phase I or II, and/or Areas of Special Biological Significance (ASBS) monitoring).</p>	
1655	48	<p>For consistency purposes with other related regulatory programs, such as Phase I and II NPDES (National Pollutant Discharge Elimination System), we have the following suggestions for CM19:</p> <p>For the effectiveness management element of CM19, would there be a process to appeal the decision of the Adaptive Management Team and/or Permit Oversight Group? If so, the City of Stockton encourages that this process be formulated and documented herein at this time.</p>	See Response to Comment 1655-47.
1655	49	<p>For consistency purposes with other related regulatory programs, such as Phase I and II National Pollutant Discharge Elimination System, we have the following suggestions for Conservation Measure 19:</p> <p>The City of Stockton recommends the inclusion of funding for a public education and outreach element coupled with a public participation and involvement element. For example, funding to promote the Integrated Pest Management Program via Our Water Our World and/or similar programs.</p>	Because Conservation Measure 19 is proposed as a grant program, there would have to be public outreach and education to prospective grant recipients. However, the Lead Agencies acknowledge the suggestion to include a broader public outreach and education element in CM19.
1655	50	<p>The BDCP's discussion of Existing Conditions Is Misleading and not based on Current or Best Available Evidence or Science</p> <p>The BDCP contains extensive discussion of purported causes of ecological decline in the Delta other than the effects of the past and existing diversions of water to areas south of the Delta. These discussions are fraught with inaccuracies, omissions, and misleading statements regarding various conditions ranging from low dissolved oxygen (DO) to ammonia effects on aquatic species. To the extent the DEIR/EIS relies on the inaccurate and incomplete information contained in the BDCP and supporting appendices, the DEIR/EIS impact analyses are not based on substantial evidence.</p>	The Final EIR/EIS has consistently relied on the best available science and data. Many updates have been made since the Draft EIR/EIS, particularly to Chapter 8, Water Quality, and Chapter 11, Fish and Aquatic Resources. Please refer to RDEIR/SDEIS Section 2, Substantive DEIR/S Revisions, for a summary of these changes. See also Master Response 1.
1655	51	<p>Inaccurate Discussion of Low Dissolved Oxygen in Stockton Deep Water Ship Channel</p> <p>The BDCP's discussion of causes of low DO in the Stockton Deep Water Ship Channel (Ship Channel) is inaccurate and not based on current evidence. Specifically, on page 2-14, lines 1-14, the BDCP states:</p> <p>Stockton Deep Water Ship Channel on the San Joaquin River. At that particular location the combination of low river flows, high concentrations of oxygen-demanding organisms (algae from upstream, bacterial uptake of effluent from the City of Stockton Regional Wastewater Control Facility, and other unknown sources), and channel geometry causes rates of biological oxygen demand to exceed rates of gas exchange with the atmosphere and results in a sag (locally depleted concentration) in dissolved oxygen concentration in the Stockton Deep Water Ship Channel (Lee and Jones-Lee 2002; Kimmerer 2004; Jassby and Van Nieuwenhuysse 2005). An oxygen diffuser experiment is currently being conducted in the Stockton Deep Water Ship Channel to meet total maximum daily load (TMDL) objectives for</p>	Alternative 4A, the preferred alternative, no longer proposes any actions in the Stockton Deep Water Ship Channel; therefore, no change was made to the text.

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		<p>dissolved oxygen concentrations established by the Central Valley Regional Water Quality Control Board (Central Valley Water Board) (2005) (above 6.0 milligrams per liter [mg/L]) from September 1 through November 30 and above 5.0 mg/L at all times). Low dissolved oxygen concentrations have also been documented in Old River near the Tracy Boulevard Bridge and occur in multiple dead-end sloughs near Stockton (e.g., Pixley Slough, Mosher Slough, and Five Mile Slough) (Central Valley Regional Water Quality Control Board 2009).</p> <p>Since 2007, the City's tertiary treatment system at its Regional Wastewater Control Facility (RWCF) has been providing ammonia removal. The treated wastewater routinely provides wastewater with daily minimum DO values greater than the 5 mg/L and 6 mg/L DO water quality objectives (Figure 1) and carbonaceous biochemical oxygen demand (CBOD) in the non-detectable range (Figure 2).</p> <p>Attributing low DO content in the Ship Channel to the City's discharge is not accurate or based on current evidence. Algae and their byproducts are responsible for most of the oxygen demand in the Ship Channel. (Foe, et al., 2002, p. 18.) Further analyses also found a strong correlation between increased concentrations of chlorophyll-a upstream at Mossdale and decreased DO concentrations in the Ship Channel upstream. (Foe, et al., 2002, p. 20.) The responsibility for current algae concentrations appears to rest with increased use of fertilizers and agricultural and wetland activities in the watershed. (Central Valley Regional Board Final Staff Report, 2005.) The DEIR/EIS should be updated throughout to reflect upgrades at the City's RWCF, upgrades at the Ship Channel by the Port of Stockton (added aeration), and should be inclusive of other stressors as indicated by the Central Valley Regional Board.</p>	
1655	52	<p>ATT1: Figure 1. City wastewater effluent exceeds 6 mg/L on a daily basis since the upgrades to the tertiary plant in 2007. DO deficits in the Ship Channel are due to algal blooms upstream of the City's wastewater discharge point settling in the Ship Channel and creating demand. The responsibility for current algae concentrations appears to rest with increased use of fertilizers and agricultural and wetland activities in the watershed (Central Valley Regional Board Final Staff Report, 2005).</p>	<p>This comment describes a figure in an attachment to the comment letter. See Response to Comment 1655-51.</p>
1655	53	<p>ATT2: Figure 2. CBOD from the City indicate non-detectable quantities 99.999% of the time, confirming the Central Valley Regional Board's position that DO issues at the Ship Channel are due to increased use of fertilizers and agricultural and wetland activities upstream of the wastewater facility (Central Valley Regional Board Final Staff Report, 2005).</p>	<p>This comment describes a figure in an attachment to the comment letter. See Response to Comment 1655-51.</p>
1655	54	<p>BDCP Appendix 2A contains numerous inaccurate statements, based in part on outdated evidence, regarding the causes of low Dissolved Oxygen in the Ship Channel and the effect of ammonia and nitrate. The BDCP inaccurately attributes low DO to discharges from the City's Regional Water Control Facility.</p> <p>On page 2A.3-15, lines 29-44, and page 2A.3-16, lines 1-2, the BDCP states:</p> <p>Other contaminants of concern for Chinook salmon include, but are not limited to, mercury, copper, oil and grease, pesticides, herbicides, ammonia, and localized areas of depressed dissolved oxygen (e.g., Stockton Deep Water Ship Channel and return flows from managed freshwater wetlands). As a result of the extensive agricultural development in the Central Valley, exposure to pesticides and herbicides has been identified as a significant concern for salmon and other fish species in the Plan Area (Bennett et al. 2001). In recent years, changes have been made in the composition of herbicides and pesticides used on agricultural crops in an effort to reduce potential toxicity to aquatic and terrestrial species. Modifications have</p>	<p>Please see the response to Comment 1655-25. Where comments submitted on the BDCP are 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), no specific responses are provided and further consideration will be given to these comments. 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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		<p>also been made to water system operations and discharges related to agricultural wastewater discharges (e.g., agricultural drainage water system lock-up and holding prior to discharge) and municipal wastewater treatment and discharges. Ammonia released from the City of Stockton Wastewater Treatment Plant contributes to the low dissolved oxygen conditions in the adjacent Stockton Deep Water Ship Channel. In addition to the adverse effects of the lowered dissolved oxygen on salmonid physiology, ammonia is toxic to salmonids at low concentrations. Actions have been implemented to remedy this source of ammonia, by modifying the treatment train at the wastewater facility (National Marine Fisheries Service 2012). Concerns remain, however, regarding the toxicity of contaminants such as pyrethroids that adsorb to sediments and other chemicals (e.g., including selenium and mercury, as well as other contaminants) on salmon.</p> <p>On page 2A.5-16, lines 16-20, the BDCP states:</p> <p>Ammonia released from the City of Stockton Wastewater Treatment Plant contributes to low dissolved oxygen in the adjacent Stockton Deep Water Ship Channel. In addition to the adverse effects of the lowered dissolved oxygen on salmonid physiology, ammonia is toxic to salmonids at low concentrations. The treatment train at the wastewater facility has been modified to remedy this source of ammonia (National Marine Fisheries Service 2012).</p> <p>On page 2A.6-13, lines 7-11, the BDCP states:</p> <p>Ammonia released from the City of Stockton Wastewater Treatment Plant contributes to the low dissolved oxygen in the adjacent Deep Water Ship Channel. In addition to the adverse effects of the lowered dissolved oxygen on salmonid physiology, ammonia is toxic to salmonids at low concentrations. Actions have been implemented to remedy this source of ammonia, by modifying 10 the treatment train at the wastewater facility (National Marine Fisheries Service 2012).</p> <p>As noted, the BDCP and DEIR/EIS, including Appendix 2A, should be updated to reflect ammonia removal upgrades at the City's RWCF and inclusive of other stressors as indicated by the Central Valley Regional Board. Furthermore, ammonia concentrations do not reach toxic levels to Chinook salmon in this watershed.</p> <p>By contrast, on page 3.4-287, lines 19-29, the BDCP states:</p> <p>Since the approval of the DO Total Maximum Daily Loads Basin Plan Amendment in 2005, two actions have been implemented to alleviate low DO conditions in the DWSC. First, beginning in 2007 the City of Stockton added engineered wetlands and two nitrifying biotowers to the Stockton Regional Wastewater Control Facility to reduce ammonia discharges to the San Joaquin River. This action decreased the ammonia levels in facility effluent from approximately 30 to 35 mg/L to approximately 2 mg/L, thereby reducing biochemical oxygen demand in the DWSC. The ammonia was the biggest oxygen demand in the winter months and because nitrification treatments were initiated, DO concentrations in the DWSC have improved markedly during the winter months. However, other factors continue to contribute to DO depressions, including reduced river velocity through the Stockton DWSC as a result of increased channel capacity, and upstream contributions of organic materials (e.g., algal loads, nutrients, agricultural discharges).</p> <p>The BDCP recognizes the work done by the City since 2007 in this statement but not in previous sections, as noted above. The BDCP needs to coordinate this information throughout the document and eliminate inconsistencies between the BDCP and DEIR/EIS</p>	

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		and appendices that compromise the integrity of the CEQA/NEPA document.	
1655	55	<p>Inaccurate and Incomplete Discussion of Impact of Ammonia/ Nitrate and Nitrite on Aquatic System</p> <p>On page 2-15, lines 28-45, the BDCP states:</p> <p>In the absence of other factors such as Potamocorbula, nutrients do not limit the development of primary producers in the Delta; instead, light levels within the water column appear to control primary productivity (Cole and Cloern 1984; Kimmerer 2004). Light penetration through the water column has an inverse exponential relationship with suspended particulate matter at a given depth. Therefore, the large majority of phytoplankton production occurs near the surface. If the current pattern holds and water clarity continues to increase in the Delta as it has done over the past few decades (Lehman 2000), higher phytoplankton production is expected. However, the growth rate, depth distribution, and extent of Egeria and other nonnative invasive aquatic plants may respond positively to increasing water clarity due to reduced particulate matter concentrations and their dense and extensive canopies may drive down light levels (Kimmerer 2004). High concentrations of ammonia and ammonium, which are derived primarily from wastewater treatment plants, may also contribute to reduced productivity in the Delta and bays of the Plan Area by suppressing the uptake of nitrate by diatoms and phytoplankton (Dugdale et al. 2007; Dugdale 2008). Elevated ammonium concentrations may also directly impair primary productivity (Parker et al. 2010). Glibert (2010) has found evidence that spatio-temporal patterns in ratios of ammonia, nitrate, and phosphate concentrations can explain spatial and temporal patterns in algal functional groups (i.e., diatoms, and flagellates), and cyanobacteria in the Delta, and may also explain zooplankton and pelagic fish abundance.</p> <p>The first and last sentences in this passage contradict each other. In addition, Parker et al. (2010) also found that ammonia and effluent additions resulted in greater phytoplankton growth and added effluent resulted in increased primary productivity (14C-uptake rates) in many of the samples. If statistical analysis had been conducted on these data, the results would likely be insignificant. The body of work on this topic is growing, as evidenced by many of the citations in the BDCP documents. There is ongoing work and analysis that will continue to inform the ammonia/nitrate/nitrite effect on aquatic life. The studies cited do not provide a complete understanding of the impact of ammonia/nitrate and nitrite on the aquatic system.</p> <p>The City supports ongoing efforts to develop a more comprehensive understanding of these impacts, taken in context with all of the other stressors in the Delta. These other stressors include, but are not limited to, variations in salinity caused by seasonal flow fluctuations and water exports, as well as seasonal changes in turbidity and clarity. We request that the BDCP look at this issue holistically and provide the funding necessary to mitigate all issues attributed to water quality changes due to water exports. The BDCP should pay for the development of a Delta nutrient management strategy modeled after the San Francisco Nutrient Management Strategy (San Francisco Bay Regional Water Quality Control Board, November 2012) in which the highest priority science questions are targeted, resources are allocated with wisdom, and all Delta water quality efforts become collaborated and coordinated to serve California through this new millennium. Engaging the San Francisco Estuary Institute (SFEI) and United States Geological Survey (USGS) as unbiased scientists should be funded by the BDCP in collaboration with other stakeholders to develop a comprehensive Delta nutrient management strategy.</p>	Please see the response to Comment 1655-54.

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1655	56	<p>The BDCP and BDCP Appendix 2A contain a number of inaccurate and/or misleading characterizations and conclusions regarding the evidence of ammonia effects on aquatic resources. To the extent the DEIR/EIS relies on this inaccurate information to support its impact determinations, the analysis and conclusions are flawed and not supported by substantial evidence.</p> <p>BDCP, p. 3.3-126, lines 21-32. Here the BDCP states:</p> <p>Total ammonia levels may be another factor affecting covered fish species by inhibiting primary productivity (Ballard et al. 2009; Dugdale et al. 2007; Dugdale et al. 2012 in Parker et al. 2012; Glibert 2010; Glibert et al. 2011; Parker et al. 2012; Wilkerson et al. 2006), altering the phytoplankton species assemblage (Baxter et al. 2010; Glibert 2010), or altering the role of invasive species (Ballard et al. 2009). The primary source of total ammonia in the Delta is effluent discharged from wastewater treatment plants, and the primary contributing facility is the Sacramento Regional Wastewater Treatment Plant. The frequency, severity, and distribution of effects from total ammonia levels are the subject of ongoing research, but current science indicates a high likelihood that decreasing loading of total ammonia from the Sacramento Regional Wastewater Treatment Plant would have beneficial consequences for phytoplankton productivity and thus the productivity of the pelagic foodweb in and downstream of the Sacramento River in the Plan Area. Section 3.5.1, Ammonia Load Reduction, describes the analysis underlying this conclusion.</p> <p>There is ongoing work and analysis that will continue to inform the ammonia/nitrate/nitrite effect on the Delta. As such, the studies cited do not provide a complete understanding of the impact of ammonia/nitrate and nitrite discharges on the aquatic system. The City supports the development of a Delta nutrient management strategy to develop a more comprehensive understanding of the impact of removing the Sacramento Regional Wastewater Treatment Plant ammonia loading from the Delta via an unbiased scientific group such as that developed for the San Francisco Bay Nutrient Management Strategy where the SFEI is the scientific lead and the USGS Regional Monitoring data are used to guide scientifically driven decision-making. Ammonia must be considered in context with all of the other stressors in the Delta, which include but are not limited to, variations in salinity caused by seasonal flow fluctuations and water exports, and seasonal changes in turbidity and clarity. It is imperative that the BDCP look at this issue holistically and mitigate all effects to the City.</p>	See Response to Comment 1655-55.
1655	57	BDCP Appendix 2A, p. 2.A.1-14, lines 22-34. The results from the cited papers indicate that ammonia can reduce phytoplankton nitrate uptake, but the resulting effects on diatom growth are not well understood, especially since phytoplankton (including diatoms) will also grow using ammonia as their nitrogen source.	See Response to Comment 1655-55.
1655	58	BDCP Appendix 2A, p. 2A.1-14, line 40. Warner et al. (2008) did not find evidence that ammonia from municipal wastewater treatment plants could cause delta smelt toxicity. The paper concluded: "Based on test results obtained in this and related studies, we conclude that average ammonia/ium concentrations reported for the Sacramento River immediately below SRWTP are about 3.6 times lower than the highest no observed effect concentration (NOEC) tested in this study, and are not likely to affect 7-d survival of 55-d old delta smelt larvae (Werner 2008)." This section suggests that ammonia is reducing food resources, but all the referenced papers investigate the effects of pesticides on zooplankton. This statement should begin, "Pesticides may affect delta smelt indirectly by . . . ."	Although it is unclear from which report the section quoted by the commenter originates, it is correct that a subsequent report (Werner et al. 2010) found average as well as maximum permissible SRWTP effluent in the Sacramento River below SRWTP are not likely to affect 7-d survival of 47-d old delta smelt larvae, so the reference to Werner et al. (2008) has been removed, and the second sentence has been revised to start "Toxics such as pesticides..." See Master Response 5 regarding the BDCP.

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1655	59	<p>Misleading Discussion of Toxic Substances</p> <p>On page 2-17, line 15, the BDCP states:</p> <p>Return flows from wastewater treatment plants, island drainage, and groundwater seepage have introduced toxic substances into the Delta. Barriers and new channels that were constructed and are operated to maintain water quality (e.g., Head of Old River barrier, and Delta Cross Channel) have significantly altered flow, transport, and mixing of suspended particles, dissolved gases, and dissolved salts in the Delta.</p> <p>Further, on page 3.3-128, lines 24-29 the BDCP states:</p> <p>Exposure to toxins. Toxins from agricultural drainage and return flows, municipal wastewater treatment facilities, and other point and nonpoint discharges include mercury, selenium, copper, pyrethroids, and endocrine disruptors. These have the potential to affect fish health and condition and adversely affect salmon distribution and abundance. Sublethal concentrations may interact with other stressors (e.g., seasonally elevated water temperatures, predation, or disease) to increase the vulnerability of salmonids to stress, reduced fitness, or mortality.</p> <p>Any discussion about "toxic substances" without regard to relevant concentrations gives the reader the impression that wastewater treatment effluent is toxic. This is not the case. Wastewater treatment plant effluent must comply with National Pollutant Discharge Elimination System permit limits, which strictly regulates any potential toxicity. Each of these sections of the BDCP should be revised to provide a more thorough and accurate discussion of the nature of toxic substances.</p>	See Response to Comment 1655-55.
1655	60	<p>Inadequate Evaluation of Greenhouse Gas Emissions Relative to Wastewater Treatment</p> <p>The BDCP advocates for nutrient removal from wastewater and suggests that increased regulation of wastewater discharges will lead to beneficial environmental impacts. However, the DEIR/EIS does not appear to acknowledge that increased levels of wastewater treatment will result in increased emissions of greenhouse gases (GHGs), and that there will be a point of diminishing returns, after which the GHG emissions' impacts of increased nutrient removal exceed the benefits of the removal. The DEIR/EIS's evaluation of GHG emissions that will be created as a result of the BDCP implementation is flawed because the information on which it is based -- Appendix 2C Climate Change Implications and Assumptions -- does not account for these competing considerations.</p>	Changes in GHG emissions associated with increased regulation of wastewater discharge is considered speculative at this point, as it is uncertain what specific regulatory environment will exist in the future related to wastewater discharge, other than what currently exists and is currently proposed. Consequently, to try to characterize changes in GHG emissions associated with changes in wastewater treatment is considered speculative.
1655	61	<p>The Water Environment Research Foundation Sustainability Report (Falk, et al., 2011) (WERF Report) investigated at what point the sustainability impacts of increased levels of nutrient removal outweigh the benefits of improved water quality. Within the report, Greenhouse Gas emissions were measured along with potential algal production as a water quality surrogate. The distribution of GHG emissions for pumping/mixing, aeration, cogeneration, N2O emissions, chemical manufacturing/delivery/use, deep well injection (Level 5), and sum of CH4 emission and biosolids is provided in Figure 3 below.</p> <p>The three largest contributors to GHG emissions are all energy related: aeration, pumping/mixing, and deep well injection (Level 5). The steady increase in emissions from Levels 2 to 4 is due to chemical demand for methanol to fuel denitrification, alum, and polymer. More chemicals are required for tertiary add-on solids separation processes with more advanced treatment. For example, the use of high rate clarification (assume dose of</p>	As discussed in Final EIR/EIS Chapter 8, Water Quality, bromide levels under the project may exceed water quality criteria at the North Bay Aqueduct, relative to the No Action Alternative. Accordingly, water treatment plants may need to be upgraded to meet related disinfection byproduct drinking water standards (See Impact PH-2 in Final EIR/EIS Chapter 25, Public Health). Further, there may be increased potential for Microcystis bloom formation due to project operations and climate change. While some upgrades to treatment facilities may be needed, which could change their existing air emissions, the extent of the changes is currently unknown. Moreover, attributing any potential emissions increase at water treatment facilities as a result of equipment upgrades to the proposed project would be speculative as numerous other variables throughout the watershed affect water quality and the need for treatment. Finally, the treatment plants are likely subject to air district permits and emissions limits. Substantial modification to wastewater treatment facilities may also trigger new or additional air district permit restrictions. Emissions associated with the wastewater treatment facility would therefore be addressed at the individual facility-level. See also

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		<p>50 mg/L alum; 2 mg/L polymer) increases chemical demand from Level 3 to Level 4 or 5. The least significant variables were methane and biosolids hauling. Besides GHG emissions, the impact on the receiving water body using the water quality surrogate is potential algal production. The algae production results in Figure 4 are on the primary y-axis (left-hand side) along with the GHG emission equivalents on the secondary y-axis (right-hand side). The algal savings are 95 percent from the Level 1 to 3. Both Levels 4 and 5 remove an additional 4 percent (99 percent total removal with respect to Level 1) with a corresponding doubling of GHG emissions from Level 3 to 5.</p> <p>The overall message from the WERF Report is that a combination of Level 3 treatment and best management practices on non-point sources might be a more sustainable approach than solely regulating point source discharges for achieving comparable water qualities. The BDCP DEIR/EIS must assess all impacts to GHG emissions including excessive treatment levels for water and wastewater treatment plants along the Delta that could result from the BDCP's focus on "other stressors." If, as a result of the BDCP, the City were required to increase its treatment requirements, all anticipated treatment requirements, such as reverse osmosis, cooling and up to and including Level 5 treatment levels, the increased cost and environmental impacts associated with increased treatment, including mitigation for GHG emissions, must be fully mitigated by the BDCP.</p>	Master Response 14.
1655	62	ATT3: Figure 3. GHG Distribution per Treatment level.	This comment describes a figure in an attachment to the comment letter. See Response to Comment 1655-61.
1655	63	ATT4: Figure 4. GHG Emissions and Algae Production per Treatment Level.	This comment describes a figure in an attachment to the comment letter. See Response to Comment 1655-61.
1655	64	The DEIR/EIS fails to address the City of Stockton's most significant concerns about the BDCP's potential impacts, including key issues raised in the City's comments on the Notice of Preparation. The DEIR/EIS fails to adequately provide the requisite accurate environmental documentation necessary for the citizens of Stockton and public decision-makers to reach an informed and thoughtful decision about the BDCP's environmental impacts in and around the City, and whether the BDCP will realistically address the significant issues facing the Delta and California's water supply needs.	See Master Response 5 regarding the BDCP. The joint EIR/EIS was prepared in compliance with the requirements of CEQA and NEPA. Before the selection and approval of an alternative is considered, the Lead Agencies must comply with the necessary state and federal environmental review requirements. This document, along with the Draft EIR/EIS and RDEIR/SDEIS are intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives. As implementation of the proposed project or any of the action alternatives will require permits and approvals from public agencies other than the Lead Agencies, the CEQA and NEPA documents are prepared to support the various public agency permit approvals and other discretionary decisions.
1655	65	Due to the vast length of the DEIR/EIS and number of related documents (including appendices and ancillary studies) that constitute the DEIR/EIS, it was not feasible for City of Stockton staff to conduct a detailed review of the analysis of all alternatives in the time provided for public review and comment. Therefore the City's comments focus largely on the analysis and impacts of the preferred project, Alternative 4. To the extent other alternatives are the same or substantially similar to Alternative 4, the City's comments on the DEIR/EIS and/or its objections to Alternative 4 apply equally to those other analyses and alternatives. Similarly, the City's discussion of proposed mitigation measures focuses on language used in mitigation as presented to mitigate impacts of Alternative 4. To the extent that the same or substantially similar mitigation measures are proposed for other alternatives, these comments apply equally to that mitigation.	The EIR/EIS covers impacts to 14 natural communities and land use types, 149 special-status wildlife and plant species, 11 covered fish species and 9 noncovered fish species. The analyses describe impacts and proposed mitigation in an ever-changing and complex aquatic and unique land-based plan area. The documents reflect many years of collaboration, responses to requests for additional information, careful thought, accumulation of the latest scientific information, and thorough analyses needed to develop and conduct an environmental review of a project that impacts the Delta estuary and water supplies for million Californians. As such, the EIR/EIS necessarily address numerous competing interests in the Delta and throughout the state. The size and complexity of the EIR/EIS reflect an effort to analyze a proposed project under both state and federal laws for habitat conservation plan along with 18 alternatives. See also Master Responses 38 and 39.
1655	66	<p>The Project Description Is Too Vague to Permit Meaningful Review</p> <p>As noted above, the BDCP and DEIR/EIS project description do not provide enough information about the project or its operations to permit the City to evaluate effects on the</p>	The commenter contends that the BDCP and the Draft EIR/EIS Project Description lack sufficient information because elements of the Project Description, after project approval, are susceptible to change in response to information learned through adaptive management. There is no basis in the law for such a contention. The CEQA requirement for a complete Project Description applies during the environmental review process, not

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		<p>City's operations or the environment. The California Supreme Court has explained that, under CEQA, "[a]n accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR." (Concerned Citizens of Costa Mesa v. 32nd District Agricultural Assn. (1986) 42 Cal.3d 929, 938 (Concerned Citizens of Costa Mesa).) This same standard applies under NEPA. (See also 40 C.F.R. [Section] 1501.2(b); Sierra Club v. Babbitt (E.D. Cal. 1999) 69 F.Supp.2d 1202, 1217-1218 [project description with insufficient detail does not permit sufficient public comment and violates NEPA].) The project description in the DEIR/EIS fails to satisfy these requirements because it, as with the BDCP itself, contains a very large number of crucial uncertainties, vague descriptions, and analytical gaps.</p> <p>All elements of the BDCP -- even the proposed new north Delta diversion and tunnels -- are presented as conservation measures that would benefit at least some of the covered species. Yet, under the BDCP's terms discussed above, essentially all of those conservation measures are subject to being "modified, replaced, or supplemented" as a result of the adaptive management process. According to the BDCP, those conservation measures could be changed by the agreement of the BDCP's proponents and the resources agencies, without further public involvement. With the entire BDCP being subject to high levels of possible change and uncertainty, with project changes apparently possible at any time, and without further environmental review, there is no way the BDCP can satisfy CEQA's requirement that a project description be "accurate, stable and finite." (Concerned Citizens of Costa Mesa, supra, 42 Cal.3d at p. 938.) To satisfy CEQA and NEPA's informational requirements, both the BDCP and DEIR/EIS must be revised to provide meaningful detail about the project and recirculated for public review before any decisions can be made concerning permitting and implementation of the BDCP.</p>	<p>after project approval. Even during environmental review, agencies may change their proposed project in response to public input and in order to reduce environmental effects. (See, e.g., Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 736-737.) After project approval, agencies are not prohibited from changing their approved project, provided that they comply with the CEQA and NEPA rules governing supplemental environmental review. In the CEQA Guidelines, these are set forth in Section 15162 et seq., which require additional formal environmental review where project changes or changed circumstances demonstrate the need for major changes to a prior EIR due to new significant effects or substantial increases in the severity of previously-identified significant effects. (State CEQA Guidelines, Section 15162[a].) Under NEPA, the parallel rules are found in 40 C.F.R. section 1502.9[c], which requires that a supplement to a Final EIS be prepared where "[t]he agency makes substantial changes in the proposed action that are relevant to environmental concerns" or "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."</p> <p>CEQA case law recognizes that, after projects are approved, changing circumstances and new information may require public agencies to modify earlier approvals to deal with new circumstances or needs. (See Napa Citizens for Honest Government v. Napa County Bd. Of Supervisors (2001) 91 Cal.App.4th 342, 358.) Here, the concept of adaptive management is intended to create a feedback loop by which the Lead Agencies can learn how successful their initial conservation strategies will be. The agencies will modify their initial approaches when information and experience show that course corrections are necessary to increase levels of success. Where any changes made in response to adaptive management trigger the need for supplemental environmental review, such review will be conducted.</p>
1655	67	<p>The incorporation of mitigation measures in the project description violates CEQA.</p> <p>The DEIR/EIS improperly incorporates many necessary mitigation measures into its project description, characterizing them as environmental commitments, and relies on this tactic to conclude potential project impacts would be less than significant or otherwise reduced. (DEIR/EIS, Appendix 3B, p. 3B-1.) However, characterizing the environmental commitments as part of the project violates CEQA. In fact, the environmental commitments are designed to reduce or eliminate numerous project impacts, including significant impacts to air quality, water quality, fish and aquatic resources, public health, and a host of other impact areas and thus should be treated as mitigation measures.</p> <p>There is hardly a resource area for which environmental commitments were not claimed to be factored into the impact analysis. (See DEIR/EIS, Table 3B-1, pp. 3B-2 to 3B-6.) Despite their apparently critical role in reducing the BDCP's impacts, the environmental commitments are not even described in the DEIR/EIS itself or evaluated as part of the impact analyses, but are relegated to one of the many appendices. (See DEIR/EIS, Appendix 3B [stating that environmental commitments "will not be restated in the impact analysis for each resource chapter but instead will be incorporated by reference."].) Whether characterized as part of the project description or mitigation, burying the environmental commitments in an appendix subverts CEQA's informational mandate by denying the public the opportunity to review and understand them in the context of the DEIR/EIS analysis. Merely assuming their implementation will reduce impacts, without any analysis or evidence to support those assumptions, also prevents the public from understanding the full scope of the impact of the proposed actions or commenting on the effectiveness of the environmental commitments as mitigation.</p>	<p>Both CEQA and CEQ NEPA regulations recommend or require summarizing information to reduce paperwork and to make the environmental document understandable to the public and decision makers. Including detailed descriptions of all of the environmental commitments in one appendix (Appendix 3B) and providing brief summaries of applicable environmental commitments in the impact analysis of each resource chapter was an effort to eliminate duplication and is consistent with CEQA and CEQ NEPA regulation's focus on readability of the document and reduction in paperwork, while still presenting adequate information to analyze and disclose the significant and adverse/beneficial environmental impacts and effects, as well as efforts to avoid and minimize these impacts/adverse effects of the project and its alternatives.</p> <p>For more information regarding Environmental Commitments please see Appendix 3B of the Final EIR/EIS and Master Response 22.</p>

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1655	68	<p>The DEIR/EIS misleadingly tries to downplay the significance and uncertainty associated with these environmental commitments by characterizing them as "design features, construction methods, and other Best Management Practices that "tend to be relatively standardized and are often already compulsory. They represent sound and proven methods that can avoid or reduce the potential effects of an action, for example installation of sedimentation barriers and other stormwater protections during grading -- in contrast to mitigation measures that would be necessary to be included as part of project approval to offset the environmental effects of the proposed action." (DEIR/EIS, p. 4-13, lines 4-12). However, examination of Table 3B-1, where the commitment titles are linked to generic issue areas, reveals that the environmental commitments are not limited to design features or construction methods or BMPs, and are not limited to proven methods to avoid or reduce environmental impacts. Indeed, the commitments are applied to some of the project's most serious impacts, including impacts to endangered species and human health.</p> <p>For example, the environmental commitments include "Develop and Implement Fish Salvage and Rescue Plans," and "Develop and Implement a Barge Operations Plan" that will address sensitive resources, responsibilities, avoidance, performance, and contingency measures. (DEIR/EIS Appendix 3B, p. 3B-3.) Because such plans are not developed, and involve the exercise of substantial discretion by the project proponents themselves during implementation, they are not similar to compliance with adopted standards such as building codes, which have been vetted through the code adoption or other regulatory processes. Further, characterizing these measures as "commitments" is inaccurate and misleading because not only are they not set forth in the project description but there is no firm commitment that they be implemented. (See Appendix 3B [stating "[t]he BDCP proponents will see to it that these measures will be implemented as appropriate, depending on the location of construction and surrounding land uses." (Id., p. 3B-1).)</p>	<p>The Environmental Commitments presented in Final EIR/EIS Appendix 3B have been committed to as part of the action alternatives analyzed in the EIR/EIS. Since the time of the Draft EIR/EIS, these commitments include an explanation of effectiveness to describe how the commitment could reduce environmental effects. In some cases application of environmental commitments may fully reduce a potential effect. In other instances the environmental commitments would contribute to reducing the effect but it would need to be combined with a mitigation measure, avoidance and minimization measures or alternative-specific Environmental Commitment (in the case of Alternatives 4A, 2D and 5A) to fully reduce the impact to a less-than-significant level. In other cases the EIR/EIS describes how, despite application of environmental commitments, mitigation measures or other measures, the impact is still considered to be significant and is described as a significant and unavoidable impact. In these cases, the measures to reduce these effects would be implemented to reduce the effect to the extent feasible. The Mitigation Monitoring and Reporting Plan (MMRP) provided with this Final EIR/EIS further explains the details how environmental commitments, mitigation measures, avoidance and minimization measures and Environmental Commitments for Alternative 4A would be implemented and monitored.</p>
1655	69	<p>The air quality impact analysis provides a particularly telling example of how the incorporation of the "environmental commitments" into the project description resulted in a failure to evaluate or disclose actual project impacts. With respect to construction emissions, the DEIR/EIS states, "[e]missions estimates include implementation of environmental commitments (see DEIR/EIS, Appendix 3B, Environmental Commitments)." (DEIR/EIS, p. 22-48, lines 13-15.) [footnote 3: See also "Construction Emissions Approach and Threshold": "Project-level GHG reduction measures (CO-1 and CO-2) included in the CAP have also been incorporated into the project design as environmental commitments (see Appendix 3B, Environmental Commitments)." (DEIR/EIS, p. 22-44, lines 18-20.)] Not only does the DEIR/EIS thus fail to disclose the total amount of hazardous pollutant emissions and greenhouse gases that would be released by the project, but it does not even provide for a reasonable comparison, should the reader choose to scour the appendices to try to unearth the estimated reductions from the environmental commitments, as they are provided in different units: "Although emissions are presented in different units (pounds and tons), the amounts of emissions are identical (i.e., 2,000 pounds is identical to 1 ton)." (DEIR/EIS, p. 22-48, lines 15-16.)</p>	<p>The RDEIR/SDEIS included narrative discussions explaining how each environmental commitment reduces the severity of environmental effects and whether the level of impact reduction is sufficient to render the effects less than significant. This approach provides a succinct presentation and analysis of each Environmental Commitment's effectiveness in reducing environmental impacts in a comprehensive and understandable manner without reproducing the original Draft EIR/EIS impact discussions that reference Environmental Commitments. Please refer to Final EIR/EIS Appendix 3B, Environmental Commitments. All Environmental Commitments are outlined in the MMRP and considered a condition of project approval.</p> <p>Section 22A.1.11 in Final EIR/EIS Appendix 22A, Air Quality Analysis Methodology, describes the adjustments to the emissions analysis that were performed to account for the benefits achieved by the Environmental Commitments. In many cases, the adjusted emission factors are presented in Appendix 22B, Air Quality Assumptions, or the percent reduction achieved by the commitment is provided directly in Final EIR/EIS Section 22A.1.11.</p> <p>With respect to the emissions units, these are independent of the environmental commitment analysis. As described in Final EIR/EIS Section 22.3.3 in Chapter 22, Air Quality and Greenhouse Gases, emissions are presented in pounds per day and tons per year in order to evaluate project-level effects against the appropriate air district thresholds, which are given in both pounds and tons. The emissions estimates utilize the same underlying assumptions and quantification methodologies. The only differences among the pounds per day and tons per year estimates are two conversion factors (pounds-tons and days-year).</p>
1655	70	<p>The commitments themselves are inadequate as mitigation because they are fraught with uncertainties and off-ramps that would allow for no or undefined mitigation to occur, or have the potential to result in new significant effects that are not analyzed in the DEIR/EIS</p>	<p>Please see Final EIR/EIS Chapter 31, Other CEQA/NEPA Required Sections, Section 31.5.1.4 for a discussion of the potential environmental impacts related to disposal and reuse of spoils, RTM and dredged material ("Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM), and Dredged Material"). Please also note</p>

