DEIRS Ltr#	Cmt#	Comment	Response
1630	1	El Dorado Water & Power Authority ("EDWPA") is a joint exercise of powers agency comprised of the County of El Dorado, El Dorado County Water Agency, and El Dorado Irrigation District. EDWPA was formed in order to secure a reliable water supply that would meet the needs of the residents, farms and businesses on the western slope of the Sierras within the County while, at the same time, preserving the environment that makes El Dorado County unique. In this way, EDWPA is firmly committed to achieving the "co-equal goals" of water supply reliability and ecosystem restoration that were adopted by the Legislature in the Delta Reform Act. EDWPA has reviewed the Draft Bay Delta Conservation Plan ("BDCP" or "Plan") and the accompanying Draft Environmental Impact Report/Environmental Impact Statement ("EIR/EIS") that were released for public review last December. Because the BDCP states that the Plan and supporting documents are incorporated into the EIR/EIS, our comments on the BDCP should also be considered comments on the EIR/EIS. EDWPA hereby incorporates by reference and joins the comments on the Plan and EIR/EIS submitted by the North State Water Alliance (including all attachments to those comments) dated July 28, 2014 as though fully stated herein.	Please see responses to comment letter 1597.
1630	2	El Dorado Water and Power Authority notes that it has pending before the State Water Resources Control Board a petition to assign up to 40,000 acre-feet/year from the State of California for use within El Dorado County. This petition was made under the auspices of the "area of origin statutes" and so, if granted, would have a water right priority that is senior to the water rights that would be used as part of the BDCP. The Plan and the accompanying EIR/EIS are replete with statements to the effect that the BDCP will not interfere with any other agency's water rights, that the BDCP will fully respect California water law, and that the BDCP will not "redirect" impacts to upstream areas. EDWPA takes those statements very seriously. We would appreciate a simple and clear statement in the Final EIR/EIS and/or in the Final Plan indicating that the Department of Water Resources and the U.S. Bureau of Reclamation, as well as their respective contractors, will not challenge or object to the pending EDWPA petition.	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. Please see Master Response 32, Water Rights and Master Response 26, Changes in Delta Exports. The comment related to EDWPA's petition related to this EIR/EIS does not raised an environmental issue but will be considered in preparing the final EIR/EIS.
1631	1	The EIR/EIS often refers to modeled habitat when referring to impacts to or special-status species. However, the "models" are nothing more than GIS map layers of vegetation cover that someone classified into "natural communities" and onto which someone applied habitat suitability ratings. The modeling was explained in the Bay Delta Conservation Plan, Chapter 5 and Appendix 5J, but details were missing on who took these steps and at what resolution habitat suitability ratings were applied. The modeling was very simplistic and highly dependent on untested assumptions. According to the BDCP (page 5.2-23), habitat areas were weighted for suitability by using a rating approach known as a Habitat Suitability Index, or HSI. However, none of these weightings were shared in the BDCP or the EIR/EIS or any of the accompanying documents, as far as I could determine. As far as I can tell, some anonymous person(s) assigned HSI values to acreages within the study area for each special-status species, but did not explain the reasons for HSI assignments. The modeling appears to be a black box that the public is expected to trust. Having performed indicator-level assessments myself, I do not trust unidentified personnel to have accurately and consistently assigned habitat values to lands throughout the study area on behalf of special-status species. Not only does this approach misrepresent the operational terms used by ecologists and wildlife biologists, as explained below, but it lacks transparency and conveys over-confidence in	See Appendix A of the BDCP, Species Accounts, for detailed descriptions of the habitat models. This includes descriptions of habitat suitability for species where this was used. The species models included detailed vegetation and long cover mapping (not always lumped into natural communities) and other parameters such as range, elevation, soils, and proximity to other land cover types. The models were developed based on habitat affiliations as determined through expert opinion and scientific literature. Furthermore, the project involves ground trothing and accounting for actual impacts during implementation. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		the results. I have performed similar assessments using GIS, including what used to be the foundation of the Yolo County Habitat Conservation Plan before it transitioned into the Yolo County Natural Heritage Program (Smallwood et al. 1998). A key difference between what I did and what has been done in the BDCP is that my characterizations of "ecological integrity" and "conservation opportunity" were intended to identify the places in the study area where mitigation might achieve the greatest gains, whereas the mapping of "habitat" in the BDCP was intended to estimate both project impacts and conservation benefits on a balance sheet. I made no attempt quantify impacts or conservation benefits with such indicator-level maps because doing so would have been scientifically indefensible and legally inappropriate. The BDCP approach was scientifically indefensible and legally inappropriate, and just downright misleading, as I will explain.	