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		<p>but subject to possible future environmental review. As but one example, the measure 3B.1.19 Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM) and Dredged Material (DEIR/EIS, Appendix 3B, pp. 3B-34 to 3B-40) is proposed to occur somewhere over a 10 mile radius of the construction sites. (See DEIR/EIS, p. 3B-35, lines 10-11.) No detail is provided about the possible location of these disposal sites, but the DEIR/EIS acknowledges that disposal might occur in wetlands and vernal pool areas, which would be a significant impact. Nor is any information provided regarding the volume of RTM decant liquids that will need treating, the proposed method for treating them, or where they would be disposed of. Lacking any information about the specific sites that are likely to be available for spoils storage and disposal, or any information about the treatment of decant liquids, and what specific assumptions were used in applying this environmental commitment to the analysis of project impacts, it is impossible for the City to assess the scope of potential impacts to agricultural lands, wetlands, water quality, and other important resources.</p>	<p>that the RDEIR/SDEIS was released on July 10, 2015. The RDEIR/SDEIS included a revised discussion of Disposal and Reuse of Spoils, Reusable Tunnel Material (RTM) and Dredged Material.</p> <p>Under Alternative 4 and 4A (the proposed project), the revised estimates of 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.</p> <p>Please also see Master Response 12 for further discussion of Reusable Tunnel Material.</p>
1655	71	<p>The environmental commitments are plainly mitigation measures. CEQA requires that mitigation measures be separately identified and analyzed. This analytical procedure is necessary in order for the lead agency: (1) to make required findings regarding potentially significant project impacts; (2) to determine whether mitigation measures are required; (3) to adequately evaluate the range or efficacy of required mitigation measures or project modifications; and (4) to trigger the required adoption of an enforceable mitigation monitoring program. The DEIR/EIS's failure to discuss the significance of project impacts apart from these proposed mitigation measures is a fatal structural deficiency in the EIR which resulted in a failure to disclose the full scope of project impacts and to consider whether other possible mitigation measures would be more effective. (Lotus v. Dept. of Transportation, et al. (2014) 223 Cal.App.4th 645.) The same tactic, employed by the California Department of Transportation, was rejected by the California Court of Appeal, which found it to be a "short-cutting of CEQA requirements" that subverted CEQA's purpose by omitting material necessary to informed decision-making and public participation; in short, it "preclude[d] both identification of potential environmental consequences arising from the project and also thoughtful analysis of the sufficiency of measures to mitigate those consequences." (Ibid.)</p> <p>In order for the public to understand the full scope of the BDCP's impacts, the DEIR/EIS must be revised to clearly describe the environmental commitments in the context of the individual impact analyses, and explain exactly how and to what degree they are expected to reduce project impacts. Impacts must be measured and quantified without consideration of the environmental commitments, before any determination is made regarding their effect. This analysis and supporting evidence must be included in the body of the DEIR/EIS, and the document must be recirculated for public review and comment.</p>	<p>The potential effects of mitigation measures and environmental commitments are evaluated in Final EIR/EIS Chapter 31, Other CEQA/NEPA Required Sections, starting at Section 31.5. The effectiveness of Environmental Commitments to reduce potential effects is presented in Appendix 3B.</p>
1655	72	<p>Inflating existing exports minimizes impacts</p> <p>The DEIR/EIS is unclear what level of exports was used for the existing conditions simulation, but it appears to have relied on full CVP and SWP contract deliveries. If this is the case, then the baseline likely has been inflated with respect to assumptions about the amount of water exports occurring under both existing conditions and the No Project Alternative, which has the effect of minimizing project impacts. With regard to SWP deliveries, it is well recognized that SWP contracts are written for far more supply than has ever been, or ever will be, delivered. (Santa Clarita Organization for Planning the Environment v. County of Los Angeles (2003) 106 Cal.App.4th 715.) Moreover, SWP deliveries have declined significantly in recent years since various regulatory constraints were adopted, including the federal Biological</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. 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 Final EIR/EIS Chapter 2, Project Objectives and Purpose and Need. DWR and Reclamation are responsible for the delivery of up to the full contract amounts in accordance with their authorizations for the SWP and CVP, respectively.</p> <p>The range of alternatives also includes alternatives which result in reductions in SWP and CVP water deliveries south of the Delta as compared to the Existing Conditions and the No Action Alternative. The No</p>

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		<p>Opinions.</p> <p>Appendix 3D (p. 3D-6), Table 3D-1, Summary of SWP and CVP Operations Included in Existing Conditions and No Action Alternative for the BDCP EIR/EIS, states that the existing conditions with respect to SWP water demands are "[b]ased on full/variable Table A amounts including transfers through 2008," as well as other factors. It is not clear whether the existing conditions are based on an average of actual deliveries over a period of record (Inception of SWP through 2008? Some other period?), or a single year (2008?), or whether they were based on the full Table A amounts. If the existing conditions have been inflated over conditions representative of actual deliveries within the past five years, based on maximum exports, then the BDCP impacts necessarily will have been minimized.</p> <p>What is the evidence supporting the amount of contract deliveries assumed in the existing conditions simulation? An accurate baseline would have relied on the lower exports allowed under the constraints of existing water quality and fisheries standards, including the Fall X2 salinity standard and 2008 Delta Smelt Biological Opinion.</p>	<p>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 (shown in Final EIR/EIS Tables 5-5 and 5-8). 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 Final EIR/EIS Tables 5-6 and 5-9). Alternative 8 provides the highest reduction in exports, with reductions of 45 percent of the Existing Conditions exports and 62 percent of the No Action Alternative exports, as presented in Appendix 5A, Section C, Modeling Results. Delta exports under Alternative 8 represent 45 percent of total contract amounts, which includes water deliveries for Level 2 Refuge Water Supplies and San Joaquin River Exchange Contract deliveries.</p>
1655	73	<p>The DEIR/EIS's Use of a Future Baseline Results in a Failure to Evaluate Potentially Significant Impacts of Concern to the City</p> <p>For hydrologic impacts, none of the alternatives was evaluated using an actual Existing Conditions model scenario. Unlike typical CEQA analysis, where alternatives are imposed on Existing Conditions, the alternatives were only evaluated against hypothetical future conditions representing river hydrology as it is projected to exist in 2060. These long-term baseline conditions incorporate assumptions about changing conditions that will not be felt for decades, including (for NEPA analysis) the impacts of climate change, and future upstream water demands due to growth north of the Delta. By contrast, the BDCP water diversions will take effect in the near term, and the high level of new water exports from the North Delta have the potential to have a significant impact on river levels and water quality in and above the Delta. Without an evaluation of impacts against current conditions, the City has no way to evaluate the nature and extent of potential impacts to its water supply and operation of its water and wastewater treatment facilities. In this respect, the use of an exclusive future baseline omits key information necessary to informed decision- making and renders the EIR inadequate.</p>	<p>The action alternatives would not be implemented until after 2030, as described in the RDEIR/SDEIS. The Draft EIR/EIS and the RDEIR/SDEIS includes evaluation of the action alternatives at Early Long-term study period and the Late Long-term study period. Under both the Early Long-term and the Late Long-term study periods, the City of Stockton would be provided water under their water right for the existing 30 million gallons/day water treatment plant.</p>
1655	74	<p>The DEIR/EIS Fails to Examine a Reasonable Range of Alternatives</p> <p>The alternatives selected do not represent a reasonable range because all the alternatives are designed to further the BDCP proponents' goal of maximizing water supply reliability, and no alternatives are designed to meet the co-equal goal of recovery of species. Moreover, despite the fact that many of the conservation measures will have significant impacts, the DEIR/EIS evaluates no alternatives to any of the conservation measures other than CM 1.</p> <p>The Delta Stewardship Council (DSC), in its July 11, 2013, comments on the second administrative draft EIR/EIS, suggested the EIR evaluate an alternative conservation measure that would provide a more natural Delta flow regime, as a means of lessening the BDCP's impacts on in-Delta water quality. (See July 11, 2013, Letter to Russell Stein from Dan Ray.) Other experts have emphasized that enhanced flow and flow modifications to mimic the natural hydrograph are the single most important action that can be taken to improve water quality and fisheries habitat in the Delta. Such an alternative could be achieved not only through reduced Delta exports but also by water transfers or releases</p>	<p>See Master Response 4 regarding alternatives development. The alternatives included in the Final 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. The specific proposals that were considered but ultimately rejected by the Lead Agencies are discussed in Final EIR/EIS 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>The 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 about the same as the average annual amount of water that would be diverted under the No Action Alternative (i.e., 2025 conditions without the Proposed Project). It is projected that Delta exports from the federal and state water projects would either remain similar or increase in wetter years and decrease in drier years under Alternative 4A as compared to exports under No Action</p>

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		<p>from new surface storage projects.</p> <p>The original planning principles of the March 2009 Draft BDCP to divert more water in the wetter periods and less in the drier periods is not reflected in the current BDCP alternatives; rather, there is a clear presumption that will not occur. BDCP project alternatives should include storage both north of the Delta, to allow for measured releases to mitigate for Delta water quality degradation due to the project diversions, and south of the Delta, to store Delta diversions in the wetter periods for use in the drier periods. Current BDCP alternatives fail to achieve this responsible and obvious balance of water supply management.</p>	<p>Alternative (ELT) depending on the capability to divert water at the north Delta intakes during winter and spring months. The estimated changes in deliveries for Alternative 4A are provided in the RDEIR/SDEIS Section 4.3.1 and Appendix A Chapter 5 Water Supply. Although exports under the Proposed Project would be similar to the amount water exported in recent history, it would make the deliveries more predictable and reliable, while reducing other stressors on the ecological functions of the Delta.</p> <p>Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the proposed project. 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, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.</p> <p>For more information regarding purpose and need and water demand management, please see Master Responses 3 and 6, respectively.</p>
1655	75	<p>The DEIR/EIS also fails to consider any alternative that would reduce the BDCP's significant effect on agricultural land. As suggested by the Delta Stewardship Council, the DEIR/EIS should consider an alternative designed to minimize agricultural land losses, such as emphasizing restoration of tidal marsh at Suisun Marsh. This alternative has the potential to mitigate both loss of agricultural land as well as the BDCP's adverse water quality effects by dampening saltwater intrusion into the Delta.</p> <p>The failure to evaluate alternatives that would avoid or substantially lessen the significant impacts of any conservation measures other than CM 1, or one that would reduce the BDCP's significant effect on agricultural lands, violates CEQA's mandate that an EIR evaluate a reasonable range of alternatives to the project or to its location that would feasibly attain most of the project's basic objectives while reducing or avoiding any of its significant effects. The BDCP and DEIR/EIS should be revised to include a full discussion of project alternatives that meet these objectives and be recirculated for public review.</p>	<p>Fifteen alternatives and three additional subalternatives were analyzed in the EIR/EIS and the RDEIR/RSEIS respectively. Four major alignments have been included in the EIR/EIS: Through-Delta, East of the Sacramento River, West of the Sacramento River, and a Tunnel under the Delta. Many additional proposals by public and private individuals and organizations have also been evaluated and described in Chapter 3 of the Final EIR/EIS and Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1. Regarding development of alternatives for the EIR/EIS, a description of the process the Lead Agencies followed to develop and screen alternatives is provided in Master Response 4.</p> <p>Please see Master Response 18 for information regarding agricultural mitigation. For more information regarding impacts to agriculture and water quality please see Chapters 14 and 8 of the Final EIR/EIS, respectively. For more information regarding Environmental Commitments please see Appendix 3B of the Final EIR/EIS.</p>
1655	76	<p>The DEIR/EIS Fails to Evaluate Impacts to the City's Drinking Water Supply</p> <p>As discussed above, the DEIR/EIS fails to evaluate the BDCP's effects on the City's Delta Water Supply Project Water Treatment Plant. Water quality is the most significant concern to the City that has not been adequately addressed in the DEIR/EIS. Because of the lack of water quality analysis contained in the DEIR/EIS in the vicinity of the City's drinking water intake on the San Joaquin River, it is clear that DWR and BDCP proponents cannot adequately predict the impacts of the BDCP to the City's drinking water supply.</p>	<p>As noted in Final EIR/EIS Appendix 5A, Section B, the City of Stockton's surface water supply is included in the No Action Alternative and Alternatives 1 through 9. Impacts to surface water are discussed in Chapter 5 and water quality effects are presented in Chapter 8 of the Final EIR/EIS.</p>
1655	77	<p>The City's concerns about the BDCP's potential to diminish the quality or quantity of its surface water supply are heightened by uncertainties, unaddressed in the DEIR/EIS, about how the BDCP will affect future flow requirements and, thus, the exercise of water rights in and north of the Delta. Water supplies for all beneficial purposes in the Delta and Northern California depend upon the exercise of water rights and contracts. As a result, the Legislature expressly recognized that water rights and area of origin provisions in Northern California shall not be impaired or diminished as a result of any program or project in the Bay-Delta. (Wat. Code, [Section] 85031.) Water right contracts and area of origin priorities must be recognized and fully implemented by state and federal agencies to ensure that reliable supplies are available for all water uses and needs in our region. These water rights also provide a solid foundation for the operation of the state and federal water projects,</p>	<p>As noted in Final EIR/EIS Appendix 5A, Section B, the City of Stockton's surface water supply is included in the No Action Alternative and Alternatives 1 through 9. The SWP and CVP operations under the action alternatives would only deliver water under existing water rights issued by the State Water Resources Control Board to DWR and Reclamation for use by the SWP and CVP.</p> <p>The potential for water conveyance operations to affect salinity conditions in the Delta (including Suisun Marsh) under existing conditions and future no action conditions, and with implementation of each project alternative (including conservation measures), is assessed in detail in Chapter 8, Water Quality, of the Final EIR/EIS; specifically for the salinity-related parameters bromide (Impact WQ-5), chloride (Impact WQ-7), and electrical conductivity (Impact WQ-11). Where significant impacts to water quality would occur due to the alternative, mitigation to lessen those impacts is provided. Impacts to biological resources are addressed in</p>

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		thus helping to advance active water management throughout California.	<p>Final EIR/EIS Chapter 11, Fish and Aquatic Resources, and Chapter 12, Terrestrial Biological Resources. Socioeconomics are addressed in the Final EIR/EIS in Chapter 16.</p> <p>The water quality modeling results indicate that annual average EC levels in the San Joaquin River at Prisoners' Point, which is a modeled channel location that is relatively close to the Stockton Delta water intake, are below the secondary MCLs for EC and would decrease slightly under the preferred Alternative 4A relative to the existing conditions and No Action conditions (refer to Appendix 8H, Electrical Conductivity, Table EC-27). Therefore, the Stockton Delta water intake operations would not be anticipated to be substantially affected by the preferred alternative.</p>
1655	78	<p>The DEIR/EIS omits any discussion of water supply impacts to water rights holders such as the City on the theory that, "[t]he [BDCP] alternatives would modify the operations of the SWP and CVP facilities but would not modify the operations of water resources facilities owned and/or operated by other water rights holders. Therefore, the water supply analysis addresses impacts to DWR, Reclamation, and SWP and CVP contractors, as opposed to other water rights holders, as the BDCP does not include any regulatory actions that would affect any such water rights holders." (DEIR/EIS, p. 5-43, [Section] 5.3.1.) There is general recognition that increasing water flows through the Delta will promote a healthier Delta. Future use of this water could be subject to a review as a "covered action" within the scope of the Delta Plan, to see if it is consistent with the BDCP. This could produce a scenario where Delta exports will still be allowed, while a Delta user's water supply uses are restricted in order to maintain the regulatory required Delta outflow (i.e., changes in reservoir operation and/or water supply availability). The operational changes to upstream reservoirs, and impacts to upstream water supply, are not adequately addressed in the DEIR/EIS and are unclear at this point.</p>	<p>The CALSIM II model includes existing water rights deliveries to the City of Stockton and other water rights holders in the Delta in all years under the No Action Alternative and Alternatives 1 through 9. It is anticipated that changes in Delta flow criteria related to SWP and CVP export in accordance with requirements of U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, or State Water Resources Control Board would be met through changes in SWP and CVP operations. 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>Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two 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. See also Master Response 32.</p>
1655	79	<p>Chapter 5: Water Supply</p> <p>The DEIR/EIS analysis of water supply impacts must be broadened to include an analysis of the effect on current and future supplies of water rights holders in and north of the Delta, not just south of the Delta.</p>	<p>The proposed project would not affect upstream water rights or entitlements. It aims to allow the federal and state water projects to deliver more reliable water supplies, in a way less harmful to fish. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. The CALSIM II modeling performed for conveyance facility operations takes into account projected future demand for water supply in areas upstream of the Delta (as part of the future No Action baseline) prior to calculating Proposed Project diversion estimates to ensure that no area-of-origin protections or upstream water rights are affected by project conveyance facilities. Please see Appendix 5A of the Final EIR/EIS for additional modeling details. Please see Master Response 26 regarding water resources in northern California.</p>
1655	80	<p>Chapter 7: Groundwater</p> <p>The DEIR/EIS reports cones of depression related to groundwater pumping near the major pumping centers such as Stockton and also that there is an observed groundwater inflow from the Delta toward pumping areas in the Stockton area. (DEIR/EIS, p. 7-8.) The DEIR/EIS incorrectly states that the City relies mostly on groundwater.</p>	<p>The text referred to in this comment has been modified in the Final EIR/EIS.</p>
1655	81	<p>Since 1977, the Stockton Metropolitan Area water suppliers, including the City, have and continue to invest in conjunctive use water supply projects that source water from the Calaveras, Stanislaus, Mokelumne, and San Joaquin Rivers resulting in surface water sources contributing up to 90 percent of potable water supply to the Stockton Metropolitan Area. This investment totaling hundreds of millions of dollars by the Stockton urban area water users was and continues to be done in part to control historical salinity intrusion into the groundwater basin. The DEIR/EIS fails to adequately describe, explain, or mitigate potential</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. See Mitigation Measure GW-1 in Final EIR/EIS Appendix A Chapter 7, Groundwater.</p>

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		<p>impacts of the BDCP on these already-impaired groundwater resources. Though the DEIR/EIS acknowledges the potential contribution of climate change resultant sea-level rise, it does not explicitly present a cumulative analysis of the impacts on Stockton-area groundwater resources from the combination of the BDCP and sea-level rise. The City asserts that the BDCP may exacerbate an existing saltwater intrusion problem through the modification of the natural hydrostatic condition. The DEIR/EIS should evaluate the potential for this impact to occur.</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>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>
1655	82	<p>The DEIR/EIS should evaluate potential impacts to the groundwater basin and the City's drought water supply if the BDCP has the effect of reducing the City's surface water supply and causing an increase in groundwater pumping.</p>	<p>As noted in Final EIR/EIS Appendix 5A, Section B, the City of Stockton's surface water supply is included in the No Action Alternative and the action alternatives.</p>
1655	83	<p>Chapter 8: Water Quality</p> <p>Water quality is the most critical issue of concern to the City that has not been adequately addressed in the DEIR/EIS. Throughout, the DEIR/EIS discussion of water quality impacts is conclusory and omits discussion and evidence to support the impact determinations. It fails to evaluate impacts at the City's drinking water intake, despite available background data from that location and despite requests from the City in its comments on the Notice of Preparation that the DEIR/EIS conduct this analysis. The BDCP will result in numerous significant impacts to water quality yet most are left unmitigated, or the responsibility for mitigating BDCP-caused water quality impacts and compliance problems is improperly shifted to Delta communities.</p>	<p>Impacts to water quality in the eastern portion of the Delta have been evaluated, including at Buckley Cove on the San Joaquin River, see Final EIR/EIS Chapter 8. Contrary to the comment, extensive analysis and supporting technical appendices are provided in the Final EIR/EIS to support the analysis. Analysis results are related directly to the thresholds of significance for impact determinations, and mitigation where necessary.</p> <p>Please refer to Master Response 14 Water Quality, and Master Response 24, Delta as a Place.</p>
1655	84	<p>Failure to Use Relevant Data from Appropriate Monitoring Location</p> <p>The DEIR/EIS relies on data from, and provides information about water quality effects at, a DWR monitoring station at Buckley Cove. The Buckley Cove location is far south (almost ten miles) of the City's intake, which is more highly influenced by the poorer San Joaquin River quality, rather than the northern rivers, such as the Mokelumne and Sacramento. In other words, Buckley Cove cannot be considered to be representative of the water quality available at the City's intake. Evaluation of water quality changes at locations other than the City's intake is not an evaluation of impacts to the City's water supply or its quality. The City has been collecting water quality data in the stretch of the San Joaquin River near its intake for over 30 years. Despite being on notice about the City's significant concerns about water quality effects in the area of its intake, the BDCP proponents did not obtain or use any of this data in preparing the DEIR/EIS.</p>	<p>Please refer to Master Response 14 regarding the scope of data necessary for characterization of Delta water quality setting.</p>
1655	85	<p>DWR maintains a water quality station less than one-half mile from the City's intake. It was unreasonable for the DEIR/EIS to not have used data from that water quality station in order to more accurately evaluate impacts to the City's drinking water supply. It is not possible for the project proponents or the City to determine how the BDCP will affect water quality conditions at the City's intake until a Delta Simulation Model run is conducted for our intake site proximity. In order to satisfy CEQA's informational mandate, the DEIR/EIS must be revised to properly analyze impacts to the City's drinking water source at the diversion point on the San Joaquin River and recirculated for public review and comment.</p>	<p>Impacts to water quality in the eastern portion of the Delta where the City's intake is located have been evaluated in the Final EIR/EIS, including at Buckley Cove on the San Joaquin River. The analysis included enough stations to adequately assess impacts to water quality over the geographic scope of the Delta, even though not every specific location in the Delta is included in the tabulation of model results.</p>

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1655	86	<p>Failure to Address Federal Antidegradation Policy Requirements</p> <p>Under the federal antidegradation policy, "major federal actions" that affect water quality trigger the application of the federal antidegradation policy and requirements. Those requirements prohibit actions that would lower water quality in areas where existing water quality objectives are not attained. (U.S. Environmental Protection Agency (USEPA), Region 9, 1987, Guidance on Implementing the Antidegradation Provisions of 40 CFR 131.12, June 3.) The BDCP plainly qualifies as a major federal action that will affect water quality. However, the DEIR/EIS fails to adequately articulate or address the federal antidegradation requirements, which place significant constraints on the BDCP and associated mitigation.</p>	<p>Antidegradation analyses are the responsibility the State Water Resources Control Board and Regional Water Quality Control Boards as they make findings and decisions regarding water rights, changes in water quality objectives, and issue NPDES permits. Antidegradation analyses consider degradation relative to water quality criteria as well as socioeconomic impacts associated with not allowing the identified degradation to occur. The State or Regional Water Board, as appropriate, makes findings regarding the proposed regulatory action (e.g., new water quality objective or NPDES permit) weighing the identified degradation and socioeconomic impacts, relative to the benefit to the people of the state.</p> <p>The water quality assessment in the Draft EIR/EIS does make impact determinations relative to water quality degradation and beneficial uses by application of thresholds provided in Final EIR/EIS Chapter 8, Section 8.4.2.3.</p>
1655	87	<p>The "key questions" to be addressed by the surface water quality impact assessment (DEIR/EIS [Section] 8.4.1, p. 8-127, lines 37-40 and p. 8-128, lines 1-4) do not adequately address the requirements of the federal antidegradation policy. The "key questions" add a threshold consideration ("to cause or substantially contribute to significant adverse effects on the beneficial uses of water in these areas of the affected environment") that does not exist in the federal antidegradation policy. As such, the evaluation contained in the DEIR/EIS fails to properly address the fact that significant degradation of water quality in 303(d) listed waters is prohibited under the federal policy. For example, the DEIR/EIS fails to address the acknowledged degradation of electrical conductivity (EC) that will occur in 303(d) listed areas such as Suisun Bay and portions of the Delta in light of the federal policy. Moreover, the proposed EC mitigation measures (WQ-11, WQ-11a, and WQ-11b) that are described in the DEIR/EIS are inadequate in that they will not ensure that the EC levels will be maintained in 303(d) listed waters.</p>	<p>Please see Response to Comment 1655-86 and Master Response 14.</p>
1655	88	<p>DEIR/EIS, p. 6-8, Influence of Delta Diversions: The City is described as having a new facility being constructed near the City of Stockton. The City's intake and water treatment plant are complete and currently divert water from the Delta for municipal uses.</p>	<p>The Existing Conditions assumptions were developed based upon the conditions at the time of Notice of Preparation and Notice of Intent publications in early 2009. At that time, the City of Stockton Delta Water Treatment Plant and the Freeport Regional Water Authority intake were not operational. However, these projects were under development; and therefore, both projects are included in the No Action Alternative assumptions, as described in Appendix 5A, Section B.5.</p>
1655	89	<p>DEIR/EIS, p. 8-31, Table 8-6, Major Diversions: The City's Delta Water Supply Project Intake is not listed here under Major Diversions.</p>	<p>Final EIR/EIS Table 8-6 is a listing of locations in the Delta with monitoring data used to characterize water quality constituent concentrations throughout the Delta, not an encompassing list of Delta water supply diversions. Hence, the City's intake is not listed.</p>
1655	90	<p>DEIR/EIS, p. 8-44: The Bay-Delta Water Quality Control Plan (WQCP) contains chloride objectives for municipal and industrial water supply beneficial uses protection, including a maximum mean daily concentration of 250 mg/L year-round at the five major municipal water supply diversion locations. The City's Delta Water Supply Project Intake is not listed here. Equal protection for the City's drinking water intake should be analyzed and protected under the BDCP operations plan.</p>	<p>The discussion referred to by this comment is identifying the existing chloride objective in the Bay-Delta WQCP and discusses historical compliance with the objective. The Bay-Delta WQCP does not contain a chloride objective at the City of Stockton's intake, hence the City's intake is not mentioned in this section. Nevertheless, the assessment of chloride at all Delta modeled locations included a comparison of modeled concentrations to a 250 mg/L maximum mean daily threshold, because this threshold is a State maximum contaminant level (MCL) incorporated by reference into the Regions 2 and 5 Basin Plans.</p>
1655	91	<p>DEIR/EIS Appendix 3D, p. 3D-85: The description of the City's Delta Water Supply Project should be changed from "would develop" to "is" a new supplemental water supply.</p>	<p>The text in Appendix 3D of the Final EIR/EIS has been updated.</p>
1655	92	<p>WQ-5: Effects on bromide concentrations resulting from facilities operations and maintenance (CM 1)</p> <p>The DEIR/EIS identifies significant unavoidable water quality resulting from excessive bromide concentrations. Bromide levels are of concern for the City's Water Treatment Plant. For assessing Delta bromide effects, the DEIR/EIS chose Buckley Cove as the location</p>	<p>The DEIR/EIS presents quantitative information regarding changes in bromide concentrations in Buckley Cove both within each alternative's bromide water quality impact discussion (i.e., WQ-5) with supporting references to the technical appendix where tables are presented with modeled concentrations and frequency of exceedance of applicable water quality objectives. Therefore, contrary to the comment, there is evidence and analysis regarding effects on bromide at Buckley Cove.</p>

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		<p>representative of the City's intake on the San Joaquin River. Modeled increases are shown for bromide at Buckley Cove. (See, e.g., DEIR/EIS, pp. 8-418, 8-709.) However, in most cases, there is no evidence or analysis regarding bromide effects at Buckley Cove, let alone the City's intake, despite the fact that the San Joaquin River already is high in bromide and the BDCP would reduce flows, which could substantially increase bromide concentrations.</p> <p>As noted, Buckley Cove is approximately 9.5 miles from the City's intake and should not be considered representative of the City's intake. What would the bromide concentration level increases be at the City's Delta Intake? The BDCP must evaluate the effects of changes in bromide levels at or near the City's intake on the San Joaquin River, including effects on consumers of water and on City operations. Further, if treatment plant upgrades may be necessary due to increased levels in bromide due to the BDCP, significant environmental and economic impacts need to be evaluated and mitigated by the BDCP, not left to the City to address.</p>	<p>Of the locations modeled, the modeling output for Buckley Cove provides the best information for potential effects to bromide at the City of Stockton Delta Water Supply Project intake. No adverse changes to bromide concentrations were identified at this location.</p>
1655	93	<p>For Alternative 4, the preferred project, changes in bromide concentrations are discussed only with regard to the No Action Alternative. (See DEIR/EIS, p. 8-148, lines 32-43.) There is no discussion of the change in bromide concentrations from existing conditions, as required by CEQA, except a general comparison (relative change) between existing conditions and the No Action Alternative. It is entirely unclear what the BDCP-related change from existing conditions would be. The failure to include this information, and provide it in a form that is meaningful to the average reader, violates CEQA. Even assuming that water quality conditions at Buckley Cove are representative of conditions at the City's drinking water intake nearly ten miles away, the failure to include any intelligible summary of or data regarding the BDCP's effects on bromide violates CEQA's informational mandate.</p> <p>Not only does the DEIR/EIS fail to adequately analyze or mitigate the impact, but it also defers the analysis and mitigation to a post-project timeframe. This experimental approach is contrary to the intent or legal requirements of CEQA. The justification that exact restoration areas are not currently known is insufficient, especially since these very details will determine the presence and magnitude of any forthcoming impacts.</p>	<p>The specific text being referenced in this comment is unclear because p. 8-148 is not where Alternative 4 impacts are discussed in the Draft EIR/EIS. The Draft EIR/EIS contains extensive discussion of bromide impacts under Alternative 4 relative to existing conditions on pages 8-416 through 8-422. See RDEIR/SDEIS Section 2.2 and Final EIR/EIS Chapter 8 for water quality revisions since circulation of the Draft EIR/EIS.</p>
1655	94	<p>WQ-7: Effects on chloride concentrations resulting from facilities operations and maintenance (CM 1)</p> <p>This impact is identified as being significant and unavoidable under all project alternatives. The discussion of chloride impacts compared to existing conditions (DEIR/EIS, p. 8-424) is very difficult to understand and lacking any mention of impacts at Buckley Cove or the City's intake. The discussion of different models is hard to follow; it states that chloride increases are uncertain due to impacts of CM 4, and "may be greater than indicated herein and would affect the western Delta assessment locations the most which are influenced to the greatest extent by the Bay source water." (DEIR/EIS, p. 8-424, lines 22-24.) Which specific locations would be affected? Is Buckley Cove one of the affected "western Delta assessment locations" cited? What would the effect be on the City's intake?</p> <p>The discussion concludes that the BDCP will have substantial adverse effects on municipal and beneficial uses through reduced opportunity for diversion of water with acceptable chloride levels. (DEIR/EIS, p. 8-426.) Specifically, the DEIR/EIS concludes that "Relative to Existing Conditions, all of the Alternative 4 H1-H4 Scenarios would result in substantially increased chloride concentrations in the Delta such that frequency of exceeding the 150 mg/L Bay-Delta WQCP objective would approximately double." (DEIR/EIS, pp. 8-428 to</p>	<p>The Draft EIR/EIS presents quantitative information regarding changes in chloride concentrations in Buckley Cove both within each alternative's chloride water quality impact discussion (i.e., WQ-7) with supporting references to the technical appendix where tables are presented with modeled concentrations and frequency of exceedance of applicable water quality objectives. Therefore, there is evidence and analysis regarding effects to chloride at Buckley Cove.</p> <p>The focus of the chloride impact discussion is on areas of potential adverse impact. The area of Buckley Cove, which is in the eastern Delta, is not an area of potential adverse impact.</p> <p>The assessment relative to Existing Conditions identifies locations at which there would be an increase in long-term average chloride conditions (which does not include Buckley Cove) and then notes that the long-term average concentration would decrease at all other locations (which does include Buckley Cove) (see Draft EIR/EIS p. 8-424; lines 15-18). Thus, relative to Existing Conditions, long-term average chloride concentrations would be lower at Buckley Cove.</p> <p>While the assessment identifies a 3 percent increase in chloride relative to the No Action Alternative, long-term average concentrations of chloride at Buckley Cove would be well below the 250 mg/L assessment threshold and there would be no increased frequency of exceedance of water quality objectives (see Appendix 8G, Table CI-27 and CI-28).</p>

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		<p>8-429.) [footnote 4: The discussion of impacts compared to the No Action Alternative (DEIR/EIS, p. 8-424, lines 27-40) reveals a notable -- 3 percent -- increase at Buckley Cove, which is attributed only to operational components of Alternative 4, and presumably does not include the additional adverse effects from CM 4 noted above. Again, no information is provided regarding the effects at the City's intake.] While it did evaluate specific increases at two pumping plants -- Antioch and Contra Costa -- the DEIR/EIS provides no information or analysis regarding specific effects at the City's DWSP intake. This discussion does not provide enough information for the City to assess the degree of impact at its intake.</p> <p>To address this impact, the DEIR/EIS proposes to provide additional evaluation and modeling following initial operation, and proposes to work with Delta water purveyors to identify means to minimize impacts. This is an unacceptable attempt to address project impacts by deferring the disclosure and consideration of impacts, as well as the formulation of mitigation, to some later date. Further, there are no assurances that mitigation will ever happen. In order to satisfy CEQA and NEPA's informational purposes, further water quality analysis is required to determine project operational impacts to Delta drinking water intakes, including the City's, prior to BDCP approval.</p>	<p>Thus, there would be no adverse impacts to chloride concentrations in the vicinity of Buckley Cove.</p> <p>See RDEIR/SDEIS Section 2.2 and Final EIR/EIS Chapter 8 for water quality revisions since circulation of the Draft EIR/EIS.</p>
1655	95	<p>WQ-11: Effects on Electrical Conductivity Concentrations Resulting from Facilities Operations and Maintenance (CM 1)</p> <p>This impact is identified as significant and unavoidable under all project alternatives. It appears from the DEIR/EIS discussion that there would be significant increases in electrical conductivity (EC) concentrations at various Delta locations, especially during drought periods (DEIR/EIS, p. 8-437), and that these increases will have significant adverse effects on agricultural beneficial uses. (DEIR/EIS, p. 8-439.) However, the City is unable to assess the significance that project-related EC effects will have on its drinking water intake because the DEIR/EIS contains no discussion of how the BDCP will affect EC levels at either Buckley Cove (the DEIR's stated surrogate for the City's intake) or the City's intake. As with chloride in Impact WQ-7, mitigation is proposed to occur after the North Delta Intakes commence operation. Again, this is unacceptable to the City.</p>	<p>The assessment of EC was conducted at Bay-Delta Water Quality Control Plan locations, which were established for the protection agricultural beneficial uses; Buckley Cove is not a Bay-Delta Water Quality Control Plan compliance location for EC, hence no modeling data are provided for that location. The Bay-Delta Water Quality Control Plan utilizes other compliance locations and chloride for the protection of municipal and industrial uses. Note that the Final EIR/EIS proposes Alternative 4A as the preferred alternative. Alternative 4A 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.</p>
1655	96	<p>On page 8-436, the DEIR/EIS states the following regarding Electrical Conductivity (EC):</p> <p>The effects on lower San Joaquin River EC would be somewhat different. Elevated EC in the San Joaquin River can be sourced to agricultural use of irrigation water imported from the southern Delta and applied on soils high in salts. This accumulation of salts is a primary contributor of elevated EC on the lower San Joaquin River. Tributary flows generally provide dilution of the high EC agricultural drainage waters. Depending on operational scenario, long-term average flows at Vernalis would decrease about 6% (as a result of climate change and increased water demands) relative to Existing Conditions, and would increase about 0.1% relative to the No Action Alternative (Appendix 5A). These decreases in flow, alone, would correspond to a possible increase in long-term average EC levels. The level of EC increase cannot be readily quantified but, based on estimated increase in bromide and chloride concentrations, to which EC is correlated, would be relatively small and on the order of about 3% relative to Existing Conditions, and less than 0.1% relative to the No Action Alternative. However, with the implementation of the adopted Total Maximum Daily Load for the San Joaquin River at Vernalis and the ongoing development of the TMDL for the San Joaquin River upstream of Vernalis and its implementation, it is expected that long-term EC levels will improve. Based on these considerations, substantial changes in EC levels in the San Joaquin River relative to Existing Conditions or the No Action Alternative would</p>	<p>The evidence and analysis for the conclusion that EC levels would not result in adverse effects is the citation of the changes in flow and EC level changes relative to the No Action Alternative, which are cited as 0.1%. The salt TMDL for the San Joaquin River is also mentioned, not as mitigation, but to acknowledge there are other actions in the basin that are at play to keep salinity levels from increasing over time.</p>

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		<p>not be expected of sufficient magnitude and geographic extent that would result in adverse effects on any beneficial uses, or substantially degrade the quality of these water bodies, with regard to EC.</p> <p>This discussion lacks evidence or analysis that would explain why or how the predicted substantial changes in EC levels would not be expected to be of sufficient magnitude to result in adverse effects to beneficial uses. CEQA defines significant effect as a substantial adverse change, and the DEIR/EIS says the BDCP change would be substantial. The Delta is currently 303(d)-listed for EC, a federal Clean Water Act listing which is made when beneficial uses are impaired and water quality objectives are not attained. The projected increased concentrations associated with CM 1 represent significant degradation in water quality and further impairment of already impaired beneficial uses in the Delta.</p> <p>The assumption that the BDCP's adverse effects on EC levels would be mitigated through the TMDL does not address how or whether the BDCP would hamper the success of the TMDL, and no information is provided regarding when or to what degree the TMDL is expected to improve EC levels. Even assuming the TMDL is successful, it is probable that there will be a disconnect between the time BDCP impacts occur and the total improvement hoped for under the TMDL is realized, such that there is at a minimum a temporary impact on beneficial uses from elevated EC levels. Without any information about the predicted timing or extent of TMDL-related improvements, however, or the BDCP's effect on achieving those improvements, there is no way to gauge the significance or duration of the BDCP's effect on EC levels and beneficial uses.</p>	
1655	97	<p>There are numerous problems with the DEIR/EIS's treatment of nitrate impacts. The DEIR/EIS states that modeling shows long-term flows on the San Joaquin River decreasing -- by as much as 6 percent under Alternative 1A -- which would lead to increases in nitrate concentrations. (DEIR/EIS, p. 8-262, line 15; p. 8-449.) The DEIR/EIS goes on to say that if these flow reductions lead to inadequate dilution for wastewater treatment plants, the issue will be addressed through the National Pollutant Discharge Elimination System permitting process for the wastewater treatment plants. [footnote 5: Specifically, the DEIR/EIS on page 8-449, lines 19-31, states: "The other areas in which nitrate concentrations will be higher than the modeling results indicate are immediately downstream of other wastewater treatment plants that practice nitrification, but not denitrification (e.g., City of Rio Vista Beach WWTF, Town of Discovery Bay WWTF, City of Stockton RWCF). For all such facilities in the Delta, the Regional Water Boards have issued NPDES permits that allow discharge of wastewater containing nitrate into the Delta, and under these permits, the State has determined that no beneficial uses are adversely affected by the discharge, and that the discharger's use of available assimilative capacity of the water body is acceptable. When dilution is necessary in order for the discharge to be in compliance with the Basin Plans (which incorporate the 10 mg/L-N MCL by reference), not all of the assimilative capacity of the receiving water is granted to the discharger. Thus, limited decreases in flows are not anticipated to result in systemic exceedances of the MCLs by these POTWs. Furthermore, NPDES permits are renewed on a 5-year basis, and thus, if under changes in flows, dilution was no longer sufficient to maintain nitrate below the MCL in the receiving water, the NPDES permit renewal process would address such cases. In summary, any increases in nitrate-N concentrations that may occur at certain locations within the Delta would not be of frequency, magnitude and geographic extent that would adversely affect any beneficial uses or substantially degrade the water quality at these locations, with regard to nitrate." ] The DEIR/EIS thus recognizes that impact would be caused by the BDCP-related decrease in flows but assumes any water quality impairments that would result are</p>	<p>The 6 percent reduction in San Joaquin River flow that is of concern and the primary focus in this comment relative to its effect on assimilative capacity is relative to Existing Conditions, and is associated with climate change and increased water demands, not effects of the action alternative. The discussion of NPDES permit-regulated discharges of nitrate is to provide additional context regarding future conditions of nitrate in the Delta relative to that presented by the modeling results. The text cited by this comment is identifying the possibility that "other areas" of the Delta not addressed directly by the modeling output may have higher nitrate concentrations than reported by the modeling results due to the localized discharges from certain wastewater treatment facilities, not project actions.</p> <p>As noted in the comment, the Central Valley Water Board has been restricting nitrate discharges from wastewater facilities to Delta waters—most recently Sacramento Regional Wastewater Treatment Plant and Stockton Regional Wastewater Control Facility—to not exceed the nitrate primary MCL of 10 mg/L-N for protection of both municipal and domestic supply uses and to address potential adverse effects related to nuisance algae growth in the Delta, and its effects on finished drinking water. This regulation of nitrate in NPDES discharges has preceded independent of the project.</p> <p>Also, refer to Master Response 15 for a response regarding the water quality assessment impact determinations relative to NPDES discharge requirements.</p>

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		<p>problems of the wastewater treatment plants and would be addressed through their permits. (See DEIR/EIS p. 8-263, lines 1-3 ["The NPDES permit renewal process would address this and thus there would not be substantial degradation of water quality"], and similar statement at p. 8-449, line 31.) Not only does this naked conclusion provide no evidence or analysis to substantiate the conclusion that BDCP-related changes in flows that lead to nitrate exceedances would not substantially degrade water quality, but the determination that significant adverse water quality effects from BDCP-related flow reductions would be addressed through modification of third party NPDES permits improperly shifts the burden of mitigating the BDCP's significant impacts to dischargers.</p> <p>This discussion is also inaccurate in its statement that the regional water quality control boards have issued NPDES permits that allow discharge of wastewater containing nitrate into the Delta, that no beneficial uses are adversely affected by the discharge, and that the discharger's use of available assimilative capacity of the water body is acceptable. This is an incorrect statement in light of the current position of the Central Valley Regional Board relative to nutrient loading to the Delta. The City, in its recently adopted NPDES permit for the Regional Wastewater Control Facility, is now obligated to enhance treatment to reduce nitrate plus nitrite concentrations to 10 milligrams per liter. In the public hearing on the City's draft permit, it was clear that the Central Valley Regional Board was not concerned with nitrate levels relative to primary drinking water standards; rather, its focus was on preventing taste and odor impacts in finished water in Delta water export areas despite the scientific data and analysis that demonstrate that the current RWCF discharge of nitrate/nitrite to the San Joaquin River does not adversely affect beneficial uses.</p> <p>No information or analysis is provided to explain how these project impacts would be "addressed" in the NPDES permit renewal process. The analysis fails to address how NPDES permits might be modified, whether such modifications are, in fact, feasible, and what the resulting changes in wastewater treatment plant operations and associated environmental impacts might be. How would wastewater treatment plant operations have to change to avoid water quality degradation from BDCP- related flow decreases? Would new facilities or treatment processes have to be implemented? What environmental impacts would be associated with such facilities or processes? As noted in our comments regarding climate change, above, additional treatment is likely to result in significant increases in Greenhouse Gas emissions, and other impacts from construction and operation of additional treatment, and those impacts must be considered in the DEIR/EIS. What is the anticipated cost of compliance? All of this information must be provided so the public can determine the degree to which the BDCP would affect water quality or the environment as a result of flow reductions that lead to substantial water quality degradation.</p>	
1655	98	<p>WQ-18: Effects on Organic Carbon Concentrations to Municipal Water Intakes Resulting from Implementation of CM 2--CM 22</p> <p>This impact is identified as significant and unavoidable. (DEIR/EIS, p. 8-457.) The proposed mitigation is to design wetlands to minimize effects on drinking water intakes. This proposed mitigation is vague, lacking in performance standards or other measurable success criteria, and does not provide assurances as to the effects on the City's drinking water intake.</p>	<p>The proposed project includes commitments that assure drinking water treatment costs are included as mitigation relative to project impacts, distinguishable from climate change impacts, as set forth in Final EIR/EIS Appendix 3B, Environmental Commitments, a separate, non-environmental commitment to address the potential increased water treatment costs that could result from DOC concentration effects on municipal and industrial water purveyor operations.</p> <p>The preferred alternative, Alternative 4A, would include substantially less acreage of restoration, and fewer effects on Delta water quality such that significant impacts were only identified for electrical conductivity (EC) at Emmaton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based.</p>

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			See the Executive Summary of the Final EIR/EIS that provides a summary of all of the impacts, mitigation measures and significance conclusions.
1655	99	<p>WQ-22: Effects on Pesticide Concentrations Resulting from Implementation of CM 2-CM 22</p> <p>This impact is identified as significant and unavoidable. The DEIR/EIS discloses a significant increase in the percentage of source water from the San Joaquin River at Buckley Cove, the BDCP's chosen surrogate for the City's drinking water intake impacts, in the months of July and August. These months are the height of the summer irrigation season, when pesticide levels could be expected to be highest due to agricultural runoff. Despite the fact that the ratio of source water with relatively high pesticide concentrations will increase substantially, the DEIR/EIS concludes, without any evidence or analysis, that the impact would not be adverse because the percentage of San Joaquin River source water is less than in other months. (See DEIR/EIS, p. 8-466, lines 1-5 ["Despite these San Joaquin River increases, the resulting net San Joaquin River source water fraction for July and August would remain less than all other months. As a result, these modeled changes in the source water fractions are not of sufficient magnitude to substantially alter the long-term risk of pesticide-related toxicity to aquatic life, nor adversely affect other beneficial uses of the Delta."].)</p> <p>This conclusion ignores CEQA's mandate that an EIR evaluate the significance of the project's effect compared to existing conditions. The evidence shows a significant adverse change (substantial increase in lower quality water likely to have higher levels of pesticides) during the peak irrigation season. The DEIR/EIS contains no evidence to show how the concentration of pesticides will differ during these months from existing conditions or any analysis of how the increase will affect drinking water or other beneficial uses, including fish and wildlife. No information is provided about aquatic species that may be present during these months that may be at sensitive juvenile life stages (e.g., larval, smolt) and thus more susceptible to harm from increased pesticide concentrations.</p>	As noted by the commenter, the conclusion for Impact WQ-22 resulting in the implementation of CM2–CM22 was significant and unavoidable. The remainder of the comment cites text from an assessment of CM1 in Impact WQ-21. Changes in pesticide concentrations were considered relative to Existing Conditions (Draft EIR/EIS Chapter 8, page 8-465, lines 8–33); the text cited in the comment is the NEPA portion of the assessment relative to the No Action Alternative. Because the assessment of pesticides was qualitative, the changes in pesticide concentrations relied on putting the change in source water fractions into context relative to these baselines and the potential for pesticides to be present at toxic levels in the source waters.
1655	100	<p>The proposed mitigation to implement integrated pest management -- Mitigation Measure WQ-22 -- Implement a Least Toxic Integrated Pest Management Program</p> <p>-- is vague and does not provide assurances as to the effects on the City's drinking water intake. Specifically the mitigation measure does not contain any performance standards or other measurable criteria concerning the timing of application of pesticides, minimization of health risk to humans, non-target organisms, or the aquatic ecosystem. As such, there is no way for the public to understand how success of the measure will be determined and what kind of results can be expected in terms of water quality concentrations, other than that overall use of pesticides may (or may not) be lower.</p>	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Mitigation Measure WQ-22 is available to partially reduce impacts resulting from implementation of CM 13. The new preferred alternative, Alternative 4A, does not include a measure similar to CM 13. No similar mitigation measure is proposed because the impact is less than significant.
1655	101	<p>Water Temperature Impacts</p> <p>On page 3.3-128, lines 30-39, the BDCP states:</p> <p>Increased water temperature. Higher water temperatures cause physiological stress, reduced growth rates, prespawning mortality, reduced spawning success, and increased mortality of salmon (Myrick and Cech 2001). Temperature can also indirectly influence disease incidence and predation (Waples et al. 2008). The installation of the Shasta Temperature Control Device in 1998 and improved reservoir management are believed to be important factors contributing to the increase in adult winter-run Chinook salmon abundance in the early 2000s. However, climate change patterns, which are expected to increase water temperatures in upstream reaches of the Sacramento River important to this</p>	Please see Response to Comment 1655-102.

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		<p>run, in combination with current stressors, may adversely affect the long-term health and viability of Sacramento River winter-run Chinook salmon (Crozier et al. 2008).</p> <p>Besides flow changes, another potentially adverse effect of the BDCP on the City is changes in ambient river water temperature. The Regional Wastewater Control Facility operates under National Pollutant Discharge Elimination System permit requirements which, among other things, disallow discharges of effluent that exceed natural receiving water temperature by more than 20°F. Any changes to river temperature could affect the City's ability to comply with the thermal discharge requirements in its NPDES permit.</p>	
1655	102	If the San Joaquin River were to become colder as a result of BDCP operations, there is a possibility that the City would be required to build cooling towers to cool its effluent before it is discharged to the San Joaquin River. Construction and operation of cooling towers would cost tens of millions of dollars and have a significant adverse financial impact on the City and its ratepayers. Construction and operation of the cooling towers also would have associated environmental impacts that are not considered in the BDCP DEIR/EIS.	Delta water temperature and, thus, Lower San Joaquin River water temperatures at the City's wastewater discharge point, are generally in equilibrium with ambient air temperatures and are not controlled at this point in the system by reservoir releases. At this location, flows are subject to the tides. This coupled with the fact that flows at Vernalis would change minimally in the winter and decrease slightly in the summer means that river temperatures in the lower San Joaquin River would be expected to change negligibly (i.e., by only tenths of a degree), relative to temperatures that would occur under the No Action Alternative.
1655	103	Any significant increase in river temperature could harm sensitive fish species. The BDCP itself identifies the importance of understanding how BDCP operations will impact temperatures. The City is aware of the evidence developed by Sacramento Regional County Sanitation District experts demonstrating that the DEIR/EIS temperature modeling contains fatal errors that make the modeling data useless for determining temperature impacts on the Delta. The BDCP's use of inaccurate data is a fatal flaw in the modeling of temperature impacts that invalidates both the model results and the temperature impact analysis in the BDCP and the DEIR/EIS. Due to these flaws in the model, there is no substantial evidence to support the DEIR/EIS's analysis of temperature effects to fish and there is no way for the City to evaluate temperature impacts to its operations.	Please see Response to Comment 1655-102.
1655	104	The BDCP must be revised to accurately evaluate and clearly disclose the BDCP's effects on river temperatures and mitigate all impacts to temperature, including cooling of wastewater discharge.	Please see Response to Comment 1655-102.
1655	105	<p>Chapter 13: Land Use</p> <p>Presently, agricultural facilities in the project area rely on local groundwater resources for irrigation and livestock watering. As the DEIR/EIS states that the BDCP will impact these local groundwater resources, the long-term economic viability of these lands for agricultural use remains in question. Should these lands become unviable for agricultural use, their conversion to urban development may be likely. In such a scenario, the BDCP would be responsible for the conversion of the agricultural lands to urban development (or other use), which is inconsistent with the multitude of land use documents recognized by the DEIR/EIS. The DEIR/EIS should require additional study throughout the life of the project to determine if the BDCP is indeed causing the premature conversion of agricultural uses to urban development, and require mitigation for future BDCP-related loss of agricultural land, not just conversions directly resulting from facility construction or habitat restoration.</p>	<p>DWR would provide compensation to property owners for economic losses due to implementation of project.</p> <p>For additional information regarding Agricultural mitigation, please review Master Response 18.</p>
1655	106	<p>Chapter 14: Agricultural Resources</p> <p>Lost Agricultural Production Caused by Project Construction</p> <p>Temporary and short-term construction of facilities would convert approximately 1,315 acres of Important Farmland and 837 acres of land subject to Williamson Act contracts or in</p>	<p>The law concerning CEQA's consideration and protection of agricultural land continues to evolve, and the BDCP carefully considers the impacts of farmland conversion and the options available for responding to those impacts. Please refer to Master Response 18 regarding BDCP agricultural mitigation. See Chapter 16, Socioeconomics of the Final EIR/EIS for a discussion of the social and economic effects related to agriculture.</p> <p>Since 2015, the identified Preferred Alternative no longer includes the BDCP as a component of the project.</p>

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		<p>38 Farmland Security Zones to other uses. Physical structures would also permanently convert approximately 4,975 acres of Important Farmland, including 4,281 acres of Prime Farmland, 158 acres of Farmland of Statewide Importance, 339 acres of Unique Farmland, and 197 acres of Farmland of Local Importance, and 3,080 acres of land subject to Williamson Act contracts or in Farmland Security Zones to other uses. (DEIR/EIS, pp. 14-109, 14-111.)</p> <p>In addition, the DEIR/EIS fails to analyze and disclose whether agricultural operations in the Delta will remain viable once the activities contemplated by the BDCP are complete. The BDCP will result in the permanent removal of a significant amount of prime farmland from production, construction activities will "temporarily" remove a significant additional amount of prime farmland from production, and direct and indirect impacts from construction-related activities will adversely affect even more prime farmland.</p>	<p>Alternative 4A (California WaterFix) involves significantly fewer acres of restoration activities, resulting in a much smaller impact to prime farmland.</p> <p>As noted in Final EIR/EIS Section 14.1.1, "Lands used for agricultural purposes according to California Department of Conservation's Farmland Mapping and Monitoring Program classifications comprise more than 585,000 acres of the study area and are a substantial economic factor within the region." While the impacts to important farmland are considered significant, both temporary and permanent conversion impacts, in aggregate, only total approximately 1 percent of farmland in the study area. If uses on farmland are restricted by fee acquisition or easements, the interests in land would be acquired based on the fair market value of the property and any permanent limits imposed, and the landowner would be paid directly. The postulated impairment of a local or regional agricultural market is highly speculative, specifically economic in nature and outside the scope of this analysis.</p> <p>The effects on important farmland, while significant, are far more limited than those that would have resulted from other alternatives that do not rely on the tunnels. In total, slightly more than 1% of the Important Farmland in the Delta would be affected. It would be beyond reasonable speculation to consider this amount of farmland loss, while significant from a CEQA/NEPA standpoint, to constitute an existential threat to agricultural operations in the Delta.</p>
1655	107	<p>Drainage patterns will likely change, water quality will likely change, and growers could be faced with buyers finding alternate sources of supply with [agricultural] land out of production for extended periods of time. In addition, the BDCP's proposed restoration of some Delta islands could put other islands at risk of flooding, further threatening local agriculture. With a significant amount of farmland removed from production or production otherwise adversely affected, the DEIR/EIS must analyze and disclose whether the prolonged adverse effects on agriculture in the Delta will result in any permanent loss of agriculture in the region.</p>	<p>The impact analysis for agricultural resources in the study area (Plan Area and Areas of Additional Analysis) assesses the potential for temporary (four or fewer years) or short-term (between four and ten years) construction activities associated with the BDCP to directly or indirectly impede agricultural production and operations. That analysis relies upon geospatial information identifying temporary ground-disturbing activities necessary for project construction, as well as the current distribution of important agricultural resources, including Important Farmland and land subject to Williamson Act contracts or in Farmland Security Zones in the study area. Permanent effects (lasting more than ten years) resulting from the physical footprints of water conveyance facilities and conservation areas, as well as operational effects on agricultural resources, are also described. The extent of agricultural land that would be disturbed by construction activities determines the severity of each effect.</p>
1655	108	<p>The loss of this farmland and the BDCP-related long-term impact on agricultural operations has the potential to have a significant impact on the economy of the City, which is the home to several large agricultural processing businesses and whose residents work in or provide services to the Delta agricultural community.</p>	<p>Although both the construction of new physical facilities in the Delta and the restoration of habitat will lead to the conversion of some amounts of agricultural land in the Delta, effects of the BDCP will be subject to aggressive mitigation efforts. Land that is not directly affected by construction or habitat restoration should remain productive. Please see Master Response 18 for more information regarding agricultural impact mitigation. Please see Chapter 16, Socioeconomics, of the Final EIR/EIS, for discussion of potential effects on agricultural production and employment in the Delta.</p>
1655	109	<p>The mitigation measures proposed to address the BDCP's conversion of agricultural lands are neither measurable nor enforceable. Mitigation Measure AG-1a (DEIR/EIS, p. 14-39) prescribes certain actions to "reduce adverse effects and/or significant effects . . . if the measures are applicable and feasible." Several of these prescribed actions do not generate a predictable outcome, but instead generate only a variable process with variable outcomes. For example, AG-1a states: "The plans should include a framework that encourages adaptive management with regard to agricultural land management." (DEIR/EIS, p. 14-42, emphasis added.) Real and measurable results cannot be measured if the plan is not required to include the framework, including defined performance standards, or if the framework does not require adaptive management. According to AG-1a, an acceptable outcome would be a plan with (or without) a framework that does (or does not) encourage adaptive management, and with no specified performance standards by which success can be gauged. Such non-committal language is inadequate for proper mitigation of identified</p>	<p>Please refer to Master Response 18 for further discussion of agricultural mitigation.</p>

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		environmental impacts.	
1655	110	<p>Salinity Impacts to Crops</p> <p>Impact AG-2 discusses effects on agriculture as a result of changes in salinity (as Electrical Conductivity), but there is no discussion of EC increases other than at Emmaton and the San Joaquin River. Has there been an evaluation of EC increases in other Delta community areas, and is there an adverse effect to agricultural intakes and agricultural production?</p> <p>The discussion of impacts also appears to be internally inconsistent. The discussion at DEIR/EIS page 14-122 first describes the increase in frequency with which EC objectives will be exceeded (lines 1-35), but then says that following implementation of Scenarios H1-H-4, there would be a decrease in the number of days in which the EC objective is exceeded. This apparent inconsistency should be explained.</p> <p>Also, the analysis is based on a comparison with the No Project Alternative, which relies on future baseline water quality conditions. Impacts to EC levels, and potential adverse crop effects, will occur immediately upon operation of the new intake structures, and the BDCP has the potential to result in significant adverse impacts to agricultural water salinity levels in the short- and near-term. In order to understand potential adverse impacts to agricultural water supplies, an analysis must be provided that compares BDCP-related water quality changes to the existing conditions in the Delta and Sacramento and San Joaquin Rivers, considering current hydrology. Basing an analysis solely on a future baseline that includes changes due to climate change and upstream diversions that will not occur in full for decades, results in a failure to evaluate potentially significant adverse changes that will occur in the intervening decades.</p>	<p>As described in Final EIR/EIS Chapter 8, electrical conductivity and chloride were assessed at D- 1641 compliance locations. Those locations are identified in Chapter 8. Based on data availability, data continuity, and geographic location, a total of 20 water quality monitoring stations were selected to characterize the water quality conditions in the study area (see Chapter 8, Water Quality, Figure 8-7). Chapter 8, Section 8.1.2.2, provides a brief illustration of how the data from these stations were used to represent various parts of the study area. Table 8-6 presents the specific reasons for selecting these locations and describes the spatial area of the study area for which specific stations provide adequate representation.</p> <p>Chapter 14 identifies those compliance locations where, according to water quality monitoring results, there may be EC increases that would affect agricultural beneficial uses.</p> <p>There could be increased long-term and drought period average EC levels during the summer months in the Sacramento River at Emmaton under Alternative 4A relative to the No Action Alternative (ELT), which could adversely affect agricultural beneficial uses. Relative to Existing Conditions, average EC levels at Emmaton would increase by 9% during the drought period modeled. The largest monthly average increases in EC would occur during the summer months of the drought period, and more generally in dry and critical water year types. The increases in drought period average EC levels could cause substantial water quality degradation that would potentially contribute to adverse effects on the agricultural beneficial uses in the western Delta. The comparison to Existing Conditions reflects changes in EC due to both Alternative 4A operations and climate change/sea level rise. The adverse effects expected to occur at Emmaton would be due in part to the effects of climate change/sea level rise, and in part due to Alternative 4A operations. Mitigation Measure WQ-11 (Avoid, Minimize or Offset, as Feasible, Reduced Water Quality Conditions) would be expected to reduce the severity of this effect such that it is less than significant following mitigation.</p> <p>See the Executive Summary of the Final EIR/EIS that provides a summary of all of the impacts, mitigation measures and significance conclusions.</p>
1655	111	<p>Agricultural Land Mitigation</p> <p>Mitigation Measure AG-1 calls for the purchase of agricultural conservation property interests as mitigation for the BDCP's significant impacts to agricultural lands. What evidence is there that sufficient agricultural land of comparable quality to the land being destroyed is or will be available for mitigation purposes, within the affected project area? What are the estimated costs of this mitigation land, and how will acquisition of the interests be funded? Will purchase of the property interests be required to occur prior to destruction of existing agricultural land and operations by construction of the BDCP facilities?</p> <p>If land that is acquired for agricultural mitigation is allowed to be "double counted" as satisfying biological mitigation objectives, how will the lead agencies ensure that the total mitigation acreage is equal to the total land lost by the BDCP? Depending on the lands selected, allowing mitigation land to be counted as mitigating multiple impacts could result in a net loss of total resources if the BDCP results in a loss of land with biological resource value (e.g., Swainson's hawk foraging land) that is not also Important Farmland, and mitigation credit for the Swainson's hawk habitat loss is allowed to occur on land that is being protected to satisfy farmland mitigation requirements for loss of other farmland that did not qualify as Swainson's hawk foraging habitat.</p>	<p>Please refer to Master Response 18 for further discussion of agricultural mitigation.</p>

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1655	112	<p>Chapter 16: Socioeconomics</p> <p>The socioeconomic analysis in the BDCP EIR/EIS fails to properly analyze the dramatic socioeconomic impacts of the BDCP on the Delta region, and makes no mention of impacts that are likely to occur in the City. The analysis does not use the best available evidence to evaluate BDCP impacts, and displays bias by quantifying and emphasizing favorable effects while relegating large unfavorable effects to short, qualitative discussions. For example, this chapter does not use or differentiate the praised and peer-reviewed Economic Sustainability Plan (ESP) generated by the Delta Protection Commission (DPC) for any of its data or project impact analysis. The ESP is merely referenced and summarily dismissed even though in some areas, like agricultural productivity data, the ESP data is more current and accurate than that used in the DEIR/EIS. Similarly, the DEIR/EIS fails to quantify the economic impacts on agriculture of CMs 2-22, stating the lack of quantification is "because the information required as input to the IMPLAN model was not available" even though other assessments -- including the BDCP August 2013 Statewide Economic Impact Report -- found data to quantify and estimate extremely large negative impacts of implementing the BDCP CMs 2-22 on agriculture production in the Delta.</p> <p>Further, in several important areas, the impact analysis is incorrect or omits important evidence that the BDCP will have more severe adverse socioeconomic effects. Likewise, the DEIR/EIS omits, or uses inadequate evidence, to establish the baseline for impact analysis on issues of locally vital socioeconomic concerns to the Delta. This has the effect of distorting the analysis to minimize the BDCP's true impacts.</p>	<p>Please refer to Final EIR/EIS Section 16.3.2.1 of Chapter 16, where it describes that potential incompatibilities with local plans or policies, or with those not binding on the state or federal governments, do not necessarily translate into adverse environmental effects under NEPA or CEQA. Additionally, please refer to Sections 16.2.2.5, 16.3.1.1, and 16.3.1.2 regarding the use of the IMPLAN model. Please also note that the preferred alternative is now Alternative 4A and no longer includes an HCP.</p>
1655	113	<p>The DEIR/EIS does not provide adequate evidence relating to total Delta agricultural revenue, temporary and permanent loss of Delta agricultural production during construction, then operation and maintenance of the isolated conveyance facility, and long-term loss to the City's agricultural processing industry. The DEIR/EIS recognizes that, "[c]ommercial agriculture and the associated agricultural service, packing, processing, marketing, insuring and transportation activities are critical components of the Delta region's economic and social character." (DEIR/EIS, p. 16-23, lines 13-15.) Despite this recognition, and recognition that much of this economic activity is centered in cities, such as Stockton, the DEIR/EIS provides only a generic summary of the BDCP's "regional economic effects." (See, e.g., DEIR/EIS Table 16-20, p. 16-55.) There is no analysis of the relative effect on the City's economy, despite its role as a major center of agricultural-dependent business in the Delta. There are many agricultural processing, packing and shipping, and other (e.g., insurance) businesses within the City that could be adversely affected as a result of the impacts to agriculture from the BDCP (loss of agricultural production in areas surrounding the City). The BDCP could have adverse socioeconomic impacts as a result of adverse effects to agriculture-dependent businesses, agricultural recyclers, and their labor force who reside in the City. There is a trend of agricultural industries leaving the City, and the BDCP could exacerbate this trend. Reduced economic activity will result in empty buildings, decreased investment, reduced tax revenues, which will further constrain the City's ability to maintain public infrastructure, and therefore physical blight through deterioration of physical and aesthetic conditions within the City.</p>	<p>Because Chapter 16 looks at the Delta as a five-county region, Stockton is included in the analyses under each impact. Please refer to Impacts ECON-6, 12, and 18 to see the discussions related to agricultural economics.</p>
1655	114	<p>The DEIR/EIS fails to quantify the economic impacts on agriculture of CMs 2-22, even though other assessments have found these measures to have extremely large negative impacts on agriculture production in the Delta. The DEIR/EIS fails to quantify large and permanent losses in economic activity while focusing on temporary economic impacts of construction activity. The habitat conservation measures (CMs 2-22) would impact substantially more</p>	<p>Please refer to Final EIR/EIS Section 16.3.2.1 of Chapter 16, where it describes that potential incompatibilities with local plans or policies, or with those not binding on the state or federal governments, do not necessarily translate into adverse environmental effects under NEPA or CEQA. Additionally, please refer to Sections 16.2.2.5, 16.3.1.1, and 16.3.1.2 regarding the use of the IMPLAN model. Please also note</p>

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		<p>agricultural land than the proposed conveyance project (CM 1), and multiple reports have found that CMs 2-22 would cause a larger direct decrease in agricultural production than the proposed conveyance project itself. The DEIR/EIS states that these impacts were not quantified "because the information required as input to the IMPLAN model was not available." This statement is obviously false, as the available data was sufficient for the BDCP itself to produce estimates in its August 2013 Statewide Economic Impact Report. [footnote 6: See page 5.1-16 of the Statewide Economic Impact Report available at <a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx</a>.]</p>	<p>that the preferred alternative, Alternative 4A, no longer includes an HCP.</p>
1655	115	<p>The BDCP Statewide Economic Impact Report estimates an \$89 million annual loss in Delta agricultural production from CMs 2-22. Similarly, the DPC found the habitat measures in CMs 2-22 would reduce agricultural production by \$32-132 million annually depending on the locations used for conservation. [footnote 7: See page 145 of the Economic Sustainability Plan, or Figure C, page 14 of Executive Summary of the Economic Sustainability Plan.] These estimates are only the direct effects, and do not include indirect and induced (i.e., multiplier) effects from the lost income from decreased agricultural production or effects on value-added processing such as tomato processing. Using multipliers from the DPC ESP, the total economic impact of CMs 2-22 could be an annual loss of between \$100-400 million in economic output for the five-county Delta region. [footnote 8: The DPC ESP estimated that the \$795 million in lost direct Delta agricultural production results in \$2.6 billion in total economic impact in the five Delta counties considering direct impacts as well as value-added manufacturing such as wineries, an output multiplier of approximately 3.3. The range of \$100-400 million in total annual economic impacts is based on applying this multiplier to the range of \$32-132 million loss in direct revenue from CMs 2-22.] Thus, even the lowest and most optimistic estimate of the economic impact of CMs 2-22 on Delta agricultural production is a very significant effect.</p> <p>The DEIR/EIS estimates of total Delta agricultural revenue are significantly lower than other, more recent assessments. The DEIR/EIS estimated revenue from Delta agriculture at \$697 million in 2007, whereas the Delta Protection Commission Economic Sustainability Plan estimated it to be \$795 million in 2009. No explanation is provided for the discrepancy in these estimates, and it appears the DEIR/EIS simply relied on the numbers that would reflect more favorably on the BDCP by minimizing its actual impacts. Since the DEIR/EIS's estimates of baseline economic activity in the Delta are too low, its estimates of the impacts of BDCP actions on the Delta economy are also likely to be too low, and no estimates were made for impacts in the City.</p>	<p>Regional economic effects associated with CM2-21 are described qualitatively, focusing on activities during implementation of these measures and on economic activities potentially displaced within areas affected by these measures. Please refer to Final EIR/EIS Sections 16.3, and 16.3.1.4, regarding the methodology and approach for the analysis used in Chapter 16, and see Master Response 5 regarding the BDCP.</p>
1655	116	<p>The DEIR/EIS underestimates permanent loss of agricultural production during operation and maintenance of the isolated conveyance facility at only \$3.8 million. (DEIR/EIS, p. 16-174.) Based on the analysis in the DPC ESP, the actual gross revenue loss for an estimated 4,500 acres permanently removed from production due to the isolated conveyance facility would be \$5-8 million. These figures are only based on the land directly removed from production. Impacts resulting from disruption and damage to transportation, support, and processing infrastructure during construction and operation of the facility would add to these totals. In addition, agriculture in the Delta will be harmed from increased levels of salinity resulting from the operation of the Delta tunnels. The DEIR/EIS water quality chapter claims that BDCP impacts on salinity will be minimal based on the BDCP's modeling, but these results are strongly disputed. Furthermore, the state has repeatedly violated current water quality standards in the Delta or relaxed standards in dry years such as 2014. Given this history of weak enforcement in the current system, the tens</p>	<p>Please refer to Final EIR/EIS Sections 16.3, and 16.3.1.4, regarding the methodology and approach for the analysis, in particular about crops and agricultural economics, used in Chapter 16.</p> <p>Please refer to Chapter 8, Water Quality, regarding salinity impacts in the project area.</p>

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		<p>of billions of dollars borrowed to build the isolated conveyance system, and the fact that this debt will be repaid from revenues of water sales from the Delta, the risk of the BDCP actually operating differently than described in the DEIR/EIS and serious degradation of Delta water quality through excessive North Delta diversions is great. The DPC ESP modeled plausible scenarios where increased salinity as a result of the tunnels could reduce agricultural gross revenue in the Delta by \$80 million per year. The DEIR/EIS should acknowledge a risk that losses to Delta agriculture from implementing the BDCP could be 20-25 times greater than estimated in the DEIR/EIS.</p> <p>As a result of these deficiencies, this section of the DEIR/EIS needs to be revised and recirculated to quantify all project-related socioeconomic impacts that will occur within the City.</p>	
1655	117	<p>Chapter 19: Transportation</p> <p>The BDCP would have significant effects on roadways within the City from heavy construction traffic. Not only would people be affected by traveling with a heavy increase in construction traffic, but pavement conditions would deteriorate to a point of disrepair. Construction impacts to roadways would be significant, and roadways may need to be reconstructed. If the BDCP were to proceed, close coordination with the City on the nature and extent of mitigation would be required.</p>	<p>The commenter’s concern about the impact of construction traffic on city roadways and the necessity for project proponents to coordinate with the City is acknowledged. Mitigation Measures TRANS-1a, TRANS-1c, and TRANS-2c all include coordination with affected jurisdictions and agencies on road improvements to avoid or repair damage.</p>
1655	118	<p>Impacts to Physical Condition of Roadways</p> <p>The DEIR/EIS appropriately recognizes that BDCP construction traffic is likely to substantially degrade Delta roads. However, the analysis of construction impacts does not address the full scope of the BDCP’s impacts to the City’s roads, and mitigation is not adequate to avoid or substantially lessen significant impacts.</p>	<p>The Lead Agencies acknowledge the commenter’s concern about the scope of construction traffic impacts. The traffic analysis was based on a reasonable worst-case scenario in which all construction trips are assigned to the roadway network for each analysis hour as discussed on Draft EIR/EIS Chapter 19, Transportation, page 19-35. Mitigation Measure TRANS-2c notes that it may be necessary to improve deficient roadways before construction to make them suitable for use during construction. This measure will also ensure that construction activities will not worsen pavement conditions, relative to Existing Conditions.</p>
1655	119	<p>Impact TRANS-2</p> <p>The DEIR/EIS suggests that the only roadway segments that will be damaged by the BDCP are those identified as being in presently unacceptable condition (as in Tables 19-10 and 19-26). Mitigation is limited to impacts to road segments identified in those tables, namely roads with currently unacceptable road conditions that have traffic added to them. This approach fails to account for impacts to presently acceptable roadways that will substantially deteriorate as a result of BDCP traffic. These impacts also need to be recognized and mitigated. Any construction traffic that will be added to both these types of roadways, due to the nature of heavy loads, is expected to break down pavement conditions significantly.</p>	<p>Mitigation Measure TRANS-2c notes that all affected roadways would be returned to preconstruction condition or better following construction. This mitigation measure has been updated in the Final EIR/EIS to clarify that this applies to all roadway segments, including those that are currently acceptable.</p>
1655	120	<p>Due to the heavy volume of construction traffic, and the nature of that traffic (heavily laden trucks), the BDCP would likely result in significant deterioration of roadways that are presently in acceptable condition. This is especially true due to the unique road construction conditions in the Delta, which make it unreasonable to evaluate only roads that have a Pavement Condition Index less than 55. Roads in the Delta generally are built on spongy sub-base, and their structural section usually is inadequate for heavy traffic such as construction trucks. Adding construction traffic to these roadways will cause them to rapidly deteriorate to unusable conditions. Impacts will not be limited to roadways that are identified in the DEIR/EIS (Table 19-26) as currently deficient. Road deterioration can result in additional traffic delays, damage to vehicles, and increased safety hazards. The analysis</p>	<p>See Response to Comment 1655-119.</p>