1631	2	The BDCP has misapplied operational terms from the fields of ecology and wildlife biology to minimize project impacts and to maximize predictions of conservation benefits. For example, natural communities are defined by ecologists as associations of interacting populations, usually defined by the nature of their interaction or the place in which they live. Ecologists delineate and characterize natural communities by studying species' interactions within defined areas or within sampling plots, and then they compare what they find by using a suite of metrics. The BDCP's use of the term is a vegetation cover type that is readily recognizable by someone viewing aerial photos (e.g., cultivated versus riparian versus grassland) and that is bounded by digital lines that are rarely if ever seen by ecologists when considering natural communities. The BDCP's use of the term is a distortion of the term's original meaning, and results in a convenient tool for eliminating all of the beautiful complexity of species' interactions that are intrinsic to each place. Yes, there are species' interactions that transcend a place and that can be found commonly in other environmental settings that appear similar to a particular place, but there are many more unique interactions -- species' interactions that will be found no place else. The BDCP's use of the term, natural communities, glosses over this intrinsic value and so diminishes the project's impacts on, for example, vernal pools and their special-status species assemblage by lumping the vernal pools in the project's path with those far away on the outer fringe of the project's vast study area.	Commenter's opinions on ecological semantics are noted. The draft BDCP contains a glossary defining the terms discussed. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1631	2	Another term misapplied in the BDCP was habitat restoration. To improve its balance sheet of project impacts against conservation benefits, the BDCP relied heavily on habitat restoration, which was never defined in terms of individuals or breeding pairs of the special-status species that are supposed to benefit from habitat restoration. The balance sheet's metric was acreage, so the BDCP assumed that restoring an acre of a given natural community would equal the habitat value of that same natural community that was destroyed by the project. This assumption would be inconsistent with both the terms habitat and habitat restoration. According to the BDCP's assumptions and approach, habitat is defined by people on behalf of the species at issue, whereas wildlife biologists and ecologists define habitat as that portion of the environment used by the species. Ecologists and wildlife biologists do not attempt to inform the species of its habitat, but rather allow the species to inform us. We, as ecologists, measure the distribution and abundance of biological species and relate those measurements to our measures of other environmental variables so that we can infer the species' habitat affinities (Smallwood 2002). Habitat restoration is therefore an attempt to reproduce the environmental conditions that matched our inferences of the species' habitat, so that we can restore the distribution, abundance and social interactions that normally would occupy such	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		conditions (Smallwood 2001). The BDCP's characterization of habitat restoration lacked measurable thresholds of success in terms of the species' use the environment. In my experience this approach will not work. Habitat restoration is also specific to the places where habitat was destroyed, but the BDCP generally conflates its plan to "create" habitat in other locations with the concept of habitat restoration. Creating habitat at Site B to replace habitat destroyed at Site A will not truly restore the destroyed habitat because it is in the wrong place. There is no chance that habitat can be restored at a different place from where individuals of a particular special-status species used to live. Furthermore, creating habitat at Site B will likely result in destroying or degrading the habitat of individuals already occurring at Site B unless the conditions at Site B were so degraded that the enhancements would benefit the local individuals of the species. But proceeding with habitat restoration, habitat creation, habitat enhancements, or whatever the BDCP wants to call it, would be irresponsible without first demonstrating that the conservation site is in need of the action and will measurably benefit the special-status species at issue.	
1631	3	BDCP is Premature Pending State Water Board Delta Flow Needs Golden Gate Salmon Association (GGSA) believes that the BDCP cannot be accurately planned, sized or designed until the State Water Board first concludes its Delta outflow determination. Only then will we all know what water may or may not be surplus to basic environmental needs and potentially available for export in a new conveyance. Planning a new conveyance based on delivering a target volume of water far greater than what the environment can withstand is not an approach GGSA supports. GGSA agrees with the comment from Friends of the River regarding this issue made in a letter sent June 4, 2013: The Delta Reform Act requires in pertinent part that "For the purpose of informing planning decisions for the Delta Plan and the Bay Delta Conservation Plan, the board [State Water Resources Control Board] shall, pursuant to its public trust obligations, develop flow criteria for the Delta ecosystem necessary to protect public trust resources. In carrying out this section, the board shall review existing water quality objectives and use the best available scientific information. The flow criteria for the Delta ecosystem shall include the volume, quality, and timing of water necessary for the Delta ecosystem under different conditions." California Water Code [Section] 85086 (c)(1)(emphasis added).	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis.Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered. 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. The Draft BDCP 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 Final EIR/EIS. The proposed project does not have target volumes, but rather delivers water up to the existing water rights as limited by permits for the SWP and CVP issued by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and State Department of Fish and Wildlife. Please see Master Response 26.
1631	4	Swainson's hawks are known to nest in the highest densities within the central portion of the Central Valley, closer to the Sacramento River as it flows into the Delta. The riparian forest in the extreme western portion of the BDCP study area should not be given the same value as the riparian forest nearest the north-south axis of the Central Valley. In another example, giant garter snakes also occur near the north-south axis of the Central Valley, so the BDCP's balance sheet should not give equal weight to the wetlands and grasslands in the extreme western portion of the study area as compared to those that are going to be destroyed by the project. The same would be true for sandhill cranes and probably many other special-status species. Even very close to the site of project impacts, habitat restoration can often fail. I helped	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered. 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

DEIRS Ltr#	Cmt#	Comment	Response
		"restore" habitat of Valley Elderberry Longhorn Beetle (VELB) in what appeared to be a perfect setting from our point of view (Morrison et al. 2003). Along the Merced River near Livingston, California, we translocated mature elderberry shrubs with bore holes made by the beetle, so we knew that we had inoculated the restored site with not only the beetle's key plant species but probably with the beetle itself. We managed and monitored the site for three years using the US Fish and Wildlife Service protocol. Whereas the elderberry shrubs thrived, the VELB failed to occupy the site (an all-too common outcome). Using the BDCP's acreage metric for its balance sheet, we can say we succeeded in restoring habitat of the beetle and having achieved no net loss of VELB habitat, but from the species point of view we failed. This is what is going to transpire writ large if the BDCP's impacts and mitigation approach is allowed to proceed. Returning to my earlier caveat that habitat restoration should be regarded as legitimate only where the special-status species was known to occur but where habitat conditions had deteriorated, I must add another caveat. One of my efforts to restore habitat was directed toward the Fresno kangaroo rat (Dipodomys nitratoides) in a grassland environment over 14 years. Even though Fresno kangaroo rats resided on this grassland, it proved extremely difficult to identify the environmental resources that the species used to rely on before conditions degraded to the level that existed when I began my restoration efforts. It was unknown which food plants were preferred by the species, or whether the varieties of these food plants continued to exist or had gone extinct. We surmised that the species was disturbance-adapted, but we could not determine the nature of the disturbances upon which the species thrived because those disturbances had disappeared from the landscape for a century or longer. In my experience, it is impossible to truly restore the habitat of any special-status species. Nevertheless, sufficient resources should be directed toward efforts to learn which resources are missing from the species' environment, and these efforts should be made using appropriate experimental designs. Without detailing appropriate experimental design and promising sufficient resources, it is misleading to promise habitat restoration over vast acreages for multiple species.	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.
1631	5	Even worse than promising habitat restoration in the wrong places or without proper experimental design and other resources, would be efforts to restore habitat on piles of bore spoils. I did not see where the EIR/EIS stated that habitat restoration would be attempted on bore spoils, but neither did I see it stated that this would not happen. In fact, the bore spoils were referred to as "Reusable Tunnel Material," which could conceivably mean reusable as acreage for habitat restoration. The EIR/EIS (page 12-139) admitted to having no willing sellers of land that would be used for habitat restoration, so it seems plausible that the Reusable Tunnel Material Areas would be targeted for habitat restoration. Attempting habitat restoration on bore spoils would certainly fail because the soils would be unsuitable for growing the appropriate plants, and because the ground elevation would be eight to ten feet higher than the original ground elevation, so would experience a new, different suite of ecosystem processes. Having performed surveys for wildlife in many environmental settings, such as on silt-filled gravel-mining pits that were retired from mining since one to thirty years earlier, and having intensively studied fossorial mammal ecology, I can predict with considerable certainty that using bore spoils as the substrate for habitat restoration would result in anemic environments of low species diversity. The Reusable Tunnel Material Areas should be regarded as areas of permanent direct impacts, and as having no potential for habitat restoration.	The commenter requests that RTM areas be regarded as areas of permanent direct impact and not be used for restoration. The Draft EIR/EIS says the following in regard to RTM areas starting on line 6 on page 12-137: Development and use of reusable tunnel material (RTM) storage sites have been characterized as permanent losses of biological resources because of the uncertainty of replacing the resource and the length of time between the loss of the resource and the first opportunity to restore or replace the resource after dewatering and chemical characterization of the RTM (as much as 5 to 10 years). The RTM areas are not planned for restoration that would be credited as part of the BDCP, or any other alternative. As stated on lines 12-19 on page 12-137 of the Draft EIR/EIS, RTM will be removed from storage areas and stockpiled topsoil from the RTM areas would be reapplied and disturbed areas would be returned as near as feasible to preconstruction conditions. No changed to the EIR/EIS was made in response to this comment.