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		should be revised to evaluate potential effects to the Delta's entire roadway network, including all roads within City limits, as existing conditions would be greatly impacted by the extensive construction work.	
1655	121	Mitigation Measures TRANS-2a and b  These measures call for prohibiting or limiting construction activity on existing physically deficient roadway segments if feasible. While this is a good idea, it may not be feasible.	The Lead Agencies acknowledge that prohibiting or limiting construction traffic on existing physically deficient roadway segments may not be feasible in all cases. Mitigation Measure TRANS-2c will improve physical conditions of such segments. This measure will also ensure that construction activities will not worsen pavement conditions, relative to Existing Conditions.
1655	122	Mitigation Measure TRANS-2c  This mitigation measure addresses the effect of construction traffic on roadways that currently have unacceptable pavement conditions by improving the physical condition of affected roadways. Mitigation Measure TRANS-2c is too narrowly focused to adequately mitigate the BDCP's impacts to City roads. As shown in Table 19-5 -- Existing Pavement Conditions in the Study Area -- the pavement conditions on the affected City roadway segments in the study area -- 8 Mile Road -- are unacceptable. (DEIR/EIS, p. 19-20.) Furthermore, the few that are classified as acceptable have a Pavement Condition Index (PCI) rating on the border of unacceptable. Adding construction traffic to these roadways will make them deteriorate to unusable conditions. Furthermore, any roads used, whether they have an existing pavement deficiency or not, are expected to deteriorate due to the nature of construction activity. Roadways with a current PCI slightly higher than 56 out of 100 may be considered "acceptable," but they are very close to becoming unacceptable. As noted above, the introduction of significant amounts of heavy construction traffic will quickly cause them to deteriorate into the unacceptable category. Mitigation Measure TRANS-2c fails to account for or mitigate significant impacts to these roadway segments. All roadways that will carry construction traffic will be affected (including side roads) and should be subject to this mitigation measure, not just the roads identified in the Pavement Conditions tables such as Tables 19-10 and 19-26.  Due to the lengthy construction period, the BDCP proponents not only should be required to restore roadways to pre-construction condition or better at the end of the construction period, but they should also be required to perform routine maintenance on substandard or damaged roadways prior to and throughout construction activities to ensure that roads remain safe and in acceptable condition for other users, including emergency vehicles. As drafted, this mitigation measure requires restoration of roads to their "pre-construction" condition. This seems impractical. For roads that are presently deficient, or on the verge of being deficient, the DEIR/EIS should explain how the contractor ultimately will restore these roads to an "unacceptable" condition. Rather than "restoring" roads to an unacceptable condition, at the end of construction activities, the BDCP proponents must deliver acceptable roadways back to the City as determined by the City.	Mitigation Measure TRANS-2c is not limited to returning roadways to preconstruction conditions. This measure also includes fair-share contributions to programmed planned improvements.  Mitigation Measure TRANS-2c notes that all affected roadways would be returned to preconstruction condition or better following construction. This mitigation measure has been updated in the Final EIR/EIS to clarify that this applies to all roadway segments, including those that are currently acceptable.
1655	123	Regarding the BDCP proponents' obligation to pay the BDCP's "fair share" of road repair costs, mitigation measure TRANS-2c states: "The fair share amount would be either the cost to return the affected roadway segment to its preconstruction condition." (DEIR/EIS, p. 19-182, emphasis added.) Either the word "either" is misplaced, or the measure has omitted an alternate means of calculating fair share amount. Please clarify and correct what is intended.	The correct phrasing is "The fair share amount would be either the cost to return the affected roadway segment to its preconstruction condition or a contribution to programmed planned improvements." This is shown correctly on page 19-69 of the Draft EIR/EIS. Page 19-182, lines 13-14, were corrected in the Final EIR/EIS.
1655	124	The BDCP relies on local and regional roadways near the City. As these roadways become increasingly congested by the BDCP construction traffic, non-project traffic would likely seek	The Lead Agencies acknowledge the commenter's concerns about diverting traffic onto secondary roads. To minimize this, Mitigation Measure TRANS-1b specifies limiting construction activity to hours with more

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		<p>out alternative routes to avoid the identified increase in vehicular traffic. In particular, the increased number of vehicle trips on Interstate 5 through Stockton would modify the ordinary traffic flow and cause local residents to pursue cut-through or shortcut routes through the City. Because the City relies on Interstate 5 for its own traffic modeling purposes, local roadways are not sized to support overflow traffic from Interstate 5. The DEIR/EIS should consider the impacts on local roadways resulting from increased traffic on Interstate 5 or other regional roadways.</p>	<p>capacity to avoid operational deficiencies on affected roadways, where feasible.</p> <p>Additional information regarding the feasibility of mitigation, please see Master Response 22.</p>
1655	125	<p>The BDCP will reduce the Level of Service (LOS) for Segment CT53 through the City to an unacceptable level. This roadway segment is also identified as having deficient pavement conditions. The proposed Mitigation Measure TRANS-1b does not adequately address the undeniable impact that the project will have on the roadway. Rather, it provides vague, optional direction without mandatory follow-through or implementation. As written, Mitigation Measure TRANS-1b could be satisfied with absolutely no mitigation of the impact if the project proponent considers modification to hours infeasible -- the mitigation measure requires action only if such action is determined to be feasible. However, the criteria for feasibility are not provided and the discretion for weighing convenience, costs, and other considerations is left to the project proponent in their determination of feasibility. This is an unacceptable mitigation measure and does not adequately mitigate the impact as required by CEQA.</p> <p>Total vehicle trips is an inadequate measure of true traffic impact in this case because the project will use an inordinate proportion of heavy-load vehicles, heavy equipment, trailers, and tractor-trailer combinations. These vehicle trips cause greater traffic congestion impacts and conflicts than typical passenger vehicles and also cause far greater road surface damage. The composition of the anticipated trips needs to be studied and an appropriate model needs to be used to analyze the unique nature of these additional trips. Similarly, this composition needs to be the basis for a road surface damage analysis, as discussed above regarding Mitigation Measure TRANS-2c, since the BDCP will substantially increase the number and type of vehicle trips that exceed the roadway design specifications.</p>	<p>Mitigation Measures TRANS-1a through TRANS-1c include consultation and coordination with California Department of Transportation District 10, San Joaquin County and the City of Stockton, CA. Collectively, these measures include requirements to avoid or reduce circulation effects, notify the public of construction activities, provide alternate access routes, require direct haulers to pull over in the event of an emergency, limit/prohibit the amount of construction activity on congested roadways, and enhance roadway conditions. Although TRANS-1a through TRANS-1c would reduce the severity of this effect, the project proponents are not solely responsible for the timing, nature, or complete funding of required improvements. If an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the effect is made, an adverse effect in the form of unacceptable LOS would occur. Therefore, this effect would be adverse. If, however, all improvements required to avoid adverse effects prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, effects would not be adverse.</p>
1655	126	<p>Chapter 20: Public Services and Utilities</p> <p>Effects on Fire Protection and Emergency Response Services</p> <p>The DEIR/EIS claims the BDCP will not have a significant impact on public service demands. This determination is not supported by evidence or analysis. The City's Fire Department has confirmed that any major emergency occurring within the City (such as an accident involving BDCP construction trucks) or to the west of the City would require response by the City's emergency service units, which would affect their ability to serve their primary jurisdiction. Depending on the severity of the emergency, impacts to the City's ability to provide services could be significant.</p>	<p>Environmental commitments will be incorporated that would minimize the potential for construction-related accidents associated with hazardous materials spills, contamination, or fires. The following environmental commitments would be incorporated (Final EIR/EIS Appendix 3B, Environmental Commitments):</p> <ul style="list-style-type: none"> <li>• A hazardous materials management plan (HMMP) will be developed and implemented 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 SPCC Plan will be developed and implemented 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 will be developed and implemented that will include fire prevention and suppression measures consistent with the policies and standards in the affected jurisdictions and will 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>In the event that a construction-related incident occurs, the City's emergency service units would be</p>

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			<p>impacted only temporarily and it is not anticipated it would impact the City's overall ability to provide services significantly. Mitigation Measures TRANS-1a requires the project proponents to develop site-specific construction traffic management plans (TMPs) that address specific steps to be taken before, during, and after construction to minimize traffic impacts. Per this mitigation measure, the TMPs would include notifications for the public, emergency providers, cycling organizations, bike shops, and schools, the U.S. Coast Guard, boating organizations, marinas, city and county parks departments, and the California Department of Parks and Recreation, where applicable, describing construction activities that could affect transportation and water navigation.</p>
1655	127	<p>Chapter 22: Air Quality</p> <p>The DEIR/EIS identifies numerous adverse health effects caused by exposure to pollutants that will be emitted during construction and operation of the BDCP, including adverse effects from particulate matter, ozone, NO<sub>2</sub>, and CO. (See DEIR/EIS, pp. 22-4 to 22-6.) The DEIR/EIS acknowledges significant construction emissions that would exceed the San Joaquin Valley Air Pollution Control District's (SJVAPCD) thresholds for NO<sub>x</sub> and potentially expose sensitive receptor to significant health threats, including diesel particulate matter (DPM) and PM<sub>2.5</sub> exceedances from a proposed concrete batch plant that would be located near the Byron Highway. (See Impact AQ-4: Generation of Criteria Pollutants in Excess of the SJVAPCD Thresholds During Construction of the Proposed Water Conveyance Facility, DEIR/EIS, p. 22-238, and Impact AQ-12: Exposure of Sensitive Receptors to Health Threats in Excess of SJVAPCD's Health-Risk Assessment Thresholds, DEIR/EIS, p. 22-250.) The DEIR/EIS states, "Mobile and stationary construction equipment exhaust, employee vehicle exhaust, and dust from clearing the land would generate emissions of ozone precursors (ROG and NO<sub>x</sub>), CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub>." (DEIR/EIS, p. 22-224, lines 35-36.) As discussed above, emissions estimates include implementation of environmental commitments (see Appendix 3B, Environmental Commitments), making it impossible to know the actual extent of air quality and human health impacts that might be felt near construction sites, along project-related transportation routes within the City, and elsewhere in and around the Delta. The analysis needs to be revised to account for project emissions prior to implementation of environmental commitments and clearly disclose whether any thresholds would be exceeded within the City, either from heavy construction traffic within the City or if project construction emissions are transported to the City from prevailing winds.</p> <p>Moreover, the DEIR/EIS does not provide any information about the potential for these BDCP emissions, other than particulate emissions, to result in adverse health effects. Despite the acknowledged potential for adverse effects from pollutants such as ozone, NO<sub>x</sub>, CO, and others, the DEIR/EIS's assessment of adverse health effects appears to have been limited to an evaluation of risks from particulate matter exposure, including DPM. (See DEIR/EIS, p. 22-35, lines 10-11, and Impact AQ-12: Exposure of Sensitive Receptors to Health Threats in Excess of SJVAPCD's Health-Risk Assessment Thresholds, DEIR/EIS, pp. 22-250 to 22-251 [failing to evaluate health effects of BDCP emissions for any pollutants other than particulate matter].) The DEIR/EIS does not evaluate or explain whether the BDCP's emissions of pollutants other than particulate matter would have adverse health effects on residents of San Joaquin County or the City. To satisfy CEQA's informational mandate, the DEIR/EIS must include an analysis that correlates the BDCP's emission of air pollutants, both from construction activity and heavy truck traffic, to its impact on human health on residents of the City and greater Delta. (Sierra Club v. County of Fresno (2014) 226 Cal.App.4th 704.) That analysis must explain whether the BDCP-related levels of emissions from all pollutants that have the potential to cause adverse health effects, not just</p>	<p>The RDEIR/SDEIS included narrative discussions explaining how each environmental commitment reduces the severity of environmental effects and whether the level of impact reduction is sufficient to render the effects less than significant. This approach provides a succinct presentation and analysis of each environmental commitment's effectiveness in reducing environmental impacts in a comprehensive and understandable manner without reproducing all the original Draft EIR/EIS impact discussions that reference environmental commitments. Please refer to Final EIR/EIS Appendix 3B, Environmental Commitments.</p> <p>With respect to the scope of the health risk assessment and Sierra Club v. County of Fresno (2014) 226 Cal.App.4th 704, while the Court's decision calls for an analysis of human health impacts from project-generated emissions, it does not specifically mandate that the health risks from project-generated criteria pollutant emissions be quantitatively evaluated or a specific disclosure of where, when, or how much health impacts could increase with project implementation. Rather, the ruling requests additional information and context on 1) the local air district's mass emissions thresholds for criteria pollutants (i.e., the regulatory framework and basis for the thresholds) and how they relate to human health, and 2) the potential for project-level criteria pollutant emissions to contribute to material health impacts. That is, providing additional documentation to explain what a violation of local air district's criteria pollutant thresholds means and correlating project-related emission exceedances of applicable thresholds to potential health outcomes.</p> <p>In light of Sierra Club v. County of Fresno, additional text was added to Final EIR/EIS Chapter 22, Air Quality and Greenhouse Gases, Section 22.3.2.1, to identify the purpose of the Plan Area air districts' criteria pollutant thresholds and describe the analysis undertaken by the air districts to establish the numeric limits. The discussion highlights that while the regional criteria pollutant thresholds are derived from air quality plans developed to meet and attain the State and federal health-based ambient air quality standards, they are not indicators of potential project-level human health impacts. This additional context narrows application of the air districts' criteria pollutant thresholds and defines their purpose in evaluating project-level air quality impacts—the regional thresholds are only used to assess the project's effect on regional attainment of the ambient air quality standards.</p> <p>An additional section was also added to Final EIR/EIS Section 22.3.2.1 to disclose that while criteria pollutant emissions do impact human health, adverse health effects are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individual [e.g., age, gender]). Moreover, health effects related to ozone are a product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations, and as such, translating project-generated criteria pollutants to specific health effects would produce meaningless results. In other words, minor increases in regional air pollution from project-generated ROG and NO<sub>x</sub> would have nominal or negligible impacts on human health. As an example, the Bay Area Air Quality Management District's Multi-Pollutant Evaluation Method requires a 3 to 5 percent increase in regional ozone precursors to produce a material change in modeled human health impacts. Based on 2008 ROG and NO<sub>x</sub> emissions in the Bay Area, a 3 to 5 percent increase equates to over 20,000 pounds per day of ROG and NO<sub>x</sub>. Please refer to Section 22.3.2.1 and Section 22.3.5 (cumulative impacts) for a general discussion on how changes in regional</p>

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		particulate matter or TACs, will, in fact, have adverse effects on sensitive receptors.	<p>criteria pollutant emissions (ROG and NOX) associated with the project could lead to health outcomes.</p> <p>Since localized pollutants generated by a project can directly affect adjacent sensitive receptors, the analysis of project-related impacts to human health focuses only on those localized pollutants with the greatest potential to result a significant, material impact on human health. This is consistent with the current state of practice, available literature, and limitations in relating project-level criteria pollutant levels to specific health endpoints (e.g., asthma, cardiovascular disease). The pollutants of concern analyzed in the RDEIR/SDEIS include 1) locally concentrated particulate matter and carbon monoxide, 2) diesel particulate matter, and 3) C. immitis (Valley Fever). Please refer to Impacts AQ-9 through AQ-18.</p> <p>Please also refer to the BDCP Draft Statewide Economic Impact Analysis for additional information on potential health effects. The analysis monetizes emissions based on per-ton health costs of mortality and morbidity published by the United States Environmental Protection Agency (EPA). The Draft Economic Study can be downloaded here:  <a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx</a>.</p>
1655	128	Both the BDCP and DEIR/EIS fail in their fundamental purpose. As stated by its proponents, the purpose of the BDCP is to improve the reliability of water supplied through the Sacramento-San Joaquin Delta while improving ecosystem health and ensuring long-term protection of threatened and endangered fish species. The BDCP falls far short of these goals. Further, the DEIR/EIS is fundamentally deficient.	The preferred alternative, Alternative 4A, no longer includes an HCP. The Lead Agencies believe that the EIR/EIS is complete in its evaluation of impacts, direct and cumulative; that project description is complete and satisfies the requirements of NEPA; and that the project objectives satisfy the requirements of CEQA. The Lead Agencies agree 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, which have been considered and incorporated into the Final EIR/EIS.
1655	129	"[T]he purpose of an EIR is not only to protect the environment but to demonstrate to the public that it is being protected." (CEB, Kosta & Zischke, Practice Under the Environmental Quality Act, 2d ed. [Section] 1.18 at p. 1-16 (3/14 update), citing County of Inyo v. Yorty (1973) 32 Cal.App.3d 795, 810.) Because no analysis was provided on the issues raised in the City's comments on the Notice of Preparation, including no analysis of water quality effects at the location of the City's water intake and wastewater discharge location, the City was unable to understand what the impacts would be on the issues of greatest concern.	<p>Of the locations modeled, the modeling output for Buckley Cove provides the best information for potential effects to drinking water constituents at the City of Stockton Delta Water Supply Project intake.</p> <p>Assessment was done on a comparative basis (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. Thus, although different locations can vary in their instantaneous water quality, effects of the project on water quality at locations assessed are considered representative of the degree and direction of water quality changes at other locations. This approach provides the analysis necessary to make impact conclusions and where necessary recommend mitigation measures to reduce significant impacts.</p>
1655	130	The failure to provide sufficient information about the BDCP or credible evidence and objective analysis to support the DEIR/EIS's impact determinations has deprived the public of a meaningful opportunity to understand and comment on the project's substantial adverse impacts and thus failed to meet its fundamental purpose under CEQA. The burden of producing a comprehensible project and supporting analysis should not fall on the public. Instead, the BDCP proponents must provide an adequate and comprehensible public draft EIR/EIS for public comment. Correcting these errors will require the addition of significant new information and, thus, the DEIR/EIS must be revised and recirculated for public review. (CEQA Guidelines, [Section] 15088.5a.) Once the significant flaws in the BDCP and DEIR/EIS are addressed and the BDCP and DEIR/EIS are recirculated for public review and comment, the City, and the rest of the public, will be in a better position to understand the true impacts of the BDCP and, in turn, provide detailed comments to help inform the draft plan and DEIR/EIS.	Since the time of the Draft EIR/EIS, portions of the document were recirculated in the RDEIR/SDEIS to address modifications to the project and address some of the comments on the Draft EIR/EIS. All of the alternatives presented in Chapter 3, Description of Alternatives are adequately described at the level of detailed required under CEQA and NEPA.
1655	131	The EIR/EIS needs to evaluate the effects of the BDCP on the proposed Delta Water Supply Project (DWSP). The DWSP is a project proposed by the City of Stockton to divert water	As noted in Final EIR/EIS Appendix 5A, Section B, the City of Stockton's surface water supply, including the Delta Water Supply Project, is included in the No Action Alternative and Alternatives 1 through 9.

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		from the San Joaquin River at a location near the southwestern corner of Empire Tract, a raw water pipeline from the diversion site to a treatment plant to be located north of Eight Mile Road and east of Lower Sacramento Road, a treatment plant with an initial capacity of treating 30 million gallons per day, and a treated water pipeline to connect to existing city water mains.	
1655	132	<p>The water right permit for the first phase of the Delta Water Supply Project was issued by the State Water Resources Control Board (SWRCB), and the City is now undergoing design and obtaining the remaining permits. The effects that need to be evaluated include, but are not limited to:</p> <p>a. How would the BDCP affect water quality at the proposed diversion site? The diversion site was chosen because of water quality considerations and other factors and cannot be easily relocated.</p> <p>B. The various conveyance alternatives could cross the City's raw water pipeline. This needs to be addressed in the evaluation.</p> <p>c. How would the BDCP affect the amount of water potentially available to the City under the state's watershed or area of origin protection statutes (Water Code section 11460 et seq.)? Later phases of the DWSP may be designed to take advantage of this water supply source.</p>	<p>Please see Master Response 5 regarding the BDCP.</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>Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two 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. See also Master Response 32 regarding water rights.</p> <p>RDEIR/SDESIS Section 4.3.4 (4A) describes whether concentrations of various water quality constituents are expected to increase or decrease with the project, relative to existing conditions and the No Action Alternative. To the extent that concentrations of various water quality constituents are expected to increase, Section 4.3.4 describes whether these increases are expected to result in impacts to beneficial uses of water in the Delta. For constituents for which adverse impacts were expected, mitigation and other commitments, such as additional evaluation and modeling and consultation with water purveyors to identify additional measures to avoid and minimize or offset these impacts, were introduced to address those impacts.</p> <p>Additionally, adding intakes in the North Delta will allow for operational flexibility that can improve natural flow in the Delta and avoid impacts to migratory fish based on real time data and operations.</p> <p>For more information regarding changes in Delta exports please see Master Response 26.</p>
1655	133	The EIR/EIS needs to evaluate how the BDCP will affect land uses under the City's recently updated General Plan.	Any impacts relating to applicable land use designations, goals, and policies are discussed under Impact LU-1. Please note that the comment does not list which "city" to which the commenter is referring. Please also refer to Master Response 11 regarding consistency with local plans.
1655	134	The EIR/EIS needs to evaluate what effects the BDCP will have on water quality in the San Joaquin River. Specifically, the EIR/EIS should evaluate what changes may result in the assimilative capacity of the river and how that might affect discharge permits issued by the Central Valley Regional Water Quality Control Board pursuant to the federal Clean Water Act and the state Porter- Cologne Water Quality Control Act.	Please refer to Master Response 15 for a response regarding water quality relative to NPDES discharge requirements.
1655	135	The EIR/EIS need to evaluate the effects of the BDCP on special status species within San Joaquin County and how those effects may impact the County's Multi-Species Habitat Conservation and Open-Space Plan.	The commenter states that the EIR/EIS needs to evaluate the effects of the BDCP on special status species in San Joaquin County and how those effects may impact the County's MSHCP. The Draft EIR/EIS does analyze the BDCP's effects on special status species, some of which occur within San Joaquin County, and Impact BIO-192 of the Draft EIR/EIS addresses potential conflicts between the BDCP and other HCP/NCCP's that overlap the Plan Area.
1655	136	Figure 1 of the Notice of Preparation shows the boundaries of the statutory Delta which cuts through the center of Stockton. According to the Notice of Preparation, the planning area for the BDCP is the statutory Delta. The BDCP is likely to have impacts beyond these artificial	<p>The preferred alternative, Alternative 4A, no longer includes an HCP.</p> <p>The statutory Delta boundary was used as the primary boundary of the proposed project because it defines</p>

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		boundaries, especially within Stockton. It is important that the EIR/EIS evaluate the impacts of the BDCP that extend beyond the statutory Delta boundaries shown on Figure 1.	the limits of the Delta ecosystem. Because the BDCP is a conservation plan focused on the recovery of native species, this boundary was appropriate to be used.
1655	137	Efforts are now underway to restore flows in the lower San Joaquin River above the mouth of the Merced River. The EIR/EIS needs to recognize this in its analysis of the BDCP.	As described in Section 6.3.4 of Chapter 6, Surface Water, of the Final EIR/EIS, the State Water Resources Control Board is conducting a current program to update the Bay-Delta Water Quality Control Plan. Since this program is still under development and the potential outcomes are not known at this time, this program is not included in the analysis. Following completion of the updated Bay-Delta Water Quality Control Plan, SWP and CVP operations would need to be reviewed to determine if the operations continue to comply with the new regulations.
1655	138	Agriculture: with less water available for in-Delta uses, agriculture could suffer. Significant amounts of agricultural land would be taken out of production for the canal rights-of-way. Local Stockton businesses that support agriculture would suffer.	<p>Where feasible, agricultural land conservation interests should be acquired in the county in which the conversion will take place, provided that any such land either would be at-risk for conversion from agricultural uses in the absence of such long-term protection, unless such purchases would undermine the overall BDCP conservation strategy by potentially putting off-limits lands that may be needed for habitat purposes during the permit duration of the BDCP (i.e., up until 2060), or is not necessary for other habitat conservation plans. Thus, acquisition of such agricultural land conservation interests cannot be located in areas targeted for habitat restoration if doing so would thwart implementation of the long-term habitat restoration objectives of the BDCP. Where Important Farmland of the same caliber as the Important Farmland being converted is not available within the county in which the conversion will take place, the agricultural land conservation interest may occur in another county, with a preference for counties within the greater Sacramento and Stockton metropolitan areas, as long as the property to be purchased or encumbered is at-risk for conversion from agricultural uses to developed uses from encroaching urban development in the absence of such long-term protection, and as long as such purchase does not undermine the overall BDCP conservation strategy by potentially putting off-limits lands that may be needed for habitat purposes during the permit duration of the BDCP (i.e., up until 2060).</p> <p>See Master Response 18 for more information regarding agricultural impact mitigation. Please see Chapter 16, Socioeconomics, of the Final EIR/EIS, for discussion of potential effects on agricultural production and employment in the Delta.</p> <p>Also, the preferred alternative, Alternative 4A, does not include an HCP. The Lead Agencies are currently undergoing ESA Section 7 and CESA Section 2081(b) consultation with the fish and wildlife agencies.</p>
1655	139	Flood control: The isolated conveyance facility would intersect several eastern streams and rivers which could impact their ability to handle flood flows. This in turn could require residents and business owners to purchase flood insurance.	Please see Appendix 6A, Section 7.2.1.3, Final EIR/EIS, for a discussion on DWR consistency with the State Plan of Flood Control (SPFC), and Section 7.1.2 for information on project consistency with USACE, CVFPB, and DWR flood standards and regulations. Also, see Section 7.2.1 for potential impacts to flood flow conveyance and capacity, and Section 7.3 for impacts to flood protection due to construction and operations of the new water conveyance facilities under the new proposed project, Alternative 4A.
1655	140	Levees: Money needed for the Delta conveyance facility could be diverted from existing programs, leaving fewer funds available for levee maintenance and repairs. This could affect the City by exposing residents to additional risk in the event of a levee failure.	Please review Appendix 6A of the FEIR/EIS for discussion on existing levee improvement programs and funding mechanisms, which would not be affected by the BDCP/CWF. The proposed project would not divert money from existing flood management programs.
1655	141	Recreation: Activities such as recreational boating, fishing, and bird watching could suffer as a result of changes in Delta water quality and quantity. Tourism could decline as well resulting in a loss of revenue to the City.	Please see Section 4.3.4 Water Quality in Section 4 of the RDEIR/SDEIS for an updated water quality analysis. Please see Chapter 16 of the Final EIR/EIS for further information regarding socioeconomic impacts. Please see Section 4.3.11 in Section 4 of the RDEIR/SDEIS for updated recreational impacts and associated mitigation measures of the preferred alternative.
1655	142	Property taxes: Private property would be taken for canal rights-of-way resulting in a loss of local property taxes. The loss of local property taxes needs to be reimbursed by the state.	As described in Impact ECON-4, the Lead Agencies would make arrangements to compensate local governments for the loss of property tax or assessment revenue for land used for constructing, locating,

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			operating, or mitigating for new Delta water conveyance facilities.
1655	143	Land use: The Delta conveyance facility would have the potential to divide the City of Stockton and require changes to the City's General Plan.	Only portions of the east alignment, such as transmission lines, would be located within the city of Stockton. Please note that the preferred alternative is now Alternative 4A and would not be located within Stockton's boundaries.
1655	144	Traffic: The effect of the BDCP on traffic circulation within Stockton needs to be evaluated.	The Lead Agencies acknowledge the commenter's concerns about diverting traffic onto secondary roads. To minimize this, Mitigation Measure TRANS-1b specifies limiting construction activity to hours with more capacity to avoid operational deficiencies on affected roadways, where feasible. See also Response to Comment 1655-143.
1656	1	<p>These comments are submitted by an in-Delta land and business owner who has lived through the "on the ground" combat zone that is the current California Delta Region. I first learned of the plans to revise California's plumbing system, Delta included, in August 2008, at a meeting at the Ryde Hotel where Delta citizens were introduced to the "Delta Vision" Plan. Delta Vision documents contained several important false statements regarding Delta history, Delta flows and Delta use. Data for the Delta Vision falsities came from another previously unknown (to me) document series, the Delta Risk Management Strategy (DRMS) Phase 1 Report, and also the Flooded Islands Feasibilities reports. Upon review of the technical data for DRMS Phase 1, by myself and many other concerned Delta and California citizens, it was established that the baseline data used for DRMS Phase 1, and therefore Delta Vision, the "Pulse of the Bay-Delta", and other publications also all were based on the false baseline data. The BDCP thereafter utilized and built upon the false data with the result that in several important areas or topics the BDCP starts with incorrect baselines and then compounds the mistake by continuing to build on the false data. DWR representatives were advised of some of the false data in use; however Delta Vision and DWR spokespersons continued to intentionally spread the false data for media purposes, and intentionally distributed the false data to other "scientists" and organizations such that there is an expanding library of evidence showing how the false data has been used, and its impact on the decisions leading up to the issuance of the draft BDCP.</p> <p>The BDCP is or may be a component of the overall new California Water plan. Both document series start with the false baseline data regarding Delta history and some Delta current status, and utilized computer modeling to validate to desired or proposed outcomes. However, when you start with false data entered into a computer program, the outcome is logically based on false data. This comment paper will focus on specific data that was falsified by DWR and its [Engineering and Construction] consultant URS, and how the false data has been incorporated into BDCP document and decisions which impact the Delta.</p> <p>In addition to starting with false baselines, the BDCP drafters have failed to recognize and address substantial impacts to the Delta; impacts include the recent past during the BDCP and CALFED studies, the near future impacts during proposed end-stage construction, and the long term impacts on the Delta, San Francisco Bay and Northern California especially focused on recharge of drinking water aquifers and long range water rights.</p>	<p>This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. In response to comments received during the 2013-2014 public comment period, State and Federal agencies decided to change the approach. A modified proposed project (Alternative 4A/California WaterFix) is being considered. For additional detail on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the current status of the draft BDCP Effects Analysis, please see Master Response 5. Alternative 4 remains a viable alternative.</p> <p>The comment charges "the BDCP," "DWR," and "Delta Visions" with spreading various alleged falsehoods, but because no details are provided, no specific response is possible.</p>
1656	2	<p>One of the stated limits of the "Napa Agreement" was that increase of exports "will not impair in-Delta uses". [footnote 1: <a href="http://www.spillwaynews.net/Arcade/DraftPropOperations.pdf">http://www.spillwaynews.net/Arcade/DraftPropOperations.pdf</a> Note that most documents are also available at the following location if the original link is no longer working: <a href="http://www.snugarharbor.net/bdcpcomments.html">http://www.snugarharbor.net/bdcpcomments.html</a>] The increase in exports starting in 2004</p>	<p>Portions of this comment related to impaired in-Delta conditions are similar to discussions of in-Delta conditions in Chapter 2, Project Objectives and Purpose and Need. However, the EIR/EIS only describes the existing conditions and does not specifically consider the relationship with operations of the SWP and CVP. The study area of the EIR/EIS includes areas in Napa County that use SWP water and any impacts are disclosed in chapters 5-30 of the EIR/EIS. Please note, that none of the Final EIR/EIS action alternatives,</p>

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		<p>has, and continues to, have drastic negative effects on some areas of the Delta, and on the surrounding aquifers as well. Increasing exports has impaired in-Delta uses and also impaired or eliminated water uses in a wider geographic area of the Bay, so far. Ironically, the county of Napa itself has seen a substantial degradation of its east side aquifer water quality since the water exports south of the Delta increased. (Ask the Napa east side home owners how their wells are doing. The degradation of the east side aquifer water quality and levels correlates directly with the increase of exports per the "Napa Agreement".) I will bring up some of the Delta and Bay Area impacts from the perspective of a long time boater and angler family of the Delta, as well as a land and business owner. Just because the BDCP does not address important impacts does not mean those impacts do not exist.</p>	<p>including Alternative 4A, the preferred CEQA and NEPA alternative would affect water rights of other legal users of water and no nexus for the effects on Napa County groundwater has been identified that would lead a conclusion that project operations would result in Napa County groundwater effects. No additional revisions to the Final EIR/EIS have been made regarding this assertion.</p>
1656	3	<p>The BDCP is the most expensive 21st century packet of false assumptions compiled for the sole purpose of validating the actions planned to be taken long ago. Simply go back to 1998 to 2006 and review MWD board meeting presentations that have been available online, and you will see the decisions are already made. [footnote 2: <a href="http://www.deltarevision.com/timeline.htm">http://www.deltarevision.com/timeline.htm</a>] It is impossible for there to be meaningful input by the public when the decisions were made long before the most affected parties, Delta and San Francisco Bay land owners, residents, business owners and vacationers had no opportunity for input back when the decisions were made. Even more offensive is that the "science" used has been selective and faize [sic] facts that are quite evident. "Best available science" for the BDCP means remove access to historical documents and hand consultants only select data to review (with a short time frame for review), so that the consultant cannot, or will not, look for all the facts. The BDCP is based on salad bar science, picking some science and ignoring the rest, to achieve a validation of what was planned to be done anyway, no matter what. Given my collection of literally thousands of maps, when one looks at the series in time sequence, it is just common sense that indicates the long range goals of the few people who control California politics and mainstream media, and therefore its water, intend that the Sacramento and San Joaquin Rivers be reduced to a series of lakes and reservoirs over time. If you think my prediction is silly, perhaps you should notice the maps of the state in news &amp; weather media, especially on television and online. Note how the maps rarely show any river in California, even when talking about water issues. Note also the historic transition of news and media ownership in 2009-2010. [footnote 3: <a href="http://www.snugharbor.net/images2011/deltastuff/media2010-players.JPG">http://www.snugharbor.net/images2011/deltastuff/media2010-players.JPG</a>] Based on common sense review of the studies and the function of the water diversions over time, I believe the long range impact of the BDCP is the elimination of the Delta, or at least a substantial reduction in freshwater inflow which would sustain the Delta and neighboring counties is a permanent drought-state, at least regarding drinking water aquifers, a topic not adequately covered in the BDCP. The graphic below [ATT1] is from one of the DWR presentations leading up to the Delta Stewardship Council and BDCP plans, and shows the attitude of the water contractor-paid scientists towards questions or input by Delta farmers, business owners and residents. It is rude but funny:</p>	<p>As described in Appendix 3A, Identification of Water Conveyance Alternatives,</p> <p>Conservation Measure 1, consideration of methods to convey water from the Sacramento Valley to areas located south of the Delta have been considered for more than 100 years. However, the EIR/EIS presents evaluations of changes in environmental resources under Alternatives 1 through 9 as compared to the Existing Conditions and future No Action Alternative conditions. Alternatives 1 through 9 include aspects to improve the Delta ecosystem and water supplies for the SWP water contract users and CVP water contract users located south of the Delta, as described in Chapter 2.</p> <p>The models, assumptions and other analytical tools described in the "Methods for Analysis" section in chapters 5-30 represent the best available resources at the time these analyses began, with consensus from the lead agencies' expert staff and consultants at the times the methods were chosen. The lead agencies will continue seeking improvements and refinements to the current proposal in order to enhance species benefits and to avoid, reduce or mitigate for negative impacts to people, communities, sensitive species and habitats.</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. The EIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.</p> <p>The lead agencies 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 website, blog, Your Questions Answered, and social media platforms have been the primary vehicle for communicating important project information and correcting misinformation. Brochures, factsheets, webinars and videos are other tools the State has employed to educate the public about the proposed BDCP and the EIR/EIS process. Representatives from the State 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.</p>
1656	4	ATT1: Cartoon entitled "Typical Bay/Delta Stakeholder"	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	5	I am not just trying to put up roadblocks to the revision of California's water plumbing system. I will start with a summary of positive suggested actions to take to improve overall California water availability statewide, which could be incorporated into the BDCP extended	Regarding development of alternatives for the EIR/EIS, a description of the process the Lead Agencies followed to develop and screen alternatives is provided in Master Response 4.