DEIRS Ltr#	Cmt#	Comment	Response
1631	6	Lack of Precautionary Principle The foremost principle of impacts assessment and of risk analysis in general is the Precautionary Principle. In the face of high uncertainty when assessing impacts to rare environmental resources, the accepted standard is to err on the side of caution (National Research Council 1986, Shrader-Frechette and McCoy 1992, O'Brien 2000). Instead of adopting the Precautionary Principle in its impacts assessment, however, the EIR/EIS relied on assumptions and an assessment approach that glossed over likely project impacts and exaggerated the conservation benefits of its proposed mitigation measures. One assessment approach that was contrary to the Precautionary Principle was relating the acreages of habitat impacts to the alleged availability of those habitats across the vast extent of the study area. For example, according to the EIR/EIS (page 12-2046), "The loss of this combined 403 acres [of vernal pools] would represent approximately 3% of the 12,133 acres of the community that is mapped in the study area." This conclusion was misleading because most of the vernal pools in the study area are part of the Jepson Prairie complex, which is far from the vernal pools that will be destroyed and which support a different set of special-status species. The impact metric should not have been 3% of the mapped vernal pool acreage in the study area, but rather 100% of the 403 acres that would be destroyed by the project. Following up on this same example, the EIR/EIS (page 12-2048) claimed, "However, 600 acres [of vernal pools] would be protected (CM3) and up 19 to 67 acres would be restored (CM9) through the course of Alternative 4 implementation." A precautionary approach would have assumed that, unfortunately, it would be unrealistic to expect that the destroyed vernal pools could be restored, so there would be no claim that 19 to 67 acres over vernal pools would be restored. A precautionary approach would also reveal whether there are 600 acres of vernal pools in need of protection (that are not already protected), and that if there are this many acres, then there are willing sellers of fee title or conservation easements on the acreage. The Precautionary Principle would also include appropriate assignments of uncertainty to impacts conclusions and to assumptions underlying the impacts assessment. For example, none of the habitat models appeared to be accompanied by any statements of uncertainty. The model output, which consisted merely of some unidentified person(s) assignment of HSI ratings to digitized GIS map layers of vegetation cover, was either habitat or not habitat, or "high value" habitat or "low value" habitat, or "primary" habitat or "secondary" habitat, judging from the figures in chapter 12. With these designations, there were no error terms, no confidence ranges, nor any cautionary statements warning that the designations could be wrong sometimes. The habitat models, which appeared to be derived from a black box, were presented as 100% accurate.	The commenter's opinion is that the EIR/EIS relied on assumptions and an assessment approach that glossed over likely project impacts and exaggerated the conservation benefits of its proposed mitigation measures. As an example, the commenter states that the analysis of effects on modeled vernal pool crustacean habitat under Alternative 4 did not "err on the side of caution" when it states on page 12-2046 that the loss of 403 acres of vernal pool complex (which includes vernal pools and associated uplands) represents 3% of vernal pool complex in the study area. This information was intended to provide context for the loss relative to what is in the study area and is not used alone as the basis of any conclusions. Furthermore, the impacts to vernal pool complexes from CM4 Tidal Restoration, which account for 372 acres of the 403 acres of estimated loss, as stated on lines 13-18 on page 12-2047 of the Draft EIR/EIS, would likely be in Conservation Zones 1 and 11. Conservation Zones 1 and 11, contrary to the commenter's statement, are in fact the two Conservation Zones that include and border portions of Jepson Prairie. The commenter questions whether 67 acres of vernal pool complex could be restored and whether there are 600 acres of vernal pool complex available for protection in the Plan Area (this discussion is on vernal pool complex, which includes wetted vernal