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		<p>actions or into the California Water Plan.</p> <p>Suggestions for improvement of California water systems:</p> <p>Require all residences and perhaps businesses located in areas of California that receives imported water to install Atmospheric Water Generators (AWG) that operate with solar power only. AWG's is a newer technology that is being used on ships and in other dry countries and should be used in all areas of Southern California at a minimum. Grants could be provided to assist homeowners with the cost of installation of AWG.</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, including reliability of exported supplies, and the recovery and conservation of threatened and endangered species that depend on the Delta.</p> <p>Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the proposed project. 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, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage. Please refer to Master Response 6 and Appendix 1C for further information on demand management measures, including increasing agricultural water use efficiency and conservation.</p>
1656	6	<p>According to reports published by DWR in the past, as much as 50% of annual Northern California river flow is lost to various forms of evaporation. Common sense says the current aqueducts exporting water to Southern California loses between 20% to 50% of the water that was diverted from the Delta. Open-air aqueducts should be phased out and replaced with large pipes or tunnels using the same land where the current open-air aqueducts are located so that no one else's land is taken. Tunnels or pipes should be made of a flexible material to withstand earthquakes, but not with ABS (Abestos-cement) pipes like what has been used in the past, since corroding asbestos in pipes may pose digestive health risk. Another option might be to cover the entire aqueduct runs with solar panels, to generate electricity to move the water, so that more of the dams in the Sierra's that just produce electricity to move the water south would no longer be needed. (1977 California Water Atlas indicated most of the electricity generated from the NorCal dams went to energy needs of moving water from the north to the south). This would also help with maintaining water quality, avoiding contamination from the air, and allow for better protection of the water supply during disasters like induced seismic events or terrorist attacks on the system. Instead of using so much electricity to pump water up and over the SoCal mountain ranges, tunnel through the range to deliver water using gravity flow. It would be a very expensive project, no doubt, but the reduction in demand for electricity for movement of water would allow both water savings and electrical costs savings that could offset the tunnel costs over time. In addition, the bootlegged connections to the California canal would stop, since it would be more difficult for contractors to tap into water underground.</p>	<p>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 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. 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.</p> <p>Please see Master Response 3 regarding the project purpose and need.</p>
1656	7	<p>Another alternative would be to install surface or subsurface large water tunnels along the same route as the new bullet" train, and abandon the outdated and subsiding open air aqueduct channels. Movement energy from the trains traveling south might be harnessed to help move the water south as well, saving on electrical costs. Or solar panels could be installed along the entire route to supply the power needed to move the water. Since the Folsom Dam new spillway can divert large sums of water when available in wet years, and a new intake to divert "surplus" water into the Folsom South Canal is already under construction, it might even make sense to use Folsom Dam to supply the revised location of the California aqueduct, and eliminate the need to install intakes on the Sacramento River where currently proposed.</p>	<p>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 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. 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.</p> <p>Please see Master Response 3 regarding the project purpose and need.</p>
1656	8	<p>All coastal towns in Southern California should be required to use desalination for their primary drinking water source. Reliance on imported water should be reduced over time.</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</p>

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		<p>Coastal towns are also ideally situated to take advantage of the use of Atmospheric Water Generators due to the high moisture content in the air. Desalination is in use in many areas of the world that do not have other freshwater options-surely California water engineers can utilize the updated water technology to help reduce the demand on northern California rivers over time. DWR should substantially fund research at all California engineering college and universities to promote advancement of desalination methods to provide long term solutions to California's water woes. Set timeframes should be used to spur movement towards desalination. Let Colorado and Arizona keep their water instead of exporting it to California! In conversations with farmers of the lower central valley, with people in Bakersfield area, and with LA area people, none seem aware of the fact only "Surplus water" [footnote 4: <a href="http://www.deltarevision.com/Delta_maps/maps_1940_to_1979.htm">http://www.deltarevision.com/Delta_maps/maps_1940_to_1979.htm</a>] is supposed to be diverted from Northern California to the south, and farmers in the lower Central Valley did not purchase land with riparian water rights. They paid less for the land because there was not water rights associated with that land. It is wrong to take or divert the value of Northern California, and potentially destroy our natural environment and aquifers, so that developers south of the Delta can expand housing or grow food trees that don't belong in a dry climate. Northern California is not supposed to be left with only the "surplus water", per the promises, laws and agreements made in the 1960's when the California Aqueduct was developed. When there is not any surplus water, it is the south that should do without, not the north. Hence requiring all coastal towns to develop desalination plants would allow those areas more independence from the water politics raging in our state. Israel, Dubai, Turkey all are dry countries that have found ways to save water and generate new water.</p>	<p>Please see Master Response 7, which describes why an alternative focused on desalination is not included in the EIR/EIS. Desalination is one strategy used in California to develop new supplies, yet it is not the primary solution for the State's water shortage due to many factors, including limited capacity and technology, high costs and energy demands, and regulatory uncertainty.</p>
1656	9	<p>Prohibit the use of fresh drinking water for mineral exploration including, oil, natural gas, gold, silver and any other mining process that uses hydraulic pressure. Only recycled water could be used for such processes, and the residue from hydraulic mining processes like "fracking" [footnote 5: NO FOOTNOTE PROVIDED] could not be left in the ground in containment wells that could leak into drinking water aquifers over time or during induced seismic events. Developing a tunnel or surface conveyance to divert more water from the Delta could be rendered absolutely useless if just one of the fracking wells already in existence in the Delta cracks and allows toxins into the water system. Prohibit the use of deeper freshwater aquifers for fracking anywhere in the state where use of that water could result in drawing down the more shallow surface drinking water aquifer.</p> <p>Require that all fracking wells and injection wells be reported, and that the locations of wells be made public and require substantial insurance policy that would be available to compensate landowners harmed by the fracking activities. Viewer should note there is a very close similarity to the timeline of development of the new method of fracking and the BDCP. [footnote 6: <a href="http://www.deltarevision.com/timeline.htm">http://www.deltarevision.com/timeline.htm</a>]</p>	<p>The commenter is asking for changes in statutory water law in California, which currently allows the use of water for the purposes that the commenter believes should be disallowed. Regardless of the potential merit of these suggestions, such changes in the law are far beyond the scope of the current project.</p> <p>The commenter seems interested in offering input to the State of California on the subject of "fracking" (hydraulic fracturing, which is a kind of "well stimulation"). Such suggestions are more properly directed to the California Legislature and to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). Well stimulation has recently been subjected to more regulation than ever before in the aftermath of the 2013 enactment of Senate Bill 4 and the promulgation by DOGGR and other state agencies of new regulations addressing the environmental impacts of that activity, including those associated with water usage.</p>
1656	10	<p>Require all residences statewide to install "on demand" hot water heaters and phase out traditional 30 or 50 gallon water heaters that use excess energy and water keeping the water hot 24/7. Grants could be provided to assist homeowners with the cost of installation of on demand hot water heaters. On demand water heaters help to reduce both water and electric/gas bills.</p> <p>Require residential and business property lawns to be removed and replaced with low-water landscape options in all areas of Southern California that receive at least a portion of its water from the Delta either directly or indirectly through various water transfers. Online references indicate that as much as 50% of a residential water bill may be</p>	<p>The project is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Water Demand Management).</p> <p>The BDCP/California WaterFix 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 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, including reliability of exported supplies. It is important to note that the 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</p>

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		attributable to watering of lawn which in at least drought years seems like an unwarranted use of fresh drinking water.	<p>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, Water Demand Management).</p> <p>The California Water Action Plan recognizes that all Californians have a stake in the future of our state’s water resources, and that a series of actions are needed to comprehensively address the water issues before us. The five-year agenda spells out a suite of actions in California to improve the reliability and resiliency of water resources and to restore habitat and species — all amid the uncertainty of drought and climate change. For more information regarding future developments of the California Action Water Plan please follow <a href="http://resources.ca.gov/docs/Final_Water_Action_Plan_Press_Release_1-27-14.pdf">http://resources.ca.gov/docs/Final_Water_Action_Plan_Press_Release_1-27-14.pdf</a>. Future committees for the Proposed Project implementation may provide future opportunities for innovative input as well.</p> <p>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>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>Please see Master Response 4 regarding the selection of alternatives analyzed, Master Response 7 regarding desalination, Master Response 6 regarding demand management and Master Response 37 regarding water storage.</p>
1656	11	Statewide, ban the development of any new golf courses in locations that do not have right of origin water. Transferred water could not be used for irrigation of golf courses in Southern California that receive Delta or Northern California fresh water transfers or imports. All existing golf courses in Southern California would be required to irrigate using only recycled water and would be required to reduce lawn landscape to only what is necessary for the playing of the game. Transition to low-water alternate landscape for areas other than lawns would also be required. DWR could develop a list of acceptable landscape plants based on water use and climate, to be utilized by all areas of the state south of the Delta that receive water from the Delta or northern California streams.	The proposed project is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures). With regard to purpose and need, please see Master Response 3.
1656	12	Since the BDCP references creating jobs, require that those jobs go to California residents, not to persons who come to the state for a few months and have no vested interest in the outcome or result of the construction projects.	<p>This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. In response to comments received during the 2013-2014 public comment period, State and Federal agencies decided to change the approach. A modified proposed project (Alternative 4A/California WaterFix) is being considered. For detailed responses on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the current status of the draft BDCP Effects Analysis, please see Master Response 5. Alternative 4 remains a viable alternative.</p> <p>The commenter’s suggestion that only California residents be given jobs relating to the project as eventually approved does not relate to any environmental impacts associated with the BDCP, the California WaterFix, or any other action alternative addressed in the EIR/EIS.</p>
1656	13	False baseline: Delta flood risk. Chapter 2 of the BDCP recounts Delta history and references flood history. BDCP uses the technical data compiled for the DRMS Phase 1 report, which	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. In response to comments received during the 2013-2014 public comment period, State and

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		<p>was compiled in 2006 and 2007 and distributed before any review for accuracy. Thereafter a "final" DRMS [Delta Risk Management Strategy] Phase 1 report was widely published in 2008. Only in 2009, after repeat requests for corrections, did DWR [Department of Water Resources] revise the flood history of some of the affected Delta islands. Revisions were made in March and December 2009. However, not all corrections were made, and to this day the incorrect flood data is still in use. Specifically, DRMS Phase 1 falsified flood history for Ryer Island bordered by Steamboat, Miner, Cache and Sutter Sloughs. (Not the "Ryer Island" located in Suisun Bay). DRMS Phase 1 also provided incorrect and at times inflated flood history for Dead Horse Island, McCormack/Williamson Tract and other islands. Any decisions of the BDCP based on the false data of the DRMS Phase 1 report will be challengeable just on that fact alone. BDCP "west side" conveyance option, while not stated as the preferred alternative, is based on the false data regarding Ryer Island flood history, as well as incorrect soil type and elevations for a part of the island. Details can be found at <a href="http://www.deltarevision.com/Delta_maps/Floods-Islands-Levees.htm">http://www.deltarevision.com/Delta_maps/Floods-Islands-Levees.htm</a> and for a review of the DRMS data on Ryer Island go to <a href="http://www.ryerisland.com/images/floods/DRMSf1_wrong_on_Ryer.pdf">http://www.ryerisland.com/images/floods/DRMSf1_wrong_on_Ryer.pdf</a> and also the summary of past studies on the Delta Island floods: <a href="http://www.deltarevision.com/deltafloodtimeline.html">http://www.deltarevision.com/deltafloodtimeline.html</a></p>	<p>Federal agencies decided to change the approach. A modified proposed project (Alternative 4A/California WaterFix) is being considered. For additional detail on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the current status of the draft BDCP Effects Analysis, please see Master Response 5. Alternative 4 remains a viable alternative. Regarding the validity of the DRMS data, no changes to this data are warranted for the purposes of Chapter 2, Project Objectives and Purpose and Need because even if portions of the DRMS report is in fact deficient as indicated in this comment, revisions to this data would not negate the general conclusion in Chapter 2 that the Delta continues to be subjected to various levels of flood risk which potentially could affect current SWP and CVP export operations and create delta hazards. Please also refer to Appendix 6A, BDCP/California WaterFix Coordination with Flood Management Requirements for additional information on Delta flooding and the approach to ensure that the proposed project would not adversely affect Delta flooding.</p>
1656	14	<p>False baseline: Delta freshwater Inflows and outflows and unaccounted for water: For several years I tried to make sense of the California Data Exchange Center waterflow data that was provided to the public online. I also compared the flow data provided in documents by DWR/BDCP drafts, Delta Vision, Delta Plan, US Fish and Wildlife and other agencies. What I found was that there is substantial inconsistency in how freshwater inflow and exports are reported. That inconsistency creates confusion which then works to camouflage the gaps in the waterflow reporting. I've found there are gaps in the online CDEC station reports for the stations at Freeport, Sutter Slough, Steamboat Slough and at the DCC on the Sacramento River; unexplained substantial differences between inflow and outflow into a specific waterway like Georgiana Slough. The decisions for water conveyance for BDCP were based on computer modeling (CALSIM, CALSIM II, DSM2, etc) that utilized the same flow data. Did the computer modelers know there were gaps in the data, which would tend to inflate or deflate the actual flow depending on how the data gaps were applied to the computer models? If the computer modelers were not aware of the inconsistencies in flow data nor the gaps in flow data, that indicates the computer models cannot possibly be correct. For example, DSM2 modelers specifically stated at a BDCP public meeting that they assumed the water left to flow in the North Delta (a minimum of 5000 cfs) would split evenly between Sutter Slough, Steamboat Slough, lower Sacramento River and Georgiana Slough. The computer modelers seems completely unaware of the fact an in-water barrier had been developed across Steamboat Slough starting in 2008 which reduced by at least 50% of the flow into Steamboat Slough. Did the modeling account for the impact to the natural aquatic environment and the landowners along this historic waterway? If the in-water barrier was known to the modelers, why wasn't its existence disclosed by DWR's spokesperson Mr. Marshall at the March 2014 meeting in Walnut Grove? When I asked these same questions of DWR representatives, I was told it is all just estimates. My concern is that those estimates are used to validate building of tunnels for water that simply does not exist. Please see the following reference pages and documents:  <a href="http://www.deltarevision.com/sacramento-river-waterflow.html">http://www.deltarevision.com/sacramento-river-waterflow.html</a> ,  <a href="http://www.deltarevision.com/sacramentoriverwaterflow4.html">http://www.deltarevision.com/sacramentoriverwaterflow4.html</a> ,  <a href="http://www.snugharbor.net/sacramento_river_barrier.html">http://www.snugharbor.net/sacramento_river_barrier.html</a> ,  <a href="http://www.snugharbor.net/dwr_reporting_of_inflow_and_outf.html">http://www.snugharbor.net/dwr_reporting_of_inflow_and_outf.html</a> ,</p>	<p>The DSM2 model is generally representative of conditions in the Delta; however, there are portions of the Delta that have evolved into different configurations. In addition, flows assumptions in the DSM2 model are based upon disaggregation of monthly CALSIM II model-generated flows; and do not reflect instantaneous flows or SWP and CVP operational decisions that occur in real-time. However, the purpose of the model simulations are not to present absolute values that could occur in the future. The model simulations are used to indicate relative potential changes in environmental resources under Alternatives 1 through 9 as compared to the Existing Conditions and No Action Alternative. The CALSIM II, DSM2, and CVHM modeling tools are prospective and not predictive modeling tools. These tools are to be used to compare alternatives, and not to identify absolute values, as described in Chapter 5 of the EIR/EIS. Therefore, the Draft EIR/EIS impact analysis compares the results for conditions under Alternatives 1 through 9 to conditions under the Existing Conditions and the No Action Alternative.</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 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 which have been considered and incorporated into the Final EIR/EIS.</p> <p>Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.</p>

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		<a href="http://www.snugharbor.net/images-2014/news/unaccountedwater-update.pdf">http://www.snugharbor.net/images-2014/news/unaccountedwater-update.pdf</a>	
1656	15	To reprise my questions to the BDCP staff at public meetings:  The questions I ask regarding BDCP waterflow baselines are important because using incorrect or false baseline fresh water outflow data for the Sacramento River system will have a negative effect on the computer modeling outcomes or predictions for salinity encroachments, water quality of remaining North, Central and South Delta water, and changes actual export data compared to reported export data. Graphics for presentations: <a href="#">georgianaflow2014.pdf</a> <a href="#">georgianamissingwater2014.pdf</a> <a href="#">cdecdatagaps.pdf</a> <a href="#">georgianaflowsummary.pdf</a> <a href="#">unaccountedforwater.pdf</a> <a href="#">water-bdcp-questions-lg.pdf</a> <a href="#">bdcpbaselinevscalsim.pdf</a> <a href="#">Where's the Water.pdf</a>	As described in Chapter 5, Water Supply, the hydrologic assumptions for the analysis of the action alternatives and the No Action Alternative were developed based upon projections of precipitation and air temperatures with climate change. In addition, flows in the Delta under these alternatives are also projected with estimated sea level rise in 2060. The results of these model runs are not presented to define absolute values that could occur in the future. The model simulations are used to indicate relative potential changes in environmental resources under the action alternatives as compared to the Existing Conditions and No Action Alternative.  Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.
1656	16	When developing CALSIM and CALSIM II, did DWR use its own conversion chart and formulas as found in the 2000 water plan or did DWR and/or its consultants use USGS conversion formulas? <a href="http://www.deltarevision.com/sacramento-river-waterflow.html">http://www.deltarevision.com/sacramento-river-waterflow.html</a>  <a href="http://www.deltarevision.com/it_depends_on_who_is_counting.html">http://www.deltarevision.com/it_depends_on_who_is_counting.html</a> <a href="http://www.youtube.com/watch?v=iu5-sNjP6Wk">http://www.youtube.com/watch?v=iu5-sNjP6Wk</a> (1 & 2 of 3 videos) on "It depends on who is counting" <a href="http://www.youtube.com/watch?v=Oncu8Zoxi5c">http://www.youtube.com/watch?v=Oncu8Zoxi5c</a> and  <a href="http://www.youtube.com/watch?v=O0RBb1uvHXw">http://www.youtube.com/watch?v=O0RBb1uvHXw</a>	Volume of water diverted was based upon information developed by DWR based upon the acre-feet/month allowed either under the water rights or under the SWP or CVP water contracts. The DWR and USGS conversion charts referred to in this comment (in the associated video) are slightly different based upon determination of the use of "significant numbers." However, neither of these conversion factors can be used to determine the amount of water deliveries. The values reported as "cfs" or "mgd" are reflective of the capacity of the intakes or discharges. However, most diversions or discharges are not used 24 hours/day, 7 days/week – which are reflected in the "conversion charts." Therefore, the diversions used in the CALSIM II and DSM2 models are developed based upon water rights and SWP and CVP water contracts.  Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.
1656	17	DWR made mistakes in reporting Delta exports and Delta outflow in the 2013 California Water Plan, which reported exports for the last 15 years and indicated there was unaccounted for exports, isn't it logical to assume the BDCP also used that same flow and export data which, just  like the 2013 California Water Plan chart, needs to be reviewed so the reported data can be corrected? (See "Unaccounted for water flow" on Youtube:  video graphics pdf: <a href="http://www.snugharbor.net/images-2014/bdcp/flows/unaccounted_diversions.pdf">http://www.snugharbor.net/images-2014/bdcp/flows/unaccounted_diversions.pdf</a> <a href="http://www.snugharbor.net/images-2014/news/unaccountedwater-update.jpg">http://www.snugharbor.net/images-2014/news/unaccountedwater-update.jpg</a>  more at <a href="http://www.snugharbor.net/dwr_reporting_of_inflow_and_outf.html">http://www.snugharbor.net/dwr_reporting_of_inflow_and_outf.html</a>	The CALSIM II model simulates SWP and CVP water operations using historic hydrologic conditions and consistent land uses as of either Existing Conditions or 2030 conditions. Therefore, the CALSIM II model results cannot be directly compared to historic information. The model results are to be used in a comparative manner between two or more model runs. The model accounts for all exports.  Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.
1656	18	Do the BDCP flow reports, graphics and outcomes include, or account for, the flow data gaps as established from just a two week review of flow data for the North Delta waterways and if not, doesn't that indicate the baseline computer modeling for flow and impacts to the North Delta must be wrong? (See Sacramento, Sutter and Steamboat data gaps)  Youtube: <a href="http://youtu.be/VhSjHt6CEw">http://youtu.be/VhSjHt6CEw</a>  graphics at:	The hydrologic assumptions used in the CALSIM II and DSM2 models are simulated generally based upon historic data, as described in Appendix 5A, Sections A and B, in the EIR/EIS. However, individual data gaps in the historic hydrology would not affect the development of the hydrologic assumptions used in the models because sufficient hydrologic data is available to reasonably characterize the historic hydrology for the purposes of CALSIM II modeling.  Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.

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		<a href="http://www.snugharbor.net/images-2014/news/notices/cdecdatagaps.pdf">http://www.snugharbor.net/images-2014/news/notices/cdecdatagaps.pdf</a> <a href="http://www.snugharbor.net/images-2014/news/unaccountedwater-update.pdf">http://www.snugharbor.net/images-2014/news/unaccountedwater-update.pdf</a>  <a href="http://www.snugharbor.net/images-2014/bdcp/salinityonsteamboat.jpg">http://www.snugharbor.net/images-2014/bdcp/salinityonsteamboat.jpg</a> <a href="http://www.snugharbor.net/images-2014/news/notices/flowmissingsummarysm.pdf">http://www.snugharbor.net/images-2014/news/notices/flowmissingsummarysm.pdf</a>	
1656	19	Do the BDCP flow reports, graphics, computer models and outcomes include, or account for, the flow data gaps or unexplained missing water flow on Georgiana Slough in April over the last several years? Could the flow data gap in April be the cause of the dead oaks along the banks of lower Georgiana Slough or is salinity intrusion from groundwater or backflow from the San Joaquin River affecting the oak trees of lower Georgiana Slough banks? (See Georgiana Slough exports )	<p>Please see response to Comment 1656-18. The EIR/EIS did not analyze historical changes in water flows or terrestrial resources that are not related to potential impacts of the alternatives. Estimates of Delta Channel flow are simulated for the purposes of describing potential changes in flow patterns associated with an action alternative. Please refer to Appendix 5A for an explanation of the operational and flow modeling used in this Final EIR/EIS.</p> <p>Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.</p>
1656	20	When developing flow and salinity modeling like DSM2 and RMA, did the models assume there would be an in-stream barrier placed in the Sacramento River at the head of Steamboat Slough, east of the Steamboat Slough bridge, that blocks freshwater inflow into Steamboat Slough, as it appears such an in-stream barrier was already placed approximately 30 to 50 feet east of the bridge several years ago? Was the purpose of this in-river 8-10 foot high flow barrier placed to manipulate the outcome of the salmon migration studies or to divert more fresh water into Georgiana Slough for export to other areas of the state? Open: georgianaflowssummary.pdf	The DSM2 modeling did not assume a salinity control barrier on Steamboat Slough would be in place under existing and No Action conditions because of the temporary nature and unpredictable use of such a barrier during drought years. These types of barriers are used to control the upstream extent of salinity in the Delta during drought years.
1656	21	Did the persons developing DSM2, RMA and other Delta-related computer models for flow and exports and impacts know or modeled for the fact that Georgiana Slough had been dredged deeper than in the past, while in-river berm seems to have been installed or developed across the Sacramento river just below the Georgiana Slough confluence with the Sacramento River, which tends to direct more flow than the models reported for flow splits? Wouldn't the in-river modifications on both Georgiana Slough and the Sacramento River create a gravity-flow situation where even more fresh water from the Sacramento River would be diverted into the San Joaquin River system than had been modeled and reported? Wouldn't that also result in less freshwater outflow on lower Sacramento River, Steamboat and Sutter Sloughs, thereby allowing higher risk of saltwater intrusion into those waterways and the North Delta that recognized by the computer models used for decision making for the BDCP actions?  wheresthewater/cdecdatagaps.pdf	<p>The DSM2 model is generally representative of conditions in the Delta; however, there are portions of the Delta that have evolved into different configurations. In addition, flows assumptions in the DSM2 model are based upon disaggregation of monthly CALSIM II model-generated flows; and do not reflect instantaneous flows or SWP and CVP operational decisions that occur in real-time. However, the purpose of the model simulations are not to present absolute values that could occur in the future. The model simulations are used to indicate relative potential changes in environmental resources under the action alternatives as compared to the Existing Conditions and No Action Alternative.</p> <p>The channel bathymetry in the DSM2 model at Georgian Slough and elsewhere in the Delta was as defined in 2009 which was the basis of analysis based upon publication of the NOP and NOI in 2009. The assumed model bathymetry was consistent between the No Action Alternative and the action alternatives with dual conveyance, including the Proposed Project, Alternative 4A. Therefore, the model results presented in the EIR/EIS are indicative of the changes that could occur under the action alternatives related to flows and salinity as compared to the conditions that could occur under the Existing Conditions and No Action Alternative. If the conditions occurred as described in this comment, and salinity increased; and if the current modeling indicated an incremental salinity increase as compared to the No Action Alternative. It would be anticipated that the same incremental salinity increase would occur over a No Action Alternative with or without the dredging activities because those dredging activities would be included in both the alternative and No Action Alternative model runs.</p>
1656	22	When inputting the raw data for CALSIM, CALSIM II, DSM2, RMA and other computer modeling, was the use also planned for in-delta water wells for the new horizontal fracking method already being used in the Delta? Besides the issue of increased in-delta water use from fracking, was the seismic risk associated with fracking considered when the state of	The surface water and groundwater analyses did not identify any existing fracking actions or consider future fracking projects in the Delta to be included in either the No Action Alternative or Cumulative Impact Analysis. The California Department of Conservation (DCC) is currently analyzing future regulations of fracking and will complete separate environmental documentation associated with those regulations. One of

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		<p>California leased out the beds of sections of navigable waterways to gas exploration companies as the seismic risk could cause levees to fail which could also cause further water quality issues while putting humans at risk? (See fracking the Delta timeline) Youtube: <a href="http://youtu.be/nNQYB9uCpZs">http://youtu.be/nNQYB9uCpZs</a></p> <p>Why is this important? The combination of the actions of the BDCP and horizontal fracking in the Delta will destroy our drinking water aquifers in the areas of Sacramento, Contra Costa, San Joaquin, Solano and Yolo at a minimum!</p>	<p>the recent documents, the DCC Final EIR on Analysis of Oil and Gas Well Stimulation Treatments in California indicated that most of the oil and gas well stimulation projects occurred outside of the Delta; and the only Delta county with well stimulation was Sacramento County. Therefore, fracking, or well stimulation was not identified in the Existing Conditions or No Action Alternative.</p> <p>If well stimulation did occur within the Delta, it would occur with or without this project. Water used for the well stimulation would need to be diverted under existing water rights which are assumed to be consumptively used in the Delta under all action alternatives and the No Action Alternative. Therefore, that water is not assumed to be available for use by the SWP and CVP water facilities.</p> <p>Please also refer to response to comment 1656-9.</p>
1656	23	ATT2: Links to sites discussing fracking and related topics	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	24	<p>False baseline: Delta seismic risk: No levee has been known to fail due to an earthquake. However, DWR and its consultants paint a very dire picture of the condition of Delta levees. What DWR does not disclose is that the new method of fracking is emerging as a cause for localized earthquakes, and there is probably concern the EPA-allowed new injection fracking wells may cause earthquakes in the Delta. If the state has such high concern for the impact of earthquakes, the state could ban fracking and could also ban any new development in any known high seismic risk zones. Take, for example, the planned new high density development along the bay in Oakland and Berkeley. Wouldn't it make more sense to ban use of Delta water if that water is for development of housing in high seismic risk areas? Isn't safety to humans more important than the developers making large profits using high seismic risk land for high density living quarters? Save Delta water by banning any additional exports for use other than residential in low seismic risk, low fire risk areas of the state. <a href="http://www.deltarevision.com/1990-1999_docs/hydraulicminimg-fracking.jpg">http://www.deltarevision.com/1990-1999_docs/hydraulicminimg-fracking.jpg</a></p>	With regard to purpose and need, please see Master Response 3. With regard to seismic issues, please see Master Response 16 and Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies.
1656	25	<p>False baseline: Delta ecological history and soil types. BDCP refers to and utilizes a map created by San Francisco Estuary Institute (SFEI) "historical detectives". However, if one reviews the locations of the quotes when referencing historic maps and sketches, one finds the SFEI failed to recognize that island names and waterway names changed over time in the Delta. It appears that important references regarding the extent of natural forested areas of the North Delta were incorrectly located, resulting in a shift of the presumed historic forested line more northward towards Sacramento. In reality, historic maps and documents show there were oaks and other freshwater trees that could not have survived in the tidal marsh area described by the beautiful but incorrect SFEI ecological history of the Delta often referenced in BDCP, Delta Plan and the Nature Conservancy.</p>	The analysis in BDCP relied upon baseline data that described conditions current at the time of the 2013 public draft document. The historical ecology data referenced by the comment was used only a reference for the conceptual design of restoration projects that would be implemented as part of several restoration conservation measures. Historical ecology data was not used as baseline data as claimed by the commenter.
1656	26	<p>Misleading baseline: Why is it that the areas targeted for growing of tules and aquatic vegetation, and the Egbert Tract lands used to extend the Yolo Bypass area seem to be exactly where there are many newly dug fracking wells? Look at the restoration map of the BDCP and then look at the huge amount of natural gas that is now accessible using the new fracking method. Is the correlation just a coincidence or did the BDCP drafters fail to mention the primary purpose in designation of "restoration lands? <a href="http://www.snugharbor.net/images-2014/news/frackingcorrelation.pdf">http://www.snugharbor.net/images-2014/news/frackingcorrelation.pdf</a> and <a href="http://www.deltarevision.com/timeline.htm">http://www.deltarevision.com/timeline.htm</a></p>	<p>There is no correlation between BDCP restoration opportunity areas and locations of natural gas wells. Chapter 2 of this Final EIR/EIS does not include anything related to natural gas wells or fracking because they are not objectives or purposes on which the action alternatives are based. None of the action alternatives includes natural gas wells as a project component. Please note that proposed project, Alternative 4A, does not include large-scale habitat restoration, as proposed under the BDCP preferred alternative, 4. Under the BDCP, restoration opportunity areas (ROAs) identified areas most appropriate for restoration of tidal natural communities. The ROAs encompass potential restoration areas that could support covered fish species that use main channels, distributaries, and sloughs of the Sacramento, San Joaquin, and Mokelumne Rivers in the Delta and the channels and sloughs of Suisun Marsh. The potential for ROAs to obstruct Delta fracking practices were not given higher priority over other locations. While Alternative 4A does include restoration-related environmental commitments to offset project impacts, this would occur to a much lesser extent compared to the BDCP. These environmental commitments would be implemented in areas</p>

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			identified by the ROAs; however, the exact locations are yet to be determined.
1656	27	False baseline: Delta recreation and economic value has been greatly undervalued by DRMS Phase 1 and then the BDCP economic studies. The 2007 white paper on Delta Recreation provided to the Delta Vision group indicated Delta recreation added over one billion dollars to the California economy each year. Why did the facts change in 2014? <a href="http://www.deltarevision.com/Delta_maps/Recreation_Navigation_Transportation.htm">http://www.deltarevision.com/Delta_maps/Recreation_Navigation_Transportation.htm</a>	The assertion that recreation economic value has been under represented in the BDCP Statewide Economic Analysis is acknowledged, but this analysis was not used to estimate the socioeconomic effects of the action alternatives in this Final EIR/EIS. Potential impacts to Delta socioeconomics under the new preferred alternative 4A, can be found in Section 16.3.3, Chapter 16, Socioeconomics, of the Final EIR/EIS. Also, see Section 16.1.1.6 for a discussion on sources of contributions to the Delta economy, including recreation.
1656	28	False baseline: fish migration studies: Did the fish scientists know that there were barriers to natural salmon migration pathway studies when the 2006 to current migration studies were conducted? If not, wouldn't that affect their outcome reports and discussions? How did the in- water barrier across Steamboat Slough affect the migration decisions and numerical outcomes for those tests? How was the barrier accounted for and why weren't the LIWD studies also reported as part of the fish studies?	This comment relates to the commenter's previous suggestion of a partial in-water barrier at the head of Steamboat Slough. The results of the acoustic telemetry studies forming the basis for various analyses used in the BDCP (e.g., Delta Passage Model) reflect the predominant hydrodynamics in the area. A barrier across Steamboat slough was not assumed as this type of barrier is temporary and normally only used during drought years to control upstream salinity migration. As described in the methods for the Delta Passage Model (Appendix 5.C of the public draft BDCP, section 5C.4.3.2.2), Perry et al. (2010) found that juvenile Chinook salmon entry into Sutter and Steamboat Sloughs was in proportion to the proportion of flow entering the junction, so this was what was assumed in the modeling. Future operations of an in-water barrier at Steamboat Slough were not included in the Delta Passage Model.
1656	29	Other baseline data that is false, incorrect or inflated in the BDCP: Delta transportation reports, Delta landowner statistics, some Delta island elevations.	For additional detail about how the baseline was chosen, please see Master Response 1. The commenter does not offer any evidence on how the specified baselines are incorrect in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1656	30	Ignored Impacts during CALFED and BDCP Draft Process.  I wish to point out that drafting of the BDCP has been a process whereby studies and actions of the CALFED Record of Decision from 2000 has been carried out as "prebuilt" actions of BDCP proposals. BDCP fails to recognize the impacts of the actions or field tests from 2004 to present, including the 2004 engineered Jones Tract levee failure, the 2006 overabundance of test flows on Steamboat Slough, the increased exports out of the Delta in the midst of all the planning, the impacts to area water recreation businesses due to the low freshwater inflow causing infestation of non-native water weeds. Impacts from the pulse flow fish tests.	The Existing Conditions assumptions for the EIR/EIS include facilities and ongoing programs that existed as of February 13, 2009 (publication date of the most recent NOP), that could affect or could be affected by implementation of the BDCP alternatives (refer to Appendix 1D, Final Scoping Report, for copies of the NOP). For additional detail about how the baselines for the EIR/EIS were chosen, please see Master Response 1.  Under CEQA, the need for mitigation measures arises out of the "substantive policy" of CEQA, by which public agencies cannot approve proposed projects that would cause significant environmental effects without first adopting any feasible mitigation measures and considering any feasible alternatives that would substantially lessen such significant effects. Nothing in CEQA requires a project proponent to mitigate to pre-baseline conditions.
1656	31	Ignored Long Term Impacts to the Delta, Bay and Northern California.  The BDCP fails to address the long term impact to Delta, Bay Area and Sacramento Valley drinking water aquifers for the draining of the Sacramento River for diversion, which does not allow replenishment of our aquifers. Government taking of property and water rights.	Potential impacts on groundwater, as described in Chapter 7 of the EIR/EIS, are related to changes in SWP and CVP water deliveries due to implementation of the action alternatives and due to construction of the proposed water conveyance facilities and habitat areas. There will not be any changes in SWP and CVP water deliveries north of the Delta due to implementation of the action alternatives; therefore, groundwater conditions are estimated to be similar under the action alternatives as compared to No Action Alternative. There are changes due to climate change and sea level rise; however, those changes would occur with or without project implementation. The EIR/EIS indicates that there would be changes in the San Joaquin Valley and potentially in other areas that use SWP and CVP contract water deliveries. Effects of construction would only occur within the Delta.
1656	32	The BDCP does not adequately address the ongoing reduction in value of Delta agricultural and recreation lands due to the process over the last five years, and fails to provide for adequate method of compensation without excessive need of litigation which amounts to a clear taking of private property rights by government entities. People with riparian water rights in the rest of the state should be concerned about what has been happening to and in the Delta. If the water contractors can get away with the water heist in the Delta, you know your water rights will be next!	The BDCP does not include any regulatory actions that would affect water right holders other than DWR, USBR, and SWP and CVP contractors. Please refer to Master Response 32 for additional discussion regarding water rights. Additionally, for information regarding Area of Origin, please see Master Response 26.