pool acreage as well as supporting uplands and not only vernal pools). The commenter incorrectly states that on page 12-2048 of the Draft EIR/EIS that it says "19 to 67 acre would be restored". The text actually says "67 acres would be restored" and it is presumed the commenter inadvertently included the line number "19" that appears along the left page margin of the Draft EIR/EIS. The commenter states that the EIR/EIS should have assumed that 67 acres of vernal pool complex restoration is unrealistic. Other than this statement, the commenter does not provide specific rational as to why restoration should be assumed to be unrealistic other than erring on the side of caution. On page 12D-24 in Appendix 12D, which contains the analysis of feasibility for implementing the BDCP conservation measures, 556 acres of grasslands on non-conservation lands where identified with soils potentially suitable for vernal pool restoration within Conservation Zones 1, 8, and 11. The identified need (67 acres) represents 12% of suitable non-conservation land in the Plan Area. The commenter is directed to Master Response 5 for a discussion on the feasibility of restoration and willing sellers. Regarding the availability of 600 acres of vernal pool complex for protection, the analysis in Appendix 12D notes that there are 4,842 acres of existing vernal pool complex that was not yet under conservation within the Plan Area (line 5 on page 12D-18 in Appendix 12D of the Draft EIR/EIS). The conservation target of 600 acres represents 12% of these lands. Section 12.3.2.5 (starting on page 12-149 of the Draft EIR/EIS) outlines the methods used in the EIR/EIS to consider the ability of the BDCP's conservation measures and AMMs to lessen significant adverse effects to terrestrial biological resources. No changes have been made to the EIR/EIS in response to this comment. The commenter offers their opinion that the habitat models used in the BDCP are not accompanied by any statement of uncertainty, appear to be derived from a "black box", and are presented as 100% accurate. Chapter 12 of the Draft EIR/EIS refers the reader to BDCP Appendix 2.A, Covered Species Accounts, for a description of how the models were developed and notes starting on line 22, page 12-140 of the Draft EIR/EIS that the species models were reviewed by the EIR/EIS lead agencies (DWR and USFWS) and CDFW, and that the models have "limitations in their ability to estimate habitat area with precision". Section 2A.0.1.7 of Appendix 2.A of the BDCP describes the general approach to developing the models, which includes a discussion of the limitations of the models. Furthermore, within each species account in Appendix 2A, detail is provided on how individual models were developed and the data sources used. These data sources included peer reviewed journal articles, USFWS recovery plans and 5-year reviews, CDFW publications, and publications by species experts. Several models were developed with species experts together with input from staff at USFWS, CDFW, and DWR. Following the model description are separate sections on assumptions and model limitations. No changes to the EIR/EIS were made in response to this comment. Sufficient numbers of willing sellers will be needed to meet BDCP land acquisition needs. The availability of willing sellers is a function of many variables, including land prices, market forces for crops suitable for the

DEIRS Ltr#	Cmt#	Comment	Response
			land in question, landowner preferences, landowner changes (e.g., from parents to children or from one seller to another buyer), and the availability of funds to acquire land, among others. Land has been acquired for regional HCPs and NCCPs in California since the first HCP was approved in 1983 on San Bruno Mountain near San Francisco. After over 30 years of implementation, there are no examples of regional HCPs or NCCPs being unable to acquire land due to a lack of willing sellers. In the most recent example, the East Contra Costa County HCP/NCCP (approved in 2007 and began implementation in 2008), has greatly exceeded its land acquisition target to date. In that plan, which overlaps with the BDCP Plan Area, willing sellers have always been available when funding is available to purchase the lands. Consistent with the experience of every other plan in California, BDCP expects that enough willing sellers will be available to meet the land acquisition requirements of the plan.