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1656	33	The BDCP recognizes "short term" interference with access roads, noise, use of recreation waterways and facilities but provides no reasonable means of mitigation or compensation by all affected parties. It appears as if the goal of the BDCP process, not just the documents, is to eliminate recreation in some parts of the Delta.	Mitigation measures, economic compensation, and environmental commitments are included whenever feasible. The EIR/EIS includes mitigation measures for construction traffic and noise in Chapters 19, and 23, respectively. The effect of barge traffic during construction is considered less than significant because the volume of traffic in waterways would be in line with current normal traffic. Although action alternatives could have temporary construction effects on recreation, as described in Chapter 15, Recreation, longer term operation of the alternative is not expected to have substantial recreation effects. Please see Master Response 22 with regard to mitigation, environmental commitments, avoidance and minimization measures and alternative-specific environmental commitments.
1656	34	The BDCP is unclear as to which waterways will be lost to boating navigation and recreation permanently, and which ones will remain, not just in the interim period but permanently. Drafters should be required to clearly define and map how much freshwater flow at a minimum will be left in each natural or original waterway of the Delta, and should assure that only "surplus" water not needed to maintain navigation on the original waterways be utilized for export.	<p>This comment addresses Alternative 4. In response to comments received during the 2013-2014 public comment period, State and Federal agencies decided to change the approach. A modified proposed project (Alternative 4A/California WaterFix) is being considered. For additional detail on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the current status of the draft BDCP Effects Analysis, please see Master Response 5. Alternative 4 remains a viable alternative.</p> <p>The CALSIM II model only delivers water allowed in accordance with existing SWP and CVP water rights and the water quality criteria issued by the State Water Resources Control Board; and with other federal and State regulatory requirements, as described in Chapter 5, Water Supply, of the BDCP EIR/EIS. Salinity changes in the Delta under the BDCP alternatives are presented in Chapter 8, Water Quality. With regard to water quality, please also see Master Response 14.</p> <p>Refer to Chapter 15, Recreation, Impact REC-4 under Alternative 4A for a description of impacts to recreational navigation under the proposed project. Impacts would be less than significant with mitigation incorporated. Although there may be short delays in boat passage, access to affected waterways would be maintained.</p> <p>Operations of Alternative 4 and the new preferred alternative, 4A, are not expected to result in a substantial decrease or increase in Delta surface water levels. Please refer to Appendix 5A, Section C, CALSIM II and DSM2 Modeling Results, EIR/EIS, for more information. As stated in Chapter 15, Recreation, Section 15.3.3, CALSIM modeling results indicate that effects to the Sacramento and San Joaquin river flows are less than significant. Additionally, the project would result in a reduction of reverse flow conditions in the Old and Middle rivers, creating a positive change, in the majority of months on a long-term average basis compared to Existing Conditions and the No Action Alternative.</p>
1656	35	ATT3: Newspaper excerpt table from: "Who Controls California newspapers in 2010"	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	36	ATT4: Map of California with designated areas - Flood zones	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	37	ATT5: Figure VIII-1.1. DSM2-Calibration website	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	38	ATT6: Figure VII.1.4: Bathymetry data collected by DWR Central district in 1999 and 2000 in the North Delta using boat mounted depth sounder and GPS in a zig-zag pattern. IEP DSM2PWT Report.	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	39	ATT7: Figure IX.2.1 Initial Manning's regions Figure IX.2.2 Final Manning's regions	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	40	ATT8: Map showing waterflow into and out of Delta	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	41	ATT9: Delta Stewardship Council Live Streaming Video. North Delta Diversion Example	This comment describes an attachment to the comment letter. Please see above responses to comments.

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		Above Normal Year (1993)	
1656	42	ATT10: Copy of a Graph showing DSM2 Flow Corroboration Example	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	43	ATT11: Map of State Route 84 Segment Data	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	44	ATT12: What happens to the ferry landing and SR 84 during flood times? Not disclosed by BDCP.  Maps - RMA2 Calibrated Manning's	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	45	ATT13: Map looking at areas modeled for tidal inundation	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	46	ATT14: DSM2 Model Grid in the North Delta Showing the Grid Modifications Performed as Part of the Recalibration Effort	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	47	ATT15: Graph showing Mean daily flows by Water Year Type for Sacramento River at Freeport	This comment describes an attachment to the comment letter. Please see above responses to comments.
1656	48	ATT16: Page from BDCP showing Operational Considerations for the Proposed North Delta Diversion Intakes	This comment describes an attachment to the comment letter. Please see above responses to comments.
1657	1	AquAlliance supports the possibilities found in Habita Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) planning processes, but this effort has at its heart a perverse incentive: to drain as much water as possible from the Sacramento River Watershed and the Delta to continue some of the most destructive forms of desert agriculture, urban sprawl, and industrial extraction. The EIS/EIR attempts to disclose impacts as required by CEQA and NEPA, but simultaneously obfuscates many of the direct and indirect impacts. AquAlliance seeks to bring to light some of these hidden impacts and to highlight the absurdity of referring to the Twin Tunnels project, which creates the infrastructure to drain the Sacramento River Watershed and the Delta of essential fresh water, as "Conservation Measure 1."	<p>The SWP and CVP operations under the action alternatives would only deliver water under existing water rights issued by the State Water Resources Control Board to DWR and Reclamation for use by the SWP and CVP. As shown in Figures C-11-1 through C-11-6 of Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the EIR/EIS, the north Delta intake tunnels would not be fully utilized except for several months if wet years.</p> <p>Please see Master Response 28 regarding the operational criteria for the proposed project. For more information on water rights issues please see Master Response 32. Also see Master Response 26, Area of Origin.</p> <p>Please also note that 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>
1657	2	AquAlliance incorporates by reference the comments submitted by our coalition of California Water Impact Network (C-WIN), California Sportfishing Protection Alliance (CSPA), and AquAlliance and the two comment letters submitted by the Environmental Water Caucus. We also submit the Project modeling analysis prepared for AquAlliance by Professor Kyran Mish. AquAlliance's previous comments on the Bureau's Environmental Assessments for the 2010/2011 Water Transfer Program, the 2013 Water Transfer Program, the 2014	As described in Chapter 3 of the EIR/EIS, the proposed action and other 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 Chapter 5, Appendix 1E, and

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		<p>Water Transfer Program, and scoping comments on the Bureau and San Luis Delta Mendota Water Authority's Ten-Year Water Transfer Plan are attached, as well. These four comment letters all pertain to water transfer programs that illustrate the history of Sacramento Valley water transfers to south of the Delta, contain valuable background and impact information for the area of origin, and present AquAlliance's opposition to the water transfers that will expand under BDCP.</p>	<p>Appendix 5D of the 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 conveyance facilities. As indicated in Appendix 5D, the analyses are conservative because it is not known if adequate water would be available from other water users for transfer. Any future water transfers will require separate approvals. The analysis of any potential upstream impacts due to water transfers are not a part of this EIR/EIS and must be covered pursuant to separate laws and regulations once the specific transfer has been proposed. Please see Master Response 43 regarding water transfers.</p> <p>For more information on water transfers please see Master Response 43. For a discussion on area of origin, please see Master Response 26.</p> <p>For responses to comments submitted by other commenters, please refer to part II of the Final EIR/EIS.</p>
1657	3	<p>Hydrology</p> <p>The EIS/EIR fails to adequately disclose the planned increase in water transfers from the Sacramento River Watershed to south of the Delta.</p> <p>If the Twin Tunnels (the facilities identified in "Conservation Measure 1") are built as planned with the capacity to take 15,000 cubic feet per second ("cfs") from the Sacramento River, they will have the capacity to drain almost two-thirds of the Sacramento River's average annual flow of 23,490 cfs at Freeport [footnote 2: USGS 2009. <a href="http://wdr.water.usgs.gov/wy2009/pdfs/11447650.2009.pdf">http://wdr.water.usgs.gov/wy2009/pdfs/11447650.2009.pdf</a>] (north of the planned Twin Tunnels). As proposed, the Twin Tunnels will also increase water transfers when the infrastructure for the Project has capacity. This will occur during dry years when State Water Project ("SWP") contractor allocations drop to 50 percent of Table A amounts or below or when Central Valley Project ("CVP") agricultural allocations are 40 percent or below, or when both projects' allocations are at or below these levels (EIS/EIR Chapter 5). With this Project, North to South water transfers will be in demand and feasible.</p> <p>For an understanding of water transfers, it would be valuable to know how much is currently exported from the Delta. The EIS/EIR even fails at this task by explaining the current export regime from the Delta thusly, "Some water flowing through the Delta is exported by the SWP/CVP to areas outside the Delta (see Chapter 5, Water Supply)..." (p. 7-1) How is the reader to know that "some water" is an immense number on the order of 5-7 million acre-feet ("MAF")? It would be immensely helpful to the reader of a 40,000+ page document to have a better understanding of the magnitude of water being discussed with it presented openly and clearly at every opportunity, such as page one of Chapter seven.</p>	<p>The Existing Conditions, No Action Alternative, and all of the action alternatives would continue the operation of the SWP and CVP in accordance with the existing water rights and regulatory criteria adopted by the State Water Resources Control Board, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife. For a discussion on water rights and area of origin please see Master Response 32 and 26, respectively.</p> <p>Please see response to comment 1657-2 regarding water transfers.</p> <p>Recent historic SWP and CVP water exports are presented in Chapter 5 of the EIR/EIS, and cross-Delta water transfer activity is presented in Appendix 5D of the EIR/EIS.</p>
1657	4	<p>The EIS/EIR fails to reveal that the current Project is part of many more programs, plans and projects to develop groundwater in the Sacramento Valley, to develop a "conjunctive" system for the region, and to place water districts in a position to integrate the groundwater into the state water supply. These are plans that the Bureau of Reclamation, together with DWR, water districts, and others have been pursuing and developing for many years.</p> <p>An environmental impact statement should consider "[c]onnected actions." 40 C.F.R. [Section]1508.25(a)(1). Actions are connected where they "[a]re interdependent parts of a larger action and depend on the larger action for their justification." Id. [Section] 1508.25(a)(1)(iii). Further, an environmental impact statement should consider "[s]imilar</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>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, including</p>

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		<p>actions, which when viewed together with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." Id. [Section] 1508.25(a)(3). The Bureau's participation in planning, attempting to execute, and frequently executing the programs, plans and projects has circumvented the requirements of NEPA. DWR's failure to conduct project level CEQA review for water transfers and comprehensive environmental review for the Sacramento Valley Water Management Agreement has segmented a known, programmatic project for decades, which means that the Bureau is also failing to comply with state law as the Central Valley Project Improvement Act mandates. A list of connected actions and similar actions is found in the Cumulative Impacts section below.</p>	<p>reliability of exported supplies. Please see response to comment 1657-2 for information on water transfers.</p> <p>Please see Chapter 7 of the Final EIR/EIS regarding groundwater impact analysis</p> <p>For information on alternatives development please see Master Response 4. Regarding the project's purpose and need, please see Master Response 3 and Chapter 2 of the Final EIR/EIS.</p>
1657	5	<p>The EIS/EIR fails to adequately disclose the existing geology that is the foundation of the Sacramento River's hydrology and the Sacramento Valley's groundwater basins.</p> <p>Page 7-1 fails to note a significant geographic feature in the Sacramento River hydrologic region: the Cascade Range. The Cascade Range is the genesis of the Sacramento River and some of its most significant tributaries: the Pit and the McCloud Rivers. This serious omission continues throughout Chapter 7. The enormous influence of the Cascade Mountain Range on not only the Sacramento River, but also the geology, soils, and hydrology of the Sacramento Valley's ground water basin is completely missing. The California Department of Conservation describes the Range thusly: "The Cascade Range, a chain of volcanic cones, extends through Washington and Oregon into California. It is dominated by Mt. Shasta, a glacier-mantled volcanic cone, rising 14,162 feet above sea level. The southern termination is Lassen Peak, which last erupted in the early 1900s. The Cascade Range is transected by deep canyons of the Pit River. The river flows through the range between these two major volcanic cones, after winding across interior Modoc Plateau on its way to the Sacramento River." [footnote 3: California Department of Conservation, California Geological Survey, 2002. California Geomorphic Provinces. [sic]] The Sacramento River Watershed Program provides another simple, adequate description of its namesake: "The Sacramento River is the largest river and watershed system in California (by discharge, it is the second largest U.S. river draining into the Pacific, after the Columbia River). This 27,000-square mile basin drains the eastern slopes of the Coast Range, Mount Shasta, the western slopes of the southernmost region of the Cascades, and the northern portion of the Sierra Nevada. The Sacramento River carries 31% of the state's total surface water runoff." [footnote 4: <a href="http://www.sacrivier.org/aboutwatershed/roadmap/sacramento-river-basin">http://www.sacrivier.org/aboutwatershed/roadmap/sacramento-river-basin</a>]</p> <p>Without describing the structural attributes of the Sacramento Valley groundwater basin that supports the rivers, streams, communities, and orchards of the region, the EIS/EIR states that, "The Sacramento Valley groundwater basin is extremely productive and provides much of the water supply for California's agricultural and urban water needs," (page 7-2). The EIS/EIR fails to disclose to what extent it is productive, what limitations exist to its productivity, or how it provides so much water for the State when one considers that groundwater is usually used at a local level. These grandiose claims that lack supporting material lead AquAlliance to ask the following questions:</p> <p>--Have the agencies conflated a watershed with a groundwater basin?</p> <p>--Is this a Freudian slip that discloses the intent of the agencies to incorporate the Sacramento Valley groundwater basin into the State's water supply as presented in numerous plans and programs over two decades (see list in Cumulative Impacts)?</p> <p>--If the lead agencies truly believe that the Sacramento Valley groundwater basin has been</p>	<p>As already noted above, the proposed project (Alternative 4A) and other action alternatives would not change operational criteria for the SWP and CVP reservoirs in the Sacramento Valley; and would only export water allocated to the SWP and CVP under existing water rights issued by the State Water Resources Control Board. 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. The proposed project or the action alternatives do not include provisions for water transfers or conveyance of groundwater. Therefore, changes in groundwater in the Sacramento Valley were only associated with increased groundwater use for CVP agricultural water users that would occur with or without the project. Therefore, the Existing Conditions/Affected Environment section of the EIR/EIS did not describe historical and existing groundwater conditions in detail. For more information on water transfers please see Master Response 43. Groundwater is discussed in Chapter 7 of the Final EIR/EIS. Please also see response to comment 1657-7.</p> <p>For more information on water rights and operational criteria please see Master Response 32 and Master Response 28, respectively.</p>

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		<p>and is this important to California's agricultural and urban water needs, why has the EIS/EIR failed to identify it in Figures 7-3, Groundwater Subbasins Underlying the Central Valley, and 7-4, Groundwater Model Domains in the Central Valley, while both figures name the San Joaquin and Tulare basins?</p> <p>The repeated absence of some of the most basic geologic, geographic and hydrologic information in the EIS/EIR on which the entire Project is dependent causes the reader to wonder what else has been ignored or purposely omitted in the document.</p>	
1657	6	<p>The EIS/EIR fails to disclose the over appropriation of water rights in the Sacramento River Watershed</p> <p>The public is presented with inadequate baseline data with which to consider the consequences of the Project. One such area is the comparison of the average unimpaired flow of the Sacramento River Watershed stacked against the claims that have been made for water. The average annual unimpaired flow in the Sacramento River basin is 21.6 million acre-feet (MAF), but the consumptive use claims are an extraordinary 120.6 MAF! [footnote 5: California Water Impact Network, AquAlliance, and California Sportfishing Protection Alliance 2012. Testimony on Water Availability Analysis for Trinity, Sacramento, and San Joaquin River Basins Tributary to the Bay-Delta Estuary.]</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. For more information on water rights and please see Master Response 32.</p> <p>Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two 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> <p>For more information regarding area of origin please see Master Response 26.</p>
1657	7	<p>The EIS/EIR fails to disclose the existing conditions of the Sacramento Valley groundwater.</p> <p>There is an absence of accurate and detailed information that describes the Sacramento Valley groundwater conditions. The EIS/EIR instead states, "A portion of this applied water, and the remaining 13.9 million acre-feet of runoff, is potentially available to recharge the basin and replenish groundwater storage depleted by groundwater pumping. Therefore, except during drought, the Sacramento Valley groundwater basin is "full," and groundwater levels recover to pre-irrigation season levels each spring. Historical groundwater level hydrographs suggest that even after extended droughts, groundwater levels in this basin recovered to pre-drought levels within 1 or 2 years following the return of normal rainfall quantities." (p. 7-13)</p> <p>The conclusory statements fail to provide decision-makers and the public with important factual data. For example, a summary of conditions in the Durham area of Butte County find that while water levels may recover after dry to drought periods with intense use, wells aren't returning to previous levels, but moving steadily in a downward trajectory. [footnote 6: Buck, Christina 2014. Groundwater Conditions in Butte County.] Additionally, even the Yuba River area, often touted by state and federal agencies as a successful conjunctive use program, takes 3-4 years to recover from groundwater substitution in the south sub-basin [footnote 7: 2012. The Yuba Accord, GW Substitutions and the Yuba Basin. Presentation to the Accord Technical Committee.] although the Yuba County Water Agency analysis fails to determine how much river water is sacrificed to achieve the multi-year recharge rate.</p> <p>More examples that contradict long-term predictions of "full" and "recovered" groundwater basins are found in the most current DWR maps. [footnote 8: <a href="http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/gw_level_monitoring.cfm">http://www.water.ca.gov/groundwater/data_and_monitoring/northern_region/GroundwaterLevel/gw_level_monitoring.cfm</a>]</p>	<p>The discussion of groundwater in the Sacramento Valley in the EIR/EIS is more generalized than for the San Joaquin Valley because implementation of the proposed project would result in similar or minimal changes as compared to the No Action Alternative. The EIR/EIS did describe changes that would occur due to climate change, sea level rise, and projected population growth (as indicated by the comparison of the alternatives to the Existing Conditions); however, the EIR/EIS did not attempt to provide mitigation measures for actions that would occur with or without the proposed project. Also see response to comment 1657-5 regarding groundwater.</p>

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		The DWR data clearly present a different picture of the condition of the Sacramento Valley groundwater basin over time than what is provided in the EIS/EIR. This must be corrected and considered in the NEPA and CEQA process.	
1657	8	ATT1: Tables Illustrating Maximum and Average Groundwater Elevation Decreases Fall 2004, Fall 2013	The comment describes an attachment to the comment letter. Please see response to comment 1657-7 regarding the comment related to these tables.
1657	9	ATT2: Table Showing Results from DWR Spring Monitoring of Sacramento Groundwater Basin from 2004 to 2014	The comment describes an attachment to the comment letter. Please see response to comment 1657-7 regarding the comment related to these tables.
1657	10	<p>The EIS/EIR fails to disclose direct and indirect groundwater impacts to the Sacramento Valley that would result from expanded cross-Delta water transfers</p> <p>Internal BCDP communication from the Department of the Interior indicates that the purchase of approximately 1.3 million acre-feet (MAF) of water is being planned as a means to make up for flows that would be removed from the Sacramento River by the BDCP tunnels. [footnote 9: Belin, Lety Summary of Assurances Email, dated 2/25/13.] It is possible that the Twin Tunnels may extract almost two-thirds of the average annual flow from the Sacramento River, which is what creates the need for the 1.3 MAF. The source of the additional water that is integral to the Project is not disclosed or analyzed in the EIS/EIR. If Sacramento Valley groundwater is the intended target, this must be disclosed and analyzed in a re-circulated Draft EIS/EIR.</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 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 Chapter 7 of the Final EIR/EIS.</p> <p>Please also see response to comment 1657-5 and response to comment 1657-7.</p>
1657	11	<p>The EIS/EIR vastly understates the extent of groundwater depletion in the San Joaquin Valley.</p> <p>In regards to the San Joaquin groundwater basin, the DEIS/DEIR states that, "Long-term groundwater production throughout this basin has lowered groundwater levels beyond what natural recharge can replenish." (p. 7-4) It is no surprise that the relentless extraction of groundwater in the San Joaquin Valley has halted natural recharge, but this mild under-statement of fact masks the tremendous devastation that has occurred there. "Mining" would provide a more accurate depiction of what has transpired over 80+ years instead of "production." The U.S. Geological Survey exposes this form of groundwater exploitation in the San Joaquin and Santa Clara Valleys (1999) in Circular 1182 entitled Part I, "Mining Ground Water." Current research by Michelle Sneed expands on the impacts from groundwater mining in the San Joaquin by disclosing the extent of historic and current subsidence levels. [footnote 10: Sneed, Michelle et al. 2013. Land Subsidence along the</p>	<p>The discussion in the Existing Conditions and Affected Environment section of Chapter 7 is presented for background information. The CEQA analysis is based upon the comparison of modeling results for the alternatives to the Existing Conditions. The NEPA analysis is based upon the comparison of modeling results for the alternatives to the No Action Alternative. The EIR/EIS does not provide mitigation measures for the Existing Conditions or future changes due to climate change, sea level rise, or population growth that would have occurred with or without the project implementation. See response to comment 1657-5, 7, and 9 for more information on groundwater and the proposed project.</p>

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		<p>Delta-Mendota Canal in the Northern Part of the San Joaquin Valley, California.  <a href="http://pubs.usgs.gov/sir/2013/5142/">http://pubs.usgs.gov/sir/2013/5142/</a></p> <p>Without explanation or apology, the EIS/EIR omits this current analysis, mentions "overall subsidence" in the Mendota area of 28 feet (without a citation or timeframe), and then recounts older research: "Most San Joaquin Valley subsidence is thought to have been caused primarily by deep aquifer system pumping during the 1950s and 1960s, but is considered to have largely abated since 1974 because of the development of more reliable agricultural surface water supplies from the Delta-Mendota Canal and Friant-Kern Canal (U.S. Geological Survey 1999)." The absence of current scientific research in the EIS/EIR regarding groundwater mining and subsidence leaves the document exceedingly deficient under CEQA and NEPA and the agencies exposed to charges of ineptitude.</p>	
1657	12	<p>Economics of the Draft Plan</p> <p>The University of the Pacific Eberhardt School of Business concluded in 2012:</p> <p>This report updates an initial benefit-cost analysis of the water conveyance tunnels at the center of the Bay Delta Conservation Plan (BDCP). Primarily using the results of the BDCP's own economic benefit and cost studies, we find a benefit-cost ratios ranging from 0.3 to 0.5, meaning that there are between \$1.90 and \$3.36 of costs for every \$1 in economic benefits. To put this in perspective, this benefit-cost ratio is 80% lower than those estimated for the State's high-speed rail project.</p> <p>When these very low benefit-cost ratios are considered alongside the inconsistent and incomplete financial plans, it is clear that the Delta water conveyance tunnels proposed in the draft BDCP are not justified on an economic or financial basis.</p> <p>How has the Project responded and adjusted to such a stinging rebuke by such a reputable source or has it been shunted aside as an illegitimate critique that is contrary to the outcome sought by the agencies?</p>	<p>This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Please see Master Response 5 for a discussion on cost and benefit estimates in the BDCP planning documents. Funding is also discussed in the master response.</p>
1657	13	<p>Modeling</p> <p>The EIS/EIR hinges on models and modeling that are seriously deficient.</p> <p>The agencies had opportunities to advance both water and environmental planning once again through the Bay Delta Conservation Plan. Like a journeyman in any trade, the tools one has and the skills in using them are what distinguish a journeyman from an apprentice or an imposter. DWR and the Bureau have had ample feedback on the Draft Plan to know, as a journeyman should, that their toolbox is wanting and their use of the tools they selected is inadequate. Among all the areas where this proves to be the case (see referenced June 11, 2014 Environmental Water Caucus comments), nowhere is it more glaring than in the model and modeling that are the foundation for the entire Project.</p> <p>Kyran Mish, Ph.D., provides a succinct review of the Project model and modeling and finds serious deficiencies and concludes:</p> <p>The technical risks associated with this ambitious project, and the immense budget required for its construction and operation, clearly mandate that the best-available scientific principles be deployed and documented in all project artifacts, including the Draft EIS/EIR. It is technically indefensible that these principles (including all fundamental physical</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>See Master Response 30 regarding the adequacy of the modeling used for the EIR/EIS. Information on modeling ca also be found in Appendix 5A of the Final EIR/EIS.</p>

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		assumptions) are not readily available in the tens of thousands of pages of the Draft EIS/EIR, and the omission of the particulars of the science used to estimate these environmental effects precludes both accurate prediction of the environmental effects of this project, as well as independent technical verification of the claims made in the plan. Since independent verification is a fundamental hallmark of scientific investigation, the current version of the BDCP Draft EIS/EIR fails even this most basic test of science.	
1657	14	<p>Concerns regarding seismic risks, liquefaction, and the model, CalSim II:</p> <p>--"The plan promises that seismic risks will be addressed during the design and construction phases of the project, but also explicitly admits that no substantial efforts toward accurate identification of seismic risks yet exist within the plan's scope. Thus the costs of mitigating these risks is unknown from the outset, and any estimate of project cost must thus be considered to be a substantial underestimate of actual project lifespan costs."</p> <p>--"One of the worst cases of poor risk assessment in seismic sections of the report is the discussion of possible liquefaction effects. After a good introductory discussion of the natural phenomenon of liquefaction, the Draft EIS/EIR provides little in the way of realistic mitigation plans to handle the very-real risk that liquefaction could destroy the project once it is built (or even damage components of the system during construction)."</p> <p>--"In the interest of simplicity, only a few key concerns about the suitability of the current version of CalSim will be presented here, but these should be sufficient to indicate that CalSim II does not yet warrant sufficient trust to justify its use for analysis of the alternatives that lie at the heart the water-transfer plan."</p> <p>AquAlliance includes Dr. Mish's entire analysis of the Project model and modeling with our comments.</p>	<p>The CALSIM II model is a monthly hydrologic planning model and does not address soils resources, including seismic or liquefaction risks which are addressed in Chapters 9 and 10 of the EIR/EIS.</p> <p>Section 9.3.1 Methods of Analysis, Chapter 9 of the Draft EIR/EIS describes the methods used to evaluate the potential geologic and seismic hazards. Conceptual engineering reports and geotechnical data reports used for the analysis are listed in this section of the EIR/EIS. Based on the engineering completed and available geotechnical data, mitigation measures to address seismic hazards have already been incorporated into the conveyance facility design and cost estimates. As described in Appendix 3C of Draft EIR/EIS, these mitigation measures include pile foundations and ground improvement for the intake facilities and removal of unsuitable materials for forebay embankment foundations. The proposed methods to mitigate for seismic hazards will be refined as part of future engineering when additional site specific geotechnical data is collected. See Master Response 16 regarding seismic issues. For more information on seismic issues please see Master Response 16.</p>
1657	15	<p>Cumulative Impacts</p> <p>The Ninth Circuit has made clear that NEPA mandates "a useful analysis of the cumulative impacts of past, present and future projects." Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 810 (9th Cir. 1999). Indeed, "[d]etail is required in describing the cumulative effects of a proposed action with other proposed actions." The very cursory cumulative effects discussion contained in the EIS/EIR regarding groundwater plainly fails to meet this standard.</p> <p>In assessing the significance of a project's impact, the Bureau of Reclamation must consider "[c]umulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement." 40 C.F.R. [Section] 1508.25(a)(2). A "cumulative impact" includes "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." Id.</p> <p>[Section] 1508.7. The regulations warn that "[s]ignificance cannot be avoided by terming an action temporary or by breaking it down into small component parts." Id. [Section] 1508.27(b)(7).</p>	<p>The Cumulative Impact analysis that was written for the 2013 Public Draft EIR/EIS has been revised to include the impacts associated with the new proposed project alternatives and updates to past analyses. Please see FEIR/EIS Appendix 3D, Defining Existing Conditions, No Action Alternative, No Project Alternative and Cumulative Impact Conditions for the proposed project.</p> <p>Please also see Master Response 9 regarding the cumulative impact analysis.</p>
1657	16	The Project is dependent on the hydrology of the Delta watershed to implement the Draft Plan. The EIS/EIR blatantly fails to consider other past, present and reasonably foreseeable	Many of these projects were implemented prior to the Notice of Preparation and Notice of Intent publication in 2009. Future water transfers are not specifically considered in the Final EIR/EIS because each

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		<p>future actions in the Delta watersheds by deferring analysis to a future day. To illustrate the omissions in the EIS/EIR, AquAlliance submits a partial list of Sacramento River Watershed programs, plans, and projects in which the agencies have participated or funded, that, at a minimum, should have been presented in the EIS/EIR for cumulative impact discussion, and better yet, analyzed to comply with CEQA and NEPA:</p> <p>--The Sacramento Valley Water Management Agreement was signed in 2002 and the need for a programmatic EIS/EIR was clear to both the Bureau of Reclamation and DWR. The process was initiated, but never completed. [footnote 11: The Bureau actually began its own Programmatic EIS to facilitate water transfers from the Sacramento Valley, and the interconnected actions that are integrally related to it, but never completed that EIS and has impermissibly broken out segments of the overall Program for piecemeal review for water transfers for GCID's 2008 Forbearance Transfer, the 2009 Drought Water Bank, 2010/2011, 2012, 2013, and 2014.. See 68 Federal Register 46218 (Aug 5, 2003) (promising a Programmatic EIS on these related activities, "includ[ing] groundwater substitution in lieu of surface water supplies, conjunctive use of groundwater and surface water, refurbish existing groundwater extraction wells, install groundwater monitoring stations, install new groundwater extraction wells..." Id. At 46219. See also <a href="http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=788">http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=788</a> (current Bureau website on "Short- term Sacramento Valley Water Management Program EIS/EIR").] Indeed, even the short-term phase of the Sacramento Valley Water Management Program is the subject of an ongoing scoping process for a Programmatic EIS that has not yet been completed (id.)</p> <p>--The Sacramento Valley Integrated Regional Water Management Plan (2006).</p> <p>--The Sacramento Valley Water Management Plan. (2007)</p> <p>--The Stony Creek Fan Partnership Orland Project Regulating Reservoir Feasibility Investigation.</p> <p>--The Glenn Colusa Irrigation District ("GCID") Stony Creek Fan Aquifer Performance Testing Plan to install seven production wells in 2009 that extracted 26,530 AF of groundwater as an experiment.</p> <p>--GCID's Lower Tuscan Conjunctive Water Management Program (Bureau provided funding).</p> <p>--GCID's water transfers in 2008 and in 2010, 2013, and 2014.</p> <p>--The Drought Water Bank for 2009.</p> <p>--The Bureau of Reclamation's 2010/2011 Water Transfer Program of 395,910 af of CVP and non-CVP water with 154,237 AF of groundwater substitution (EA/FONSI p. 2-4 and 3-107).</p> <p>--The Bureau's planned 2012 water transfers of 76,000 af of CVP water all through ground water substitution.</p> <p>--The Bureau's 2013 Water Transfer Program</p> <p>--The Bureau and San Luis Delta Mendota's 2014 Water Transfer Program.</p> <p>--The Bureau of Reclamation's 600,000 AF, North-to-South Water Transfer Program. EIS/EIR</p>	<p>transfer would require specific engineering and environmental analyses. Therefore, the EIR/EIS alternatives do not include assumptions for water transfers except for the continuation of transfers associated with the Lower Yuba River Accord. The EIR/EIS does include a general analysis of potential capacity that could be used in drier years due to reduced CVP and SWP water deliveries. Total cross-Delta water transfers could be greater under some alternatives considered than under Existing Conditions or the No Action Alternative, as shown in the analyses presented in Appendix 5D, Water Transfer Analysis Methodology and Results, of the Final EIR/EIS. For more information on water transfers please see Master Response 43.</p>

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		pending since scoping in January 2011.	
1657	17	<p>The Bureau of Reclamation has failed to consider the cumulative impact of other groundwater development and surface water diversions affecting the Sacramento Valley.</p> <p>In addition to the improper segmentation evident in the draft EIS/EIR, the assessment of environmental impacts is further deficient because the Bureau of Reclamation has failed to consider the cumulative impacts of the planned groundwater extraction when taken in conjunction with other projects proposed for the development of groundwater and surface water. The General Plans of the counties and cities in the Sacramento Valley must be considered as well as the agricultural crop and land use changes that have taken and are taking place. Lastly, we must emphasize again that existing conditions in the Sacramento River Watershed, that is so crucial to California's population, economy, and environment, and therefore the Project, must be more accurately understood and described, so that impacts may be more accurately assessed from the Project.</p> <p>The Draft EIS/EIR is seriously deficient as noted here, in the coalition comments of California Water Impact Network (C-WIN), California Sportfishing Protection Alliance (CSPA), and AquAlliance, the CSPA comments, and the Environmental Water Caucus comments.</p>	<p>Cumulative groundwater impacts are addressed in Chapter 7, Groundwater. The analysis presents the potential cumulative impacts on wells, construction and operation of cumulative projects, potential agricultural drainage impacts and groundwater quality. The analysis also presents potential cumulative impacts on groundwater in expert service areas. See response to comment 1657-5 and response to comment 1657-7 regarding groundwater.</p>
1657	18	ATT3: Kyran D. Mish: Comments for AquAlliance on BDCP Draft EIR/EIS	<p>The comment describes an attachment to the comment letter. Please see responses to comments beginning with comment 1657-19, regarding the comments contained in this attachment.</p>
1657	19	<p>The Bay Area Delta Conservation Plan (BDCP) Draft EIR/EIS [footnote 1: Throughout this document, the Bay Area Delta Conservation Plan Draft EIR/EIS will be referred to as "the Draft EIR/EIS", in the interest of brevity.] is an exhaustive document, but its emphasis is on quantity instead of quality. The plan is rich with details about how Northern California's water supplies might be moved south across the Delta, but it is poor in predictive science supporting how the plan would work in practice, and it provides precious little evidence of how much the plan's implementation would actually cost the state's citizens.</p> <p>The term "predictive" is of fundamental importance here, because predictiveness, reproducibility and verifiability are fundamental principles of scientific investigation. The Draft EIR/EIS fails all of these tests of science, and its computational modeling efforts lie well outside the mainstream of accepted practice for numerical simulation of natural and engineered systems. The computational models that lie at the heart of many of the predictions in the Draft EIR/EIS are based on over-simplified idealizations of natural systems such as aquifers, and all-too-often these models rely on methodologies that have long been superseded by more accurate physical models for predicting the response of geological systems like the Delta and the Central Valley.</p> <p>The people of California deserve at a minimum an open and scientifically-accurate accounting of the environmental risks and financial costs of this water transfer apparatus, and the current Draft EIR/EIS provides neither. The plan's authors should return to the drawing board and start again, this time with their efforts founded on the best-available science and engineering principles.</p> <p>Representative Technical Details of This Critique:</p> <p>The size of the Draft EIR/EIS numbers in the tens of thousands of pages, so it is impractical to provide a comprehensive critique of that document in only a handful of pages. Therefore, I will list here only a few key concerns where the plan's authors fall short of the mark</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>The size and complexity of these draft documents reflect an unprecedented effort to analyze a proposed project under both state and federal laws for habitat conservation plan along with 18 alternatives. Although the science and analyses that support the EIR/EIS are complex, the Lead Agencies have made every attempt to present the information in plain language and in a clear format with emphasis on the information that is useful to the public, agencies, and decision makers. See Master Response 30 regarding the adequacy of the modeling used for the EIR/EIS. Information on modeling can also be found in Appendix 5A of the Final EIR/EIS.</p> <p>For information on funding please see Master Response 5.</p>

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		demanded by the scope of the project and by its potential for environmental and financial harm if the plan proves inaccurate in its predictions.	
1657	20	<p>Lack of Uncertainty Characterization in the BDCP Draft EIR/EIS</p> <p>Unfortunately, there is no substantial discussion of model uncertainty in the Draft EIR/EIS. There are plenty of discussions of uncertainty of biological data, of uncertainty due to climate change, and of the difficulty of handling uncertain measures of water supply and quality, but beyond a rudimentary sensitivity analysis of how the results of computational models used in the Draft EIR/EIS respond to changes in key parameters, the topic of model uncertainty is barely addressed (or at least, not addressed where it is easy to find in the tens of thousands of pages in the Draft EIR/EIS). A model for a natural system needs a formal effort to quantify uncertainty, so that the various benefits and costs can be put into perspective. Such an effort is apparently lacking in the Draft EIR/EIS</p>	<p>The CALSIM II modeling tool is not a calibrated model. Therefore, CALSIM II model must be used as a prospective and not predictive modeling tool. DSM2 and CVHM are calibrated models. However, because these models use CALSIM II model output, these tools are to be used to compare alternatives, and not to identify absolute values, as described in Chapter 5 of the Final EIR/EIS. Therefore, the EIR/EIS impact analysis compares the results for conditions under the action alternatives to conditions under the Existing Conditions and the No Action Alternative. The model results cannot be used to predict absolute values; therefore, identification of specific uncertainty ranges would not be appropriate. See Master Response 30 regarding the adequacy of the modeling used for the EIR/EIS. More information on modeling can also be found in Appendix 5A of the Final EIR/EIS.</p> <p>For information on climate change please see Master Response 29. Water quality is discussed in Chapter 8 of the Final EIR/EIS and in Master Response 14.</p> <p>The California WaterFix would utilize an adaptive management program (AMP) that would address the CWF joint ESA Biological Opinion (BiOp) and 2081(b) Incidental Take Permit (ITP), and the CVP/SWP 2008/2009 BiOps and CESA authorizations. For information on adaptive management please see Master Response 33. Operational criteria is discussed in Master Response 28.</p>
1657	21	<p>In Chapter 7 (groundwater), it is stated that the CVHM (Central Valley Hydrologic Model) that lies at the heart of many of the most important predictions found in the Draft EIR/EIS was calibrated using trial-and-error methods. First, trial-and-error techniques are technically indefensible in this setting, as they are not even reproducible (i.e. calibration performed by one person will not necessarily yield the same result if performed by another technician), hence they fail fundamental tests of science, that of reproducibility and verifiability. Formal methods exist for calibrating complex computational models, but there is no readily-apparent indication in the Draft EIR/EIS that any of these standard calibration measures were utilized.</p> <p>Second, calibration of a model is a necessary condition for its practical use, but it is certainly not a sufficient one: comprehensive sensitivity analyses for all relevant parameters and uncertainty quantification for both the computational model and its associated data should be developed before a model can be determined as sufficiently robust for practical use in society- critical venues such as the plans presented in the Draft EIR/EIS. Calibration of a model merely implies that the model has been tuned to a particular data set: it does not necessarily imply that the model is ready for broad use in society-critical settings, as that is the role of uncertainty quantification, validation, and verification. There are technically-sound methods available to demonstrate that a calibrated model can be trusted within a properly-calibrated range of expected use, but I could find no discussion of any of these methods in the EIR/EIS. This omission moves the modeling sections of the Draft EIR/EIS to a place well outside the state-of- practice mainstream for computational modeling in critical-infrastructure applications.</p>	<p>The CALSIM II model is not a calibrated model. Therefore, CALSIM II model must be used as a prospective and not predictive modeling tool. DSM2 and CVHM are calibrated models. However, because these models use CALSIM II model output, these tools are to be used to compare alternatives, and not to identify absolute values, as described in section, 4.3, Overview of Tools, Analytical Methods, and Applications, of this Final EIR/EIS. See Master Response 30 regarding modeling. More information on modeling can also be found in Appendix 5A of the Final EIR/EIS. Please also see appendix 7A, Groundwater Model Documentation.</p>
1657	22	Lack of uncertainty information is especially apparent in the seismic sections of the report, where the recommendation is made that uncertainty in analysis and design parameters should be minimized. Unfortunately, no feasible (i.e., cost-effective) strategies for realizing that goal are readily found in the plan, even though the cost of protecting such a large set of	See response to comment 1657-14 regarding seismic analysis.