1631	7	In another example of the Precautionary Principle missing from the impacts assessment, a key set of assumptions underlying predictions of water outflows and changes in outflows was relied upon without fully considering the uncertainty of those assumptions. Outflows and changes in outflows would substantially affect the impact assessments of biological resources. Therefore, it was no surprise to me to see climate change scenarios considered in projections of outflows and changes in outflows (EIR/EIS page 5.2-10), "Over the implementation period, regional climate likely will change in response to global changes in 4 climate (Pachauri and Reisinger 2007). While the expectations of climate change are robust, 5 predictions of changes must depend on model projections that may differ from what actually occurs." However, even though the EIR/EIS acknowledged that what will actually occur might differ from model projections, this uncertainty failed to translate to the outflow projections relied upon in the EIR/EIS. According to the EIR/EIS (page 5-64),"Average annual Delta exports … under the No Action Alternative would be reduced by about 703 thousand acre-feet (14%) compared to Existing Conditions (Table 5-5) because of sea level rise and climate change, increased outflows to meet Fall X2 in wet and above normal years, increased projected urban water demands, and other changes explained previously in this section…" To be consistent with the Precautionary Principle, the outflow projects should have been based not only on this 14% flow reduction, but also on a 0% flow reduction. In other words, the EIR/EIS should have also considered the possibility that the climate change projection will turn out to be wrong. Wrong projections are not unheard of when it comes to climate change, so it would have been reasonable to consider a 0% flow reduction in the No Project Alternative. Another way to do this would have been to assign an uncertainty range to the 14% value, but the tables of outflow projections in Chapter 5 failed to include confidence ranges or error terms.	The Final EIR/EIS analysis is based upon comparison of conditions under Alternatives 1 through 9 and conditions under the Existing Conditions and the No Action Alternative. The basis of the hydrologic and water quality model is the CALSIM II model,a monthly model that incorporates assumptions about daily operational changes. These types of models are the most appropriate to analyze potential changes due to different operational assumptions for the SWP and CVP. However, as described in Appendix 5A of the Final 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 or scenarios and understand the sensitivity of changes that could occur from the Existing Conditions and the No Action Alternative. The EIR/EIS climate change analyses are not required to, nor would it be possible to analyze all potential future conditions that are possible as the climate changes. The project lead agencies have used an ensemble approach to modeling future conditions that considers over 30 different climate models and 3 different possible future emissions scenarios. From this ensemble of 112 projections of possible future conditions the Final EIR/EIS use a central tendency projection that is considered a reasonably foreseeable future condition as described in Appendix 5A. The No Action Alternative and Alternatives 1 through 9 were compared the Existing Conditions which included a “0 percent reduction” Delta outflow condition. Also, during the preparation of the EIR/EIS, a sensitivity analysis was completed, as presented in Appendix 5A, Section D.3, Climate Change Modeling, to simulate conditions under the No Action Alternative and Alternative 1 under the five climate change scenarios. The operations results from these simulations were analyzed to understand the range of uncertainty in the incremental changes that would occur with a range of climate change scenarios. The sensitivity analysis indicated that Alternative 1 results would change with climate change scenarios; however, the incremental differences between the No Action Alternative under a specific climate change scenario and Alternative 1 under the same specific climate change scenario were consistent. Because the BDCP EIR/EIS only evaluates the incremental differences, and not absolute values, between the Existing Conditions and the No Action Alternative and Alternatives 1 through 9, the incremental changes appear to be similar under a range of climate change scenarios.
1631	8	Reliance on CNDDB Records The EIR/EIS was over-reliant on data managed at the California Natural Diversity Data Base (CNDDB). The habitat models appeared to be based on them and my reading of the EIR/EIS gave me the impression that whoever did the habitat modeling assigned HSI values to mapped habitat areas based on whether these areas included CNDDB records (e.g., EIR/EIS page 12-140). However, CNDDB records are voluntarily reported and many were not derived from scientific sampling, which means that lack of CNDDB records does not equal species absence. CNDDB records cannot be relied upon to determine the extent of habitat. To help get this message across, the California Department of Fish and Wildlife posts a disclaimer on its California Natural Diversity Data Base web site: "We work very hard to keep the CNDDB and the Spotted Owl Database as current and up-to-date as possible given our capabilities and resources. However, we cannot and do not portray the	The commenter states that the species habitat models used in Chapter 12 of the EIR/EIS are overly reliant on CNDDB records. For those species that were covered by the BDDCP, Chapter 12 of the Draft EIR/EIS refers the reader to BDCP Appendix 2.A, Covered Species Accounts, for a description of how the models were developed and notes starting on line 22, page 12-140 of the Draft EIR/EIS that the species models were reviewed by the EIR/EIS lead agencies (DWR and USFWS) and CDFW. Section