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		<p>water- conveyance structures against all credible earthquake risks may prove to be astronomical. The plan promises that seismic risks will be addressed during the design and construction phases of the project, but also explicitly admits that no substantial efforts toward accurate identification of seismic risks yet exist within the plan's scope. Thus the costs of mitigating these risks is unknown from the outset, and any estimate of project cost must thus be considered to be a substantial underestimate of actual project lifespan costs.</p> <p>One of the worst cases of poor risk assessment in seismic sections of the report is the discussion of possible liquefaction effects. After a good introductory discussion of the natural phenomenon of liquefaction, the Draft EIR/EIS provides little in the way of realistic mitigation plans to handle the very-real risk that liquefaction could destroy the project once it is built (or even damage components of the system during construction). Mitigation schemes that might prove virtually impossible to implement in practice (e.g., removing liquefiable soil deposits and replacing them with more stable materials) for a project of this scale are mentioned, but accurate estimates of costs required to mitigate this particular seismic hazard are not readily apparent to the technically-informed reader of the Draft EIR/EIS.</p>	
1657	23	<p>Chapter 5 (water supply, potentially the most important aspect of the project) uses the term "uncertainty" twice in the chapter body (166 pages). The first use is fundamental, and demonstrates the all-important nature of the term: "Variability and uncertainty are the dominant characteristics of California's water resources." But unfortunately, no subsequent attempt is made in this chapter (and precious little in its appendices) to quantify these uncertainties and variabilities. Such a quantification of margins of uncertainty (QMU) is a difficult task, but it is not an intractable one, and this effort is well within the mainstream of computational modeling for everything from weather prediction to automotive design. So this quantification of uncertainty effort should be treated as an essential requirement for a project of this scale, and its omission is yet-one-more indication of the technical weakness of the Draft EIR/EIS.</p>	Please see response to comment 1657-20.
1657	24	<p>Validation results are primarily confined to tidal effects and to scenarios associated with climate change, which are important risk-management venues, but are hardly the primary focus of the plan. Validation is essential for modeling of subsurface structures, as the inelastic, stress- dependent, and hysteretic nature of soils often compromise the utility of traditional model verification methods. Yet there are apparently no validation measures applied to the components of the models used for subsurface effects (e.g., Chapters 7 and 9), and the term "validation" in general is used in the Draft EIR/EIS as an adjunct to calibration, instead of being treated as an essential component of establishing trust in a model.</p>	Please see responses to comments 1657-20 and 1657-21 regarding modeling.
1657	25	<p>Subsidence as the Achilles' Heel of the Project</p> <p>One particularly troubling sign of potential problems is found throughout Chapter 7 and its appendices, where it is asserted that the Central Valley Hydrologic Model can be used for modeling subsidence. Like its poromechanical cousin liquefaction, subsidence is an Achilles' Heel for this project, because this physical phenomenon has the potential to destroy the project's utility during construction and operation. This kind of single-point-physics existential risk to the project requires the best science and engineering analysis feasible with current technology, yet the Draft EIR/EIS provides only a minimal treatment of this vulnerability. To make matters worse, the fundamental scientific assumptions that form the foundation of the Draft EIR/EIS's assertions are not presented within the plan document, so</p>	<p>The CVHM model was used to simulate changes in groundwater elevation under the action alternatives as compared to the Existing Conditions and No Action Alternative in the San Joaquin Valley. The CVHM model was not directly used to simulate changes in subsidence conditions. In Chapter 7 of the EIR/EIS, it was noted that historically subsidence had occurred in areas with substantial long-term reductions in groundwater elevations; and it was indicated increased potential for long-term reductions in groundwater elevations could result in an increased potential for subsidence under some of the action alternatives as compared to conditions under the Existing Conditions and the No Action Alternative. Changes in subsidence due to construction in the Delta are described in Chapter 10 of the EIR/EIS.</p> <p>Please see responses to comments 1657-20 and 1657-21 regarding modeling. Also see Appendix 7A of the</p>

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		<p>an independent technical expert attempting to evaluate the accuracy of those assertions must consult the open literature and other available sources to perform a technically-defensible evaluation of the Draft EIR/EIS.</p> <p>The open literature on groundwater modeling has demonstrated that the one-dimensional methods used to estimate three-dimensional subsidence effects in CVHM (based on Helm's method from 1975 [footnote 2: Helm, D.C., "One-dimensional simulation of aquifer system compaction near Pixley, Calif. 1. Constant parameters"; Water Resources Research, 11, 465-478, 1975]) may provide acceptable results for overall land subsidence in a broad area, but yield inadequate and generally poor predictive results for local-scale hazards such those required for analysis of subsidence effects on engineered structures [footnote 3: Galloway, D.L, and M. Sneed, "Analysis and simulation of regional subsidence accompanying groundwater abstraction and compaction of susceptible aquifer systems in the USA"; Bulletin of the Geological Society of Mexico, Volume 65, Number 1, 123-136, 2013]. In particular, the methods used to predict subsidence effects in the CVHM appear to be practically incapable of predicting local differential settlement, and that is exactly the physical response that can compromise or destroy the operation of the tunnels and channels that permit the water transfers that form the heart of the Draft EIR/EIS. So the use of the subsidence idealizations found in CVHM is simply an inadequate means to assess subsidence risk for the project, much less to mitigate it.</p> <p>The fundamental problem here is that the basic assumptions for modeling groundwater flow in software tools such as CVHM all-too-often preclude accurate simulation of subsidence by assuming from the start that subsidence does not occur in an aquifer. The purpose of this mechanical over-idealization is to permit an especially simple mathematical formulation for porous-media flow that was arguably appropriate decades ago, when computers were expensive and slow, but that is technically unwarranted today, when computers are fast and relatively inexpensive. The extra work required to perform an accurate analysis using the relevant science commonly deployed in higher-fidelity aquifer simulations (e.g., aquifer simulations used in the fossil fuel extraction industries) is readily manageable when deployed on modern computational platforms, and most (if not all) of the model data obtained from well borings and similar data-gathering efforts could be re-used in these higher-fidelity model. So there is simply no excuse for the BDCP Draft EIR/EIS modeling efforts failing to utilize the appropriate scientific body of knowledge to assess subsidence risk.</p> <p>Worse still, the authors of the Draft EIR/EIS don't even mention these well-known improvements to their model, or how these techniques could provide much more accurate estimates of the likelihood that the entire system would even work in the presence of subsidence. The scientific field that underlies the prediction of subsidence is termed "poromechanics", yet this all-important term never appears in the many thousands of pages of the Draft EIR/EIS. This neglect of the well-established governing science is inexcusable, given the existential risk to the construction and operation of the water-conveyance systems that form the heart of the plan's long-term operation.</p> <p>It is important to note that these higher-fidelity poromechanics principles are not exactly new or little-known to practitioners in Civil Engineering. The relevant theory was developed by the famous geotechnical engineer Karl von Terzaghi [footnote 4: <a href="http://en.wikipedia.org/wiki/Karl_von_Terzaghi">http://en.wikipedia.org/wiki/Karl_von_Terzaghi</a>] in the 1930s (Terzaghi is widely known as "the father of soil mechanics") and further honed by Maurice Anthony Biot [footnote 5: <a href="http://en.wikipedia.org/wiki/Maurice_Biot">http://en.wikipedia.org/wiki/Maurice_Biot</a>] in the 1940s. For but one example,</p>	<p>Final EIR/EIS , Groundwater Model Documentation.</p>

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		<p>poromechanics simulation capabilities for clay, sand, and silt soil deposits that utilized Terzaghi's and Biot's scientific principles (and that were thus capable of higher-fidelity predictions of subsidence) were developed and deployed in the public domain through the efforts of faculty and students at the University of California, Davis, three decades ago [footnote 6: Mish, K.D., and Herrmann, L.R., "User's manual for SAC-3: a three-dimensional nonlinear, time dependent soil analysis code using the bounding surface plasticity model"; Naval Civil Engineering Laboratory Technical Report CR 8409, Port Hueneme, CA, 1983], so there is simply no excuse for not including these best-practices scientific models in current aquifer simulation tools such as CVHM. A project that will cost at least several tens of billions of dollars should be based on the best science available, and not on over-simplified idealizations that were long ago superseded by more accurate scientific principles.</p> <p>There does appear to be an emerging recognition in the hydrological modeling community that these higher-fidelity methods are warranted for use when natural systems (e.g., aquifers) are utilized to support engineered systems (e.g., water-conveyance infrastructure), but this recognition is not made explicit in the Draft EIR/EIS, and citizens should not have to pore through open-source documents trying to determine whether or not the Draft EIR/EIS's predictions of groundwater effects utilize the most accurate science available.</p> <p>The technical risks associated with this ambitious project, and the immense budget required for its construction and operation, clearly mandate that the best-available scientific principles be deployed and documented in all project artifacts, including the Draft EIR/EIS. It is technically indefensible that these principles (including all fundamental physical assumptions) are not readily available in the tens of thousands of pages of the Draft EIR/EIS, and the omission of the particulars of the science used to estimate these environmental effects precludes both accurate prediction of the environmental effects of this project, as well as independent technical verification of the claims made in the plan. Since independent verification is a fundamental hallmark of scientific investigation, the current version of the BDCP Draft EIR/EIS fails even this most basic test of science.</p>	
1657	26	<p>Problems with CalSim II</p> <p>If insufficiently-accurate modeling of subsidence is the Achilles' Heel of the Draft EIR/EIS, then a similar anatomical analogy might be proposed for the plan's broad use of the California Department of Water Resources' CalSim II computer model. CalSim II is used to evaluate the environmental effects of the various alternatives presented in the Draft EIR/EIS, and hence this software lies at the heart of the EIR/EIS. Unfortunately, CalSim II has a substantial set of its own technical weaknesses, so the Draft EIR/EIS suffers from heart problems as well as possessing an Achilles' Heel. The next several paragraphs outline some of the most substantial weaknesses of CalSim II, but many more can be found in the various peer review documents that have been generated and disseminated as part of the CalSim II development process [footnote 7: Close, A., Haneman, W.M., Labadie, J.W., Loucks, D.P., Lund, J.R., McKinney, D.C. and Stedinger, J.R., "A Strategic Review of CALSIM II and its Use for Water Planning, Management, and Operations in Central California", California Bay Delta Authority Science Program Association of Bay Governments, December 2003.; footnote 8: Arora, S. and Peterson L., "Peer Review Response: A Report by DWR/Reclamation in Reply to the Peer Review of the CalSim-II Model Sponsored by the CALFED Science Program In December 2003", California Department of Water Resources and U.S. Bureau of Reclamation, August, 2004; footnote 9: Ford, D., Grober, L., Lund, J.R., and D. McKinney, "Review Panel Report: San Joaquin River Valley CalSim II Model Review", CALFED Science Program -- California Water and Environment Modeling Forum, January 2006]. In the</p>	<p>Please see response to comment 1657-20 and response to comment 1657-21 regarding modeling.</p> <p>The CALSIM II model is a monthly hydrologic planning model and does not address soils resources, including seismic or liquefaction risks, which are addressed in Chapters 9 and 10 of the EIR/EIS. See Master Response 16 regarding seismic issues.</p> <p>A description of potential changes to groundwater due to the implementation of the action alternatives is provided in Chapter 7, Groundwater, of the EIR/EIS.</p>

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		<p>interest of simplicity, only a few key concerns about the suitability of the current version of CalSim will be presented here, but these should be sufficient to indicate that CalSim II does not yet warrant sufficient trust to justify its use for analysis of the alternatives that lie at the heart the water- transfer plan.</p> <p>Some of the most important problems with CalSim II include the following concerns, most of which have been cited here previously as serious limitations of the Draft EIR/EIS:</p> <ul style="list-style-type: none"> <li>--insufficiently-accurate assumptions underlying estimates of aquifer and groundwater response, including poor (or perhaps even nonexistent) characterizations of the risk of subsidence,</li> <li>--inattention to concerns of provenance of the input data used to generate results used for analysis of alternatives, and</li> <li>--lack of a sound technical basis for characterizing uncertainty in the model and in the input data.</li> </ul>	
1657	27	<p>This critique has already pointed out the need for higher-fidelity estimates of subsidence effects, because these effects have the potential to compromise the function of the proposed conveyance infrastructure. The peer-review documents cited above include only one single use of the word "subsidence", and that use occurs in association with a proposal to incorporate another DWR model (IGSM2) into CalSimII [footnote 10: Arora and Peterson, op. cit, page F-2]. Unfortunately, this model is not mentioned in the Draft EIR/EIS, so it is not clear whether its subsidence capabilities are employed in the Draft EIR/EIS's analysis of alternatives. And this question is rendered moot by the fact that attempts to learn (e.g., by reviewing various DWR open-source publications) whether IGSM2 even utilizes an accurate method for modeling subsidence prove unsuccessful. So it is not clear whether any of the analyses of alternatives presented in the Draft EIR/EIS include accurate modeling of the relevant physical effects that could characterize success or failure of the conveyance structures proposed in the EIR/EIS.</p> <p>The concerns of data provenance are more subtle, but they are equally important, and they lead to one of the continuing critiques of CalSim II made by the peer reviewers. The initial peer review effort identified a software quality problem [footnote 11: Close, et al, op. cit., page 8 and 58] with archiving of code and input datasets in CalSim II, a problem that is currently being remedied by the CalSim II developers, but which should never have occurred in the first place. That problem is one of establishing the all- important mapping between input data and the CalSim II results that are generated by those datasets. This mapping is termed data provenance.</p> <p>Provenance is a subtle concept, but it is fundamentally important, as anyone who has ever enjoyed watching an episode of the PBS television series "Antiques Roadshow" knows. A valuable antique, such as a painting by Monet, must be distinguished from a cheap imitation prepared by a forger by the process of examining the trail of custody of the antique. If a trusted mapping from the current owner of the antique back to the artist can be established, then the claim of value and authenticity is validated. If not, then the antique may prove to be worthless.</p> <p>Provenance is equally important in computational modeling, as input datasets contain the fundamental assumptions that generate computed results, which are then used to effect policy decisions, e.g., water transfers based on the computational simulation. If the chain of</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>The IGSM2 model has been superseded by the IWFM model. Portions of the information have been incorporated into CALSIM II. None of the subsidence models provide uniform coverage in the Delta. Subsidence in the Delta is not represented in the CVHM or CVHM-D models because the subsidence is more generally associated with peat oxidation and not collapse of groundwater aquifer layers. Overall, the CALSIM II, DSM2, and CVHM models are most appropriately used to analyze potential changes due to different operational assumptions for the SWP and CVP. However, as described in Appendix 5A and Appendix 7A of the EIR/EIS, these models cannot be used in a predictive manner to define absolute values. Rather, they must be used in a comparative manner to indicate basic changes between alternatives and to understand the changes that could occur from the Existing Conditions and the No Action Alternative. Please also see response to comment 1657-20 and response to comment 1657-21 for more information on modeling.</p>

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		<p>custody between the policy decision and the input data that generated the results that influenced that policy cannot be established, then the results (and the policy) cannot be trusted. So as in the world of antiques, provenance is a fundamentally-important requirement for computer analysis.</p> <p>Provenance is established in computer models by providing an appropriate form of configuration management for both the software source code, and for all the datasets used, both as input and as output. Normal software-quality-assurance practices would require that the mapping between input datasets and generated results be tested regularly (often daily), so that changes to the software do not cause deviations in the results. Such deviations could easily call into question the legitimacy of policy decisions made on the basis of these computations.</p> <p>The original 2003 review panel pointed out that CalSim II did not include such configuration management capabilities, and the CalSim II developer community agreed to remedy this substantial deviation from standard software quality practices [footnote 12: Arora and Peterson, op. cit, page 12]. CalSim II now includes some configuration management capabilities for input datasets, but it is not clear from the Draft EIR/EIS or from the various review documents how effectively these new data management capabilities are utilized. This problem alone causes serious concerns about whether the analyses of the various Draft EIR/EIS alternatives can be trusted. And this question of trust touches on another problem with CalSim II identified during the peer review process [footnote 13: Close, et al, op. cit, page 24, and Arora and Peterson, op. cit, page 17], namely that CalSim II analyses may not be repeatable, i.e., the results may be strongly dependent on the experience and personal preferences of the particular analysts carrying out the modeling, so that the computed results may not be objective. This opens the door to concerns that model results may be biased, either accidentally or intentionally. Thus there are serious limitations in how much the results of CalSim II can be trusted.</p> <p>The best way to remedy these problems is to provide open access to the computer model and to the input datasets used in the Draft EIR/EIS, so that a more diverse community of interested parties can evaluate the model and its data towards the goal of more accurate results. Another means to help remedy the problem of lack of trust in computed results is to utilize formal techniques to characterize uncertainty, so that the practical effect of potential analyst bias can be assessed to determine whether or not inter-analyst differences lead to substantial discrepancies in results. But as already mentioned in this critique, uncertainty characterization is lacking in the CalSim II effort, and while the various peer review documents consistently identify the need for better characterization of model uncertainty, it is not clear whether this improved uncertainty characterization has been implemented yet, which is yet-another factor that diminishes trust in CalSim II's key role in the evaluation of alternatives in the Draft EIR/EIS.</p> <p>The peer review documents also identify the potential for a completely-inaccurate assumption embedded in the groundwater modeling components of CalSim II [footnote 14: Close, et al, op. cit, page 8], and the CalSim II response to this criticism [footnote 15: Arora and Peterson, op. cit, page 7 and A-1 through A-3] is insufficient in technical detail to determine whether this inaccuracy is present or not. The criticism is based on an inherent assumption of simple porous-flow models, such as those used in CalSim II, namely that these models assume an infinite supply of usable groundwater available at the outer boundaries of the geographic domain modeled.</p>	

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		<p>A groundwater aquifer has physical limits, e.g., the alluvial deposits that store the water eventually reach bedrock, and hence the aquifer's capacity is limited by geologic constraints. But including these hard constraints into a porous-flow model is not trivial: in particular, the resulting modeling problem becomes nonlinear, and requires more complex solution techniques that require more computer resources. It is not clear from the Draft EIR/EIS's discussion of the modeling assumptions inherent in CalSim II, or from the various peer review documents, exactly how the CalSim II model incorporates these all-important constraints, and this type of potential limitation of the CalSim II model needs to be included in the Draft EIR/EIS groundwater modeling discussions, with due technical detail for how it is (or could be) overcome in practice.</p> <p>It is therefore apparent that too much uncertainty is present in the current Draft EIR/EIS document regarding the scope, technical basis, and practical utility of the CalSim II model to support due trust in this model for a project as large as that proposed in the BDCP Draft EIR/EIS. The current modeling assumptions and the software-engineering practices utilized to develop the CalSim II model should be vetted before a broader variety of independent technical experts before the citizens of California can fully trust these results.</p> <p>The current model is clearly "not ready for prime time", and future review teams should be enlarged to include independent experts in uncertainty quantification, software engineering, poromechanics, and operations research. Until the CalSim II model and its associated input data is reviewed by a wider community of independent experts, this computer tool simply does not warrant the trust placed in it via the Draft EIR/EIS.</p> <p>In short, the existing review processes cited are a good start, but they are still only that: a start.</p>	
1657	28	<p>Towards a Scientifically-Defensible Bay Delta Conversation Plan.</p> <p>I began my technical critique of the BDCP Draft EIR/EIS by stating the obvious:</p> <p>The Bay Delta Conservation Plan (BDCP) Draft EIR/EIS is an exhaustive document, but its emphasis is on quantity instead of quality.</p> <p>The means to remedy the myriad technical shortcomings of the plan is simple in theory and completely feasible in practice: all that is required is to improve the plan's quality so as to match its exhaustive quantity. In spite of its technical shortcomings, the plan includes many excellent references for assessment and mitigation of the natural and man-made risks inherent in its analysis, design, construction, and operation. All that is required to generate a technically- accurate version of the Draft EIR/EIS is for its authors to utilize those best-practices references (e.g., relevant codes for seismic design) to improve the estimates of costs and risk currently found in the plan, towards the goal of a technically-unimpeachable set of risk and cost estimates for the construction and operation of this ambitious project.</p> <p>Unfortunately, carrying out this more-accurate cost and risk assessment exercise will be an ambitious task, but it is a necessary one given that some of the risks short-changed by the current Draft EIR/EIS have the potential to render the proposed project scope unusable (e.g., differential settlement effects caused by liquefaction or subsidence) or prohibitively expensive. These risks alone warrant an accurate risk-management strategy, which the Draft EIR/EIS currently lacks.</p>	<p>This comment does not raise any specific issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</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>For information on funding, please see Master Response 5.</p>

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		But the citizens of the state of California deserve an accurate accounting of the technical and financial risks of this project before the project is initiated. The authors of this Draft EIR/EIS should return to the drawing board to develop accurate estimates of what this project will actually cost, and what natural risks and technical impediments must be overcome in construction and operation. The real costs, financial and environmental, of this project must be assessed before work is begun, not after, and the current Draft EIR/EIS simply does not make this assessment possible.	
1657	29	ATT4: Letter Entitled Subject: Comments on the Draft Environmental Assessment and Findings of No Significant Impact for the 2010-2011 Water Transfer Program	The comment describes an attachment to the comment letter. Please see response to comment 1657-2 and response to comment 1657-16 regarding comments related to this attachment.
1657	30	ATT5: Letter Entitled Subject: Scoping Comments and Questions regarding the Ten-Year, 600,000 Acre-Feet, North-to-South Water Transfer Program	The comment describes an attachment to the comment letter. Please see response to comment 1657-2 and response to comment 1657-16 regarding comments related to this attachment.
1657	31	ATT6: Letter Entitled Subject: Comments on the Draft Environmental Assessment and Findings of No Significant Impact for the 2010-2011 Water Transfer Program	The comment describes an attachment to the comment letter. Please see response to comment 1657-2 and response to comment 1657-16 regarding comments related to this attachment.
1657	32	ATT7: Letter Entitled Subject: Comments on the Draft Environmental Assessment/Initial Study 2014 San Luis and Delta Mendota Water Authority Water Transfers	The comment describes an attachment to the comment letter. Please see response to comment 1657-2 and response to comment 1657-16 regarding comments related to this attachment.
1658	1	<p>The Draft Plan does not improve Delta outflows over current degraded conditions. This inadequacy must be addressed in the Draft Plan and the DEIR/EIS.</p> <p>A broad range of federal and state agencies, including the United States Environmental Protection Agency (EPA), National Academy of Sciences' Natural Resource Council Committee on Sustainable Water Management in California's Bay-Delta, U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), State Water Resources Control Board (SWRCB), and California Department of Fish and Wildlife (CDFW) have stated that current Delta outflows are not adequate to maintain, recover or restore ecosystem processes and declining fish species in the San Francisco Bay- Delta Estuary. As recently stated by the EPA:</p> <p>"There is broad scientific agreement that existing Delta outflow conditions are insufficient for protecting the aquatic ecosystem and multiple fish species, and that both increased freshwater flows and aquatic habitat restoration are needed to restore ecosystem processes in the Bay Delta and protect threatened &amp; endangered fish populations." [Footnote 1: Federal Agency Comments Received on the Bay Delta Conservation Plan (BDCP) Second Administrative Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS), July 18, 2013.]</p> <p>Yet the BDCP does not propose to increase Delta outflows, and in fact decreases total outflows under certain operating scenarios. [Footnote 2: BDCP DEIR/EIS Chapter 6, Figures 6-8 through 6-23 and Mount et al. 2013, pp. 118-122.] Nor does the DEIR/EIS adequately address this significant adverse impact. The entire premise of the BDCP and DEIR/EIS is based on the assumption that extensive habitat restoration will successfully replace the need for increased freshwater flows to improve listed species. As noted in the DEIR/EIS, the benefit of this assumption to listed species is highly uncertain. The DEIR/EIS should provide an alternative with higher certainty of the benefit to listed species.</p> <p>In addition, because Fall X2 requirements from the 2008 USFWS Biological Opinion were excluded from the existing baseline conditions (EBC1 and EBC2), the comparison of EBC1 and EBC2 to the High-Outflow Operating Scenario or HOS (preferred project Alternative 4,</p>	<p>The preferred alternative, 4A, includes the Fall X2 criteria that is included in the current FWS BiOp. As such, there are no proposed changes to fall outflow. The CEQA baseline was established as the conditions at the time of the Notice of Preparation and at that time, hydrologic conditions had not triggered the Fall X2 action. However, the EIR/EIS adequately describes the differences in abiotic habitat for CEQA and NEPA and does not imply a benefit from implementing Fall X2 in the CEQA analysis and therefore is not skewed. Additionally, the preferred alternative does not rely on any habitat restoration to offset operational effects.</p> <p>As noted in the comment, the WQCP is in the process of being updated. Since this program is still under development and the potential outcomes are not known at this time, this program is not included in the analysis. However, it is expected that this update will occur well before operation of the preferred alternative. The preferred alternative will need to comply with the criteria set forth in the updated WQCP, including any changes in Delta outflow.</p> <p>Additionally, as described in Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, of the EIR/EIS, the range of alternatives provides a range of flow criteria, rates of diversion, and operational criteria. One of the potential alternatives considered in Appendix 3A was based upon the State Water Resources Control Board 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem. This potential alternative was not evaluated in detail because the flow recommendations in the 2010 report could not be achieved without adverse impacts to cold water management for fisheries in the Sacramento, Feather, and American rivers without reductions in non-SWP and non-CVP water rights diversions. The purpose and need of this EIR/EIS would not allow changes to non-SWP and non-CVP water rights. However, Alternatives 7 and 8 in the EIR/EIS reflect similar flow criteria in a manner that would only affect SWP and CVP water rights. Supplemental analysis conducted at the direction of the SWRCB staff is included as Appendix 5E.</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</p>

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		<p>scenarios H3 and H4) is skewed. The DEIR/EIS must incorporate Fall X2 requirements, upheld in March of this year, into existing baseline conditions and re-analyze these in comparison to the proposed operating scenarios. One of the primary claims of the BDCP is that spring and fall outflow would be higher under HOS than under current conditions; this may not be the case if the existing baseline conditions are adjusted to include Fall X2. The Low-Outflow Operating Scenario or LOS (preferred project Alternative 4, scenarios H1 and H2) does not include the Fall X2 requirements. These operating scenarios should be removed from consideration, or revised to include Fall X2.</p> <p>The Delta Reform Act and the Delta Plan call for updated flow objectives for the Delta. [Footnote 3: Delta Stewardship Council October 2011 e-newsletter.] These objectives are intended to be established through the State Water Resources Control Board’s updates to the San Francisco Bay-Sacramento/San Joaquin Delta Estuary Water Quality Control Plan (Bay- Delta WQCP), and should be used to guide the operating scenarios for Delta outflow in the BDCP. The DEIR/EIS needs to address how natural resources protection can be assured if the project is constructed prior to updating flow objectives.</p>	<p>(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>
1658	2	<p>The Draft Plan fails to fulfill the requirements of an Natural Community Conservation Plan/Habitat Conservation Plan to achieve conservation in the Plan Area, and instead may contribute to significant declines and potential extinction of several salmon runs and other native fisheries. The DEIR/EIS should be revised to reduce significant impacts to listed fish species, and include effective, proven measures to mitigate or reduce the significance of these impacts</p> <p>BDCP’s premise is to restore more natural flows to the Delta, but: 1) as mentioned above, it fails to increase Delta outflows and in fact increases exports under certain operating scenarios; and 2) creates new reverse flows in the North Delta and increases or maintains reverse flows in the South Delta during the critical spring period (April-May) and in drier years. [Footnote 4: Mount et al. 2013; BDCP DEIR/EIS Chapter 6, pp. 6-100]</p> <p>As analyzed by the independent expert review panel convened in 2013 by the Nature Conservancy and American Rivers, export reliability for the high outflow scenario is not substantially different from the No Action Alternative (NAA) while changes in outflow, even under the HOS, provide little ecological benefit: The NAA outperforms the HOS fifty percent of the time, and the HOS appears to only provide significant water supply benefits over the NAA in the wettest years. [Footnote 5: Mount et al. 2013, p. 25.]</p> <p>One of the objectives of the BDCP is to decrease exports during dry periods when impacts on the ecosystem are greatest. In comparison to the no project alternative, however, the new facility does not appear to significantly reduce pressure on the Delta during drier periods. If the BDCP’s premise is to contribute to recovery of listed smelt and salmonids, how much improvement can be expected given the continued reliance on South Delta export facilities in drier years? The Draft Plan proposes no solution to the South Delta facility entrainment problem other than reducing overall frequency of use. [Footnote 6: Environmental Water Caucus Comment Letter on the Bay Delta Conservation Plan and EIR/EIS, 2014, p. 56.] Entrainment on the South Delta pumps must be addressed in the BDCP as a condition of the permits.</p> <p>The new North Delta facility is predicted to have significant negative impacts on out-migrating juvenile winter-run and spring-run Chinook salmon through impingement, predation, increased transit time to the Delta, and increased risk of diversion into the interior Delta. [Footnote 7: Mount et al. 2013.] The reduction in suspended sediment</p>	<p>Mitigation proposed reduces the identified significant impacts to less than significant. It no longer includes a decision tree or associated HOS, but does include a robust collaborative science and adaptive management plan designed to better understand key scientific uncertainties pertaining to Delta fish and operations, and provides a mechanism for adjustments to operations to ensure that the effects of the CVP and SWP are minimized with the new point of diversion. Initial criteria included in the preferred alternative are those that reduce reliance on the south Delta facilities once the new NDD is operational, addressing the entrainment issues that have occurred in the south Delta for several fish species, while maintaining outflows consistent with the current BiOps.</p> <p>The Proposed Project would enable DWR to construct and operate new conveyance facilities that improve conditions for endangered and 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]). Implementing the conveyance facilities would help resolve many of the concerns with the current south Delta conveyance system, and would help reduce threats to endangered and threatened species in the Delta, including entrainment at the south Delta export facilities. For instance, implementing a dual conveyance system would align water operations, and their location, to better reflect natural seasonal flow patterns by creating new water diversions in the north Delta equipped with State-of-the-art fish screens, thus reducing reliance on south Delta exports during times of the year when listed aquatic species are present and most vulnerable. For more information on mitigation measures to minimize contraction and operational-related impacts to fish species, including Delta and longfin smelt, please see Chapter 11 of the Final EIR/EIS. Please see also Master Response 44 for discussion of the decision tree and Master Response 5 for BDCP effects analysis.</p> <p>Please see Master Response 31 for a discussion of the SWRCB flow criteria. The SWRCB’s flow criteria recommendations and how they were used to inform the planning process are discussed in detail in the Final EIR/EIS Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure I, and in Appendices 3I and 3J for further discussion of compliance with the Delta Reform Act.</p>

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		<p>delivery may also have a negative impact on delta smelt, which prefers sediment-laden waters. [Footnote 8: Wilcox and Gibbons, <a href="http://www.usgs.gov/blogs/features/usgs_top_story/travels-with-sediment-in-the-san-francisco-bay-delta-and-coastal-system/">http://www.usgs.gov/blogs/features/usgs_top_story/travels-with-sediment-in-the-san-francisco-bay-delta-and-coastal-system/</a>.] The potential for success of the proposed mitigation strategies is highly uncertain and have been characterized by scientific experts as "unlikely to contribute significantly to recovery of these species". [Footnote 9: Mount et al. 2013, p. 2.] The DEIR/EIS should address and justify the inclusion of this facility as a component of an HCP/NCCP in the light of these findings.</p>	
1658	3	<p>Impacts to areas downstream of the Plan Area, e.g., San Francisco Bay, are potentially significant and must be analyzed in the DEIR/EIS; mitigation measures should be identified as well</p> <p>The Delta Independent Science Board's review of the DEIR/EIS has found the document falls short of the "good enough" scientific standard, specifically in the neglect of possible impacts to such downstream areas as the San Francisco Bay. [Footnote 10] The justification for exclusion of the San Francisco Bay offered in the DEIR/EIS is questionable or missing. [Footnote 11] The Bay is hydrologically connected to the Delta, and the Bay and Delta together function as one estuarine system. Some possible impacts are identified but not analyzed; other impacts are absent from the document altogether.</p> <p>[Footnote 10: Delta Independent Science Board 2014, p. 3.]</p> <p>[Footnote 11: BDCP Draft Plan Chapter 4, p. 4-7 states: "Areas downstream of the Delta (e.g., San Pablo Bay, San Francisco Bay south to Golden Gate and Bay Bridge) were considered and were not included as a part of the BDCP's analysis. For additional discussion on this, see Appendix 5.C of the BDCP, Flow, Passage, Salinity, and Turbidity, Section 5C.5.2 Upstream Habitat Results." However, the referenced Appendix and its related documents contain no mention of San Francisco Bay.]</p>	<p>The 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 action alternatives would extend beyond the Plan Area. The analysis in the EIR/EIS includes impacts to Delta outflows, which ultimately reach the San Francisco Bay as well as impacts to Southern California and the San Joaquin Valley. In response to public comments, analysis of effects of the proposed projects on sediment loading and concentrations of constituents downstream of the Plan Area (i.e., in San Francisco Bay) were added to the RDEIR/SDEIS. See Chapter 8, Water Quality, and Chapter 11, Fish and Aquatic Resources, in the Final EIR/EIS. See also Appendix 8O in the Final EIR/EIS for San Francisco Bay analysis. For more information on the BDCP effects analysis and funding please see Master Response 5. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1658	4	<p>Sediment</p> <p>The BDCP DEIR/EIS has estimated a potential reduction of suspended sediment delivery to San Francisco Bay of approximately eight to ten percent. [Footnote 12: Helliker, Paul. Presentation to the San Francisco Bay Conservation and Development Commission (BCDC), February 20, 2014 and BCDC Staff Recommendation on Comments on the Bay Delta Conservation Plan Environmental Documents, May 23, 2014.] As stated by the Delta Independent Science Board, this is a potentially significant change that must be analyzed in the DEIR/EIS. [Footnote 13: Delta Independent Science Board 2014, p. 3.] Suspended sediment delivery to the San Francisco Bay has been declining for the past sixty years, and scientists have determined all parts of the Bay except for the South Bay to be net erosional in recent years. [Footnote 14: Barnard et al. 2013.] With climate change and associated sea level rise, further reductions in sediment delivery could have significant impacts on wetland restoration efforts, flood and erosion protection. Reduced sediment delivery will also reduce turbidity and increase the risk of nutrient loading problems and toxic algae blooms. [Footnote 15: Cloern et al. 2007.] The DEIR/EIS should address the importance of sediments in the Bay-Delta ecosystem and must include an analysis of how the proposed operations might affect sediment transport, delivery, and rate of deposition downstream.</p>	<p>The RDEIR/SDEIS includes an analysis of the potential changes in sediment load as a result of operations and restoration, applicable to each alternative. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1658	5	<p>San Francisco Bay Aquatic Species</p> <p>Aquatic species that use the lower salinity of San Francisco Bay as a nursery, such as</p>	<p>An RDEIR/SDEIS was developed and circulated in 2015, which included 3 new Alternatives including the new preferred alternative, 4A. New analyses for all alternatives, including 4A, pertaining to downstream effects were included in Section 11.3.5.4 of the RDEIR/SDEIS, New Impact Assessments for Restoration- and</p>

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		<p>Dungeness crab, Pacific herring, northern anchovy, and Bay shrimp, are not included in the DEIR/EIS analysis. In addition, freshwater inflows from the Delta are rich in nutrients and other food sources for fish in the Bay. San Francisco Bay inflows create brackish water habitats, provide transport flows for eggs, larvae and juveniles, and carry nutrients and other materials important for ecosystem productivity. The amount of nutrients in the Bay drives the food web and affects abundance of aquatic species. [Footnote 16: CDFW 1987, p. 25.] Large freshwater pulses through the estuary and Golden Gate help support the productivity of nearshore waters for Pacific Coast marine mammal and waterbird populations. An analysis of potential impacts to these species must be included in the Final EIR/EIS.</p>	<p>Operations-related Downstream Effects and Operations-related Contaminants (Impact AQUA-218), which concluded that the changes would not be adverse/less than significant. Section 11.3.5.2 Changed NEPA and/or CEQA Conclusions for Changed Analyses and Conclusions for Effects of Water Operations (CM1) included quantitative analysis of effects on Bay shrimp based on the X2-abundance relationship from Kimmerer et al. (2009). The same paper did not find a significant X2-abundance relationship for Pacific herring or northern anchovy, so there was no quantitative basis for assessment. We are unaware of quantitative relationships between Dungeness crab and freshwater inflow from the Delta; shifts in the ocean-atmosphere system appear important. The analyses from the RDEIR/SDEIS will be incorporated into the Final EIR/EIS. Effects to northern anchovy are also being assessed in the Essential Fish Habitat analysis being undertaken.</p>
1658	6	<p>San Francisco Bay Water Quality</p> <p>The further reduction of freshwater flows, particularly under the Low Outflow Scenario of the preferred project alternative, may increase the concentration and residence time of contaminants such as selenium in the North Bay. [Footnote 17: Linville et al. 2002.] Analysis of this potential impact has not been provided in the DEIR/EIS and must be included in the Final EIR/EIS.</p>	<p>See Chapter 8, Water Quality, and Appendix 8M of the Final EIR/EIS. Please see also Master Response 14 and Master Response 5. See also response to comment 1658-3.</p>
1658	7	<p>Certain water quality impacts within the entire Bay-Delta Estuary have been determined to be significant and unavoidable, yet no mitigation is proposed for these impacts. The DEIR/EIS should include changes to operational proposals and other feasible mitigation measures to reduce or avoid these significant water quality impacts.</p> <p>As mentioned previously, the Bay-Delta Water Quality Control Plan provides objectives for water quality under the direction of the Clean Water Act. The State Water Resources Control Board is in the midst of updating this plan and determining updated flow and salinity objectives that balance all beneficial uses of the system. Any management plan that violates current objectives must not proceed without adequate and specific mitigation measures.</p> <p>One of the most significant impacts to water quality results from decreased Delta outflow, either as the direct result of project operations or as the result of project operations combined with sea level rise. Decreased Delta outflow degrades water quality in the form of increases in chloride concentrations, salinity, and electrical conductivity (EC):</p> <p>Particularly in the west Delta, sea water intrusion as a result of sea level rise or decreased Delta outflow can increase the concentration of salts (bromide, chloride) and levels of electrical conductivity. Conversely, increased Delta outflow (e.g., as a result of Fall X2 operations in wet and above normal water years) will decrease levels of these constituents." [Footnote 18: BDCP DEIR/EIS Chapter 8, p. 8-226.]</p> <p>A straightforward solution exists by reducing the level of diversions proposed during dry or below normal years. We request that the DEIR/EIS be revised to include an alternative that would avoid significant adverse impacts by ensuring higher Delta outflows.</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. See tables in Appendices 8E through 8N for specific results related to various water quality constituents (including bromide and chloride).</p> <p>Impacts on Delta outflows (fresh water flowing to the Bay) are not significant. Model simulation results for the proposed project 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. 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 to beneficial uses of water, please see Master Response 34. See also Master Response 14.</p>
1658	8	<p>Chloride (WQ-7)</p> <p>Under the Preferred Alternative, chloride concentrations, as an indication of tidal intrusion, are anticipated to increase substantially in the Delta in violation of Bay-Delta Plan objectives, as stated in Chapter 8 of the DEIR/EIS:</p>	<p>Please refer to Master Response 14, Water Quality</p> <p>Please see Master Response 22, Mitigation. For more information regarding Significant and Unavoidable Impacts, please see Master Response 10.</p>

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		<p>"Relative to Existing Conditions, all of the Alternative 4 H1-H4 Scenarios would result in substantially increased chloride concentrations in the Delta such that frequency of exceeding the 150 mg/L Bay-1 Delta WQCP objective would approximately double." [Footnote 19: BDCP DEIR/EIS Chapter 8, p. 8-428.]</p> <p>Additionally, chloride is projected to increase in Suisun Marsh, with possible negative impacts to such aquatic wildlife as benthic macroinvertebrates and amphibians. No mitigation measures have been proposed for impacts to fish and wildlife in the Delta; those mitigation measures that have been proposed for impacts to Suisun Marsh remain uncertain and primarily consist of monitoring and consultation. No substantial, feasible, committed mitigation has been proposed to address these problems; as a result, these adverse impacts remain significant and unavoidable. These adverse impacts could be avoided with the release of higher Delta outflows</p>	
1658	9	<p>Salinity and Electrical Conductivity (WQ-11)</p> <p>The changes in Delta water export operations proposed by the preferred project alternative will result in violations of the Bay-Delta Water Quality Control Plan.</p> <p>Long-term average annual Delta outflow is anticipated to decrease under Alternative 4 by between 864 (scenario H1) and 5 TAF (scenario H4) relative to the No Action Alternative, due only to changes in operations.</p> <p>Relative to Existing Conditions, Alternative 4, Scenarios H1-H4, would result in an increase in the number of days the Bay-Delta WQCP EC objectives would be exceeded in the Sacramento River at Emmaton, San Joaquin River at San Andreas Landing and Prisoners Point, and Old River near Middle River and at Tracy Bridge (Appendix 8H, Table EC-4). The percent of days the Emmaton EC objective would be exceeded for the entire period modeled (1976-1991) would increase from 6% under Existing Conditions to 23-25%, depending on the operations scenario, and the percent of days out of compliance would increase from 11% under Existing Conditions to 35-38%, depending on the operations scenario. [Footnote 20: BDCP DEIR/EIS Chapter 8, p. 8-436.]</p> <p>The DEIR/EIS proposes to address this impact by requesting a move of the EC objective from Emmaton to Three Mile Slough, approximately 2.5 miles upstream. [Footnote 21: BDCP DEIR/EIS Chapter 8, p. 3-188.] Moving the compliance point to a more easily achieved location is not an acceptable means of addressing this degradation in water quality. Furthermore, this move requires approval from the State Water Resources Control Board, a substantial assumption given the multitude of factors that must be considered in making such a change. The DEIR/EIS should address the potential adverse impacts of this increase and provide a scenario that would reduce the number of days the objectives are exceeded without moving the compliance point.</p>	<p>Alternative 4A would have substantially less effect on Delta water quality such that significant impacts were only identified for electrical conductivity (EC) at Emmaton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based.</p> <p>Under the new preferred alternative and the associated water quality analysis within the Final EIR/EIS, the EC objective compliance point remains at Emmaton.</p> <p>Please also see the response to comment 1658-7.</p>
1658	10	<p>Methylmercury (WQ-13 and WQ-14)</p> <p>According to the DEIR/EIS, estimates of methylmercury concentrations in water and fish tissue as the result of CM1 (North Delta facility) operations were found to exceed Total Maximum Daily Load (TMDL) guidelines for the Delta. [Footnote 22: BDCP DEIR/EIS Chapter 8, p. 8-444] Total Maximum Daily Load guidelines are established through the Clean Water Act as a means to protect beneficial uses of water bodies. Any exceedance of a TMDL should be addressed through mitigation and in particular the cumulative impacts of exceeding TMDL standards should be addressed in the DEIR/EIS. Mitigation should be discussed and</p>	<p>Please refer to Master Response 14.</p>

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		include avoidance of the impact or additional measures. It is unacceptable that the DEIR/EIS analysis considers the change in concentrations to be small and therefore not an adverse impact.	
1658	11	<p>Selenium (WQ-18)</p> <p>As noted in the DEIR/EIS, the restoration of tidal wetland, freshwater marsh, and floodplain habitat is projected to degrade water quality by measurable levels on a long-term basis, causing the impairment of beneficial uses to be made worse. [Footnote 23: BDCP DEIR/EIS Chapter 8, p. 8-768.] Yet the conclusion is drawn that, relative to baseline conditions, all operational scenarios under the preferred project alternative would result in essentially no change in selenium concentrations throughout the Delta. [Footnote 24: BDCP DEIR/EIS Chapter 8, p. 8-474.] These conflicting statements are confusing at best, and indicate either a lack of sufficient analysis or adequate explanation of the potential degradation caused by the conservation measures. Selenium impacts are addressed in the Environmental Commitments through Avoidance and Minimization Measure 27 (AMM27), Selenium Management. AMM27 essentially consists of the commitment to manage water and vegetation levels as feasible, to reduce selenium concentrations, and to define adaptive management strategies that can be implemented as feasible. [Footnote 25: BDCP DEIR/EIS Chapter 8, pp. 8-473-474.] These types of activities are vague and provide little assurance that further water quality degradation will not occur. Where measurable water quality degradation is a potential outcome, the DEIR/EIS should define specific and definite environmental commitments to mitigate for this negative impact.</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.</p> <p>See Chapter 8, Water Quality, and associated appendices of the Final EIR/EIS. Please see also Master Response 14 and Master Response 5. Please see also Master Response 22 for discussion of environmental commitments. Please refer to Master Response 14 regarding water quality analyses and mitigation related to selenium issues.</p>
1658	12	<p>The Draft Plan fails to ensure funding for the conservation plan, as required by the Endangered Species Act and Natural Communities Conservation Planning Act, and it does not make an equitable commitment to the co-equal goals required under Delta Reform Act. These commitments must include financing, representative governance, and assurances for the completion of the non-facility conservation measures (CM2-CM22). The DEIR/EIS should be revised to ensure compliance with the Delta Reform Act through definite and specific commitments to protecting, restoring, and enhancing the Delta ecosystem.</p> <p>The stated premise of the BDCP is to meet the coequal goals of the Delta Reform Act by increasing water supply reliability and protection and restoration of the Delta ecosystem. {Footnote 26} Without an equitable commitment to financing and assurances, however, the likelihood of success of restoration efforts in the BDCP is highly uncertain. We acknowledge the inherent tension between the state-mandated coequal goals of water supply reliability and restoration; but the key to achieving balanced progress toward these goals is an equitable commitment of funding, governance, and assurances. We do not see that represented in the current draft of the BDCP or DEIR/EIS, nor does the DEIR/EIS provide convincing evidence that the BDCP will achieve the coequal goals.</p> <p><b>Funding</b></p> <p>Under the federal Endangered Species Act (ESA) and the state Natural Community Conservation Planning Act (NCCPA), Habitat Conservation Plans and Natural Community Conservation Plans must ensure that adequate funding is provided to carry out the conservation actions identified in the plan, including the sufficiency of mechanisms for long-term funding of all components of the plan and contingencies. [Footnote 27] Funding is not ensured for habitat restoration actions for the lifetime of the permit under the Public Draft of the BDCP. The Draft IA identifies three primary sources of funding for the project:</p>	<p>See response to comment 1658-11. Please also see Master Response 5 for discussion of funding and Master Response 31 and Appendices 3I and 3J of the Final EIR/EIS for discussion of conformity with the Delta Reform Act.</p>

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		<p>state and federal water contractors, state water bonds, and federal appropriations. [Footnote 28] These sources are far from ensured: reliance on voter approval of water bonds and the continuation of federal appropriations to fund the habitat restoration components of the project is highly uncertain in comparison to the funding identified for the construction of the new North Delta facilities (CM1). The DEIR/EIS must address this deficiency and its effect on the feasibility and certainty of the proposed measures to protect species.</p> <p>Finally, the California Water Action Plan released in January 2014 takes a vital step toward a sustainable, twenty-first century approach to water resources management. Yet the Public Draft BDCP does not reliably implement any of the priorities [Footnote 29] identified in the California Water Action Plan, indicating that the BDCP is neither a responsible management plan for the state's resources nor a wise investment of public funds.</p> <p>[Footnote 26: BDCP DEIR/EIS Executive Summary, p. ES-10.]</p> <p>[Footnote 27: National Wildlife Federation v. Babbitt, 128 F.Supp.2d 1274, District Court, ED California 2000, 1294-95; Sierra Club v. Babbitt, 15 F.Supp.2d 1274, 1282; Sierra Club v. Marsh, 816 F.2d 1376 (9th Cir. 1987). Habitat Conservation Planning Handbook, pp. 3-33 to 3-34. Natural Communities Conservation Planning Act of 2003, Section 2820 (a)(10).]</p> <p>[Footnote 28: Draft IA p. 45.]</p> <p>[Footnote 29: The priority actions identified in the California Water Action Plan are: 1. Make conservation a California way of life; 2. Increase regional self-reliance and integrated water management across all levels of government; 3. Achieve the co-equal goals for the Delta; 4. Protect and restore important ecosystems; 5. Manage and prepare for dry periods; 6. Expand water storage capacity and improve groundwater management; 7. Provide safe water for all communities; 8. Increase flood protection; 9. Increase operational and regulatory efficiency; 10. Identify sustainable and integrated financing opportunities (p. 4 of California Water Action Plan 2014).]</p>	
1658	13	<p>Governance</p> <p>Agencies, local governments, and advocates for natural resources need to have meaningful roles in the proposed governance structure to ensure that ecosystem restoration has coequal status under the BDCP. According to the Draft IA, the Adaptive Management Team will consist of the following voting members: representatives of DWR, USBR, a single representative each from Central Valley Project (CVP) and State Water Project (SWP) contractors, California Department of Fish and Wildlife, National Marine Fisheries Service, and US Fish and Wildlife Service. [Footnote 30: Draft IA p. 30 and Ebbin, personal communication.] This appears to total seven voting members, with the majority held by water suppliers. Thus, in difficult operational decisions, the structure of the Adaptive Management Team is weighted in favor of the water suppliers. The DEIR/EIS should address how this proposed governance structure can assure the protection of the state's water, species and other natural resources. We suggest adding a non-governmental representative for wildlife and natural resources.</p>	<p>This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). Implementing agreements are a requirement under the California Natural Community Conservation 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 detailed responses on the primary issues being raised with regard to governance structure in the IA, as well as a discussion of the current status of the IA, please see Master Response 5.</p>
1658	14	<p>Assurances</p> <p>The "no surprises" rule in a Habitat Conservation Plan (HCP) provides the applicants with regulatory assurance that applicants will not have to devote additional land, water, or</p>	<p>See response to comment 1658-13.</p>

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		<p>money to the project should unforeseen circumstances arise. In contrast, the assurance of Rough Proportionality provided in the Draft IA is vague and lacks a schedule to test for Rough Proportionality. Given the uncertainty of estuarine conditions over the next 50 years, specific regulatory assurances need to be provided to the public that mitigation and restoration will take place. Scenarios that would provide such assurances should be addressed. For example, if funding is not secured for needed habitat restoration, construction of the North Delta facilities must be suspended until funding is secured.</p>	
1658	15	<p>The BDCP relies too heavily on adaptive management as a tool to address uncertainty. This has the effect of further reducing assurance that project management and implementation will adequately protect natural resources. The adaptive management program needs further development and specificity, as noted by the Delta Independent Science Board (DISB)'s Review of the Draft DEIR/EIS, dated May 15, 2014: "The reviewed documents posit adaptive management of an uncertain future without examining plausible outcomes. The Draft BDCP presents adaptive management more as a notion than as a tested, problematic practice." (Footnote 31: Delta Independent Science Board 2014, Appendix A, p. 1.)</p>	<p>Please see Master Response 33 regarding monitoring and adaptive management. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.</p>
1658	16	<p>The BDCP does not reduce reliance on the Delta, as mandated by state law. The Draft Plan and DEIR/EIS should be revised to develop and analyze a proposed project and one or more alternatives that comply with this mandate.</p> <p>By maintaining or increasing current CVP and SWP exports from the Delta, the BDCP fails to reduce reliance on the Delta as mandated by the Delta Reform Act, Section 85021, which states, "The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency." We commend the authors of the California Water Action Plan for developing a suite of priority actions that implement this strategy. The current BDCP Draft Plan and DEIR/EIS do not contribute to these priority actions. Why should Californians dedicate substantial public funds to a plan that does not reduce reliance on the Delta and does not encourage the priority actions of the California Water Action Plan? The DEIR/EIS should provide a project alternative that reduces reliance on the Delta as part of the larger portfolio of actions that will help implement the California Water Action Plan.</p>	<p>For more information regarding the proposed project's compliance with the Delta Reform Act please see Master Response 31 and Appendices 3I and 3J of the Final EIR/EIS.</p> <p>Please see Master Response 4 for more information regarding the development of alternatives. 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. 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, Final EIR/EIS. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS.</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>For more information regarding purpose and need, please see Master Response 3.</p>
1658	17	<p>The BDCP is an ambitious attempt to address the Delta problem; however, the deficiencies identified here indicate that substantial improvement is needed. Many of these deficiencies are caused by the failure of the BDCP to improve timing and quantity of freshwater Delta outflows. A reduction in diversions would lessen many of the negative impacts of the proposed project. We look to the EIR/EIS revisions to provide additional information, alternatives, mitigation measures and water supply solutions that will maintain and improve our public trust resources.</p>	<p>See response to comment 1658-16. Please also see Master Response 5 for discussion of funding and Master Response 31 and Appendices 3I and 3J of the Final EIR/EIS for discussion of conformity with the Delta Reform Act.</p>

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		<p>By choosing to maintain an unsustainable reliance on the Delta over developing alternative water supply solutions, the BDCP proponents are creating a plan that is risky, financially unsupported, unlikely to succeed in meeting the coequal goals of the Delta Reform Act, and further threatens our already degraded natural resources. The collaborative capacity of the BDCP has not yet been used to find water supply solutions among the prospective permit-holders that would enable higher Delta outflows. Although Friends understands that this is technically outside the required scope of an HCP/NCCP, we believe that this is a lost opportunity to create a broadly supported plan.</p>	
1659	1	<p>Sanitation District's Delta Diablo's previous comments recommended consideration of potentially feasible and reasonable alternatives, including a western Delta brackish desalination facility. Initial feasibility and environmental studies on such a facility have been conducted, and our previous comments referenced these available studies (R.W. Beck, 2005 [Footnote 1]; Hanson Environmental, 2008 [Footnote 2]). It appears that the BDCP draft EIR/EIS considered a similar project, described as a San Joaquin River diversion near Antioch and desalination facilities with conveyance ("Initial Screening Conveyance Alternative B7", page 3A-12). However, the intake capacity considered in the draft EIR/EIS is so large (15,000 cubic feet per second (cfs)) that it easily justified rejection of the alternative during the screening process due to potential impacts (see draft EIR/EIS page 3A-49, lines 39-46; page 3A-50 lines 1-7; item 11 on Table 3A-2 on page 3A-102; item 11 on Table 3A-3 on page 3A-105; and item 11 on Table 3A-20.).</p> <p>[Footnote 1: R.W. Beck (2005, April). Northern Contra Costa County Feasibility Level Desalination Facility Cost. Retrieved July 23, 2014 from <a href="http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=375">http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=375</a>]</p> <p>[Footnote 2: Hanson Environmental (2008, July 18). Western Delta Brackish Desalination Study: An Assessment of the Potential Risk to Delta Smelt &amp; Other Sensitive Fish Species Inhabiting the Sacramento-San Joaquin Bay- Delta Estuary to Water Diversions &amp; Discharges Associated with a Potential Western Delta Desalination Facility to Provide New Water Supplies. Retrieved July 23, 2014 from <a href="http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=374">http://www.ddsd.org/Modules/ShowDocument.aspx?documentid=374</a>]</p>	<p>Regarding development of alternatives for the EIR/EIS, a description of the process the Lead Agencies followed to develop and screen alternatives are provided in Master Response 4. Please see Master Response 7, which describes why an alternative focused on desalination is not included in the EIR/EIS. Desalination is one strategy used in California to develop new supplies, yet it is not the primary solution for the State's water shortage due to many factors, including limited capacity and technology, high costs and energy demands, and regulatory uncertainty. All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.</p> <p>Please note that 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>
1659	2	<p>No explanation was found to explain why 15,000 cubic feet per second was used in the evaluation of Alternative B7, but of note is that the preferred alternative under California Environmental Quality Act (CEQA) (Alternative 4) assumes three new intakes with total capacity of 9,000 cfs, (page 3-13 lines 2-6), and that alternative had been downsized from an earlier proposal of 15,000 cfs (page 3-12, lines 16-18). The studies we referenced in our earlier comments assume initial pilot facilities (5-10 million gallons per day (mgd) production) with discussion of scaling up to a 50 mgd production facility or higher in the future. However, the largest capacity discussed in the Hanson Environmental (2008) report is 700 cfs, which is orders of magnitude lower than the 15,000 cfs that was assumed in the draft EIR/EIS and used as the basis for rejecting further evaluation of a western Delta desalination alternative.</p> <p>While 700 cfs capacity is significantly less than the preferred alternative, capacity alone is not a basis for rejecting further evaluation of an alternative. Consideration of an alternative with lower capacity is consistent with the project purpose, as stated on pages 2-5, lines 9-11: "Alternatives that depict design capacities or operational parameters that would result in deliveries of less than full contract amounts are consistent with this</p>	<p>Please see Master Response 4 for a 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.</p> <p>However, nothing in the proposed project would prevent other entities from pursuing innovative approaches to desalination or other water supply solutions. As described in Appendix 3A, Section 3A.7, Results of Initial Screening of Conveyance Alternatives, EIR/EIS (2013), desalination was included as part of Alternative B7. Issues related to desalination include land use impacts, costs, and substantial energy use requirements. Advances in technology have improved feasibility of desalination and as a statewide water use planning component; it will be evaluated by water agencies on a local/regional level.</p> <p>Desalination, the process of removing salt and other minerals from seawater to make it suitable for drinking or irrigation, is being implemented in several California communities. However, it has not proven viable to secure adequate water supplies to meet California's needs due to high costs and energy demands.</p> <p>Today, desalination creates an estimated 84,000 acre-feet of potable water a year in the state, mostly through treatment of brackish groundwater, which is less salty and cheaper to treat than sea water. In comparison, the proposed project would secure an estimated 4.7 to 5.2 million acre-feet of water to supply</p>

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		<p>purpose." Therefore, it appears inappropriate to screen Alternative B7 using an intake capacity that is orders of magnitude larger than considered in the studies we have referenced, and also 40% higher than the intake capacity evaluated for preferred Alternative 4.</p>	<p>more than 25 million people and 3 million acres of farmland.</p> <p>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. Local water agencies will need to invest in additional strategies and technologies, including desalination, to meet future water demand.</p> <p>The proposed project is one part of a diverse portfolio of strategies needed to meet California's overall water management needs. It is not a substitute for increased commitments to other water supply solutions, including recycling, desalination, water conservation and storage.</p> <p>Please see Master Response 7 regarding desalination.</p>
1659	3	<p>Another comment used to reject Alternative B7 from further consideration was the statement provided on Page 3A-50, lines 10-12: "Presence of delta smelt and longfin smelt in the western Delta during the period when high flows would occur in the Sacramento River could reduce the effectiveness of a western Delta intake". This is contrary to the referenced study by Hanson Environmental (2008, page 8) which states "Under higher flow years, both larvae of longfin smelt and delta smelt tend to occur in highest densities further downstream in the vicinity of Pittsburg." Based on this information, the Antioch area as referenced in Alternative B7 could be an effective location for a western Delta intake in order to minimize impacts to fish during high flows.</p> <p>Table 3A-2 provides a "not likely" assessment for Alternative B7 with regard to whether the alternative avoids or substantially lessens any of the expected significant effects, further stating that the western Delta intake could affect delta smelt populations through entrainment. However, the intake alternatives that were evaluated within this BDCP draft EIR/EIS state they would include "self-cleaning, positive barrier fish screens designed to be protective of salmonids and delta smelt" (page 3-26, lines 1-5). This is the same description provided in the referenced environmental study for a western Delta brackish desalination facility, along with a description of how it could be operated flexibly to reduce and avoid entrainment of larval fish (Hanson Environmental, 2008, page 11).</p>	<p>With respect to occurrence of longfin and delta smelt, the assessment noted that the occurrence could reduce the effectiveness of a western Delta intake, which is correct regardless of the center of abundance being downstream of the western Delta in higher flow years; there remains the potential for overlap. With respect to the "not likely" assessment for Conveyance Alternative B7, larval delta smelt could still be entrained by screens that are protective of delta smelt because of the mesh size, as discussed in Impact AQUA-3; however, the geographic overlap of Alternative B7 is considerably greater than for the Alternatives considered in the DEIR/EIS and the RDEIR/SDEIS that was developed and circulated in 2015, including 3 new alternatives; hence the conclusion of "not likely".</p>
1659	4	<p>Another conflicting statement in the BDCP draft EIR/EIS regarding Alternative B7 is found on page 3A-50, lines 12-14: "During July through November, salinity could be too high to [sic] for diversions from the western Delta, especially as sea level rise progresses through the end of the study period in 2060." Considering that alternative B7 involves desalination, the BDCP draft EIR/EIS presents an incorrect assessment. The value and advantage of the suggested desalination facility located in the western Delta would be the ability to accommodate flexible operations independent of the range of salinity conditions occurring within the source waters (Hanson, 2008, page 11). In addition, brackish desalination is a water supply alternative that can address salinity impacts from saltwater intrusion, levee failure, drought, or sea level rise.</p> <p>Table 3A-2 again cites the 15,000 cfs intake capacity for Alternative B7, stating it would require a three-mile shoreline intake and a desalination facility several square miles in size. It further states that the 15,000 cfs flows could result in substantial energy use and related greenhouse gas emissions. Apart from the unreasonable assumption of a 15,000 cfs intake addressed above, brackish desalination costs as presented by R.W. Beck (2005) may be 1/3 the cost of ocean desalination. In addition, more energy efficient desalination technologies are currently being developed, including forward osmosis, capacitive desalination, and other methods which have the potential to significantly reduce energy use</p>	<p>Project alternatives considered and analyzed are described in Chapter 3, and Appendix 3A of the Final EIR/EIS. Additional information regarding the feasibility of desalination please see Appendix on Demand Management and Master Response 7.</p> <p>Nothing in the proposed project would prevent other entities from pursuing innovative approaches to desalination or other water supply solutions. As described in Appendix 3A, Section 3A.7, Results of Initial Screening of Conveyance Alternatives, Draft EIR/EIS (2013), desalination was included as part of Alternative B7. Issues related to desalination include land use impacts, costs, and substantial energy use requirements. Advances in technology have improved feasibility of desalination and as a statewide water use planning component; it will be evaluated by water agencies on a local/regional level.</p> <p>Desalination, the process of removing salt and other minerals from seawater to make it suitable for drinking or irrigation, is being implemented in several California communities. However, it has not proven viable to secure adequate water supplies to meet California's needs due to high costs and energy demands.</p> <p>Today, desalination creates an estimated 84,000 acre-feet of potable water a year in the state, mostly through treatment of brackish groundwater, which is less salty and cheaper to treat than sea water. In comparison, the proposed project would secure an estimated 4.7 to 5.2 million acre-feet of water to supply</p>

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		(and project operation cost) over current state-of-the art technologies	<p>more than 25 million people and 3 million acres of farmland.</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>
1659	5	<p>From these statements in the BDCP draft EIR/EIS, it is apparent that Alternative B7 was not adequately evaluated or "carefully considered", as described in footnote 3 on page 3A-2. A brackish desalination facility located in the western Delta is consistent with the BDCP draft EIR/EIS purpose and need, and can improve water supply reliability. Alternative 4 in the draft EIR/EIS and Conservation Measure in the draft BDCP provide minimal to no relief or improvement with regard to the need to address declining water supply delivery volumes and water quality. In light of the current unprecedented drought in California, alternatives that address the project need and increase water supply should be considered. Consistent with our previous comments, all Delta solutions should be explored, including, but not limited to re-operation of the state and federal projects; decreasing water supply obligations through conservation, water transfers, and recycling; increased storage (above ground and groundwater); engineered solutions to redirect flows through above-ground and below-surface conveyance, and development of a new western Delta water supply which could directly supplement or replace portions of the water supply obligations of the State Water Project and/or Central Valley Project. A combination of these types of projects seems best suited to genuinely meet the project need identified in section 2.5 of Chapter 2 of the BDCP draft EIR/EIS. As the designation of a preferred CEQA alternative is tentative and is subject to change pending comments and public input (Page 3-4, lines 1-8), these alternatives warrant further consideration in the BDCP EIR/EIS.</p>	<p>However, nothing in the proposed project would prevent other entities from pursuing innovative approaches to desalination or other water supply solutions. As described in Appendix 3A, Section 3A.7, Results of Initial Screening of Conveyance Alternatives, EIR/EIS (2013), desalination was included as part of Alternative B7. Issues related to desalination include land use impacts, costs, and substantial energy use requirements. Advances in technology have improved feasibility of desalination and as a statewide water use planning component; it will be evaluated by water agencies on a local/regional level.</p> <p>Desalination, the process of removing salt and other minerals from seawater to make it suitable for drinking or irrigation, is being implemented in several California communities. However, it has not proven viable to secure adequate water supplies to meet California's needs due to high costs and energy demands.</p> <p>As described in the response to comment 1659-4, desalination creates an estimated 84,000 acre-feet of potable water a year in the state, mostly through treatment of brackish groundwater, which is less salty and cheaper to treat than sea water. In comparison, the proposed project would secure an estimated 4.7 to 5.2 million acre-feet of water to supply more than 25 million people and 3 million acres of farmland.</p> <p>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. Local water agencies will need to invest in additional strategies and technologies, including desalination, to meet future water demand.</p> <p>The proposed project is one part of a diverse portfolio of strategies needed to meet California's overall water management needs. It is not a substitute for increased commitments to other water supply solutions, including recycling, desalination, water conservation and storage.</p> <p>Please see Master Response 7 regarding desalination.</p>
1659	6	Att 1: Letter from Delta Diablo Sanitation District to Delta Stewardship Council, Dated January 14, 2013	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.
1659	7	Att 2: Letter from Delta Diablo Sanitation District to the Delta Stewardship Council, Dated June 30, 2011	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.

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1659	8	Att 3: Letter from Delta Diablo Sanitation District -- Comments on Notice of Preparation for the Draft Environmental Impact Report for the Delta Plan, Dated February 16, 2011	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.
1659	9	Att 4: Email from Delta Diablo Sanitation District Containing Comments for the BDCP Scoping Process, Dated May 14, 2009	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.
1659	10	Att 4: The concept of developing a new water supply in the western part of the Delta should be evaluated at an equal level of detail as any of the project concepts that involve moving water from the north around the Delta. A water supply project in the western part of the Delta allows the water to flow through the Delta and provide the necessary fishery benefits.	Please see Master Response 4 regarding the range of alternatives considered and evaluated.
1659	11	Att 5: Letter from Delta Diablo Sanitation District -- Comments on Notice of Preparation and Notice of Intent for the Bay Delta Conservation Plan Environmental Impact Report/Environmental Impact Statement, Dated May 30, 2008	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.
1659	12	[From Att 5:] Delta Diablo Sanitation District recognizes that there likely is not one individual solution that will adequately address the environmental challenges that the Delta faces. All solutions should be explored, including re-operations; decreasing water supply obligations through conservation, water transfers, and recycling increased storage; engineered solutions to redirect flows, etc. One solution that should be included in the planning and environmental review of the BDCP is the development of a new water supply from the western part of the Delta. Such a water supply could help relieve the Delta of its water supply obligations, as well as allow precious upstream reservoir releases to flow through the Delta prior to diversion.	As discussed in the response to comment 1659-4, 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. See also response to comment 1659-1 through 1659-5.
1659	13	[From Att 5:] Over the past three years, the Delta Diablo Sanitation District has completed feasibility level studies on locating a new fish friendly, high quality water supply project within the Delta Diablo Sanitation District service area. The project would divert water out of one or more of the existing water supply intakes owned by others within the District's service area, and utilize advanced treatment to convert the brackish water from the western part of the Delta into a high quality water supply for urban or agricultural purposes. The District is located within an industrial corridor and has several publicly owned assets that could be utilized in the development of a new water supply project, including land and outfall capacity. The studies are in the process of being shared with the local water agencies. DDSD understands that at least one of the agencies, Dublin San Ramon Services District (DSRSD), has sent a scoping letter in with a request to include a western Delta brackish water supply in BDCP planning and environmental review process. This letter outlines the conclusions of the studies completed to date, and invites further exploration of a new water supply project that could provide direct relief of the Delta water supply obligations shared by the state and federal projects.	See response to Comment 1659-12.
1659	14	[From Att 5:] The feasibility level studies the District has completed include a fisheries study and a technical feasibility study that includes cost estimates (copies are available upon request). The studies provide the following conclusions:  Location of a brackish desalination plant in the western portion of the Delta costs only a third in terms of energy and dollar costs compared to developing a desalination project in the San Francisco Bay or the Pacific Ocean. The main reason this is true is because the salinity fluctuations are a third or less than the other two water sources (i.e., the TDS in the	See response to Comment 1659-12. See also Master Response 7, Desalination.

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		<p>western Delta ranges from 500 mg/l to 14,000 mg/l, while the Bay and Ocean TDS are 30,000 mg/l). Depending on the partners investing in the project, the cost to construct and operate a project varies from approximately \$500/acre-foot to \$900/acre-foot.</p> <p>The water from a brackish water desalination facility can be treated to any level desired, from bottled water quality for human consumption to a very much improved low salinity water supply for agricultural purposes. Generating and utilizing a high quality, low salinity water source helps to decrease the salinity levels in outfalls and/or runoff.</p> <p>A new intake in the western part of the Delta can be operated in a fish friendly way by installing state-of-the-art fish screens, and avoiding pumping periods when protected aquatic species cannot be adequately screened (i.e., during the egg and larvae stage).</p> <p>Brine disposal is feasible in the western portion of the Delta by exporting the brine further to the west where salinity levels raise dramatically as the Delta empties into the Bay (i.e., a desalination project does not add mass, but does increase concentration).</p> <p>A brackish desalination project is scalable in the western portion of the Delta and could be considered as a supplemental water supply for the Bay Area, or a water supply component for other water users of the State and Federal water projects. Preliminary capital cost estimates (completed in 2006) indicate that a five million gallon per day (MGD) project could be constructed for approximately \$25 million, a 50 MGD project for \$250 million; up to a million acre-foot/year project for \$3.5 billion. A major benefit of a brackish desalination project in the western Delta is that it is drought proof, and requires no new storage.</p> <p>While Bay or ocean desalination projects are considered energy intensive, brackish desalination projects use much less energy. For example, the energy required to treat brackish waters in the western Delta, plus the pumping required to deliver the water to Southern California in less than an ocean desalination arid delivery project located in Southern California</p> <p>A brackish desalination project located in the western portion of the Delta is in close proximity to major water conveyance facilities owned by Bay Area water utilities (approximately one mile), and could be used to deliver water to over five million Bay Area residents. In addition, the western Delta water supply is located approximately 20 miles from the state and federal pumping facilities.</p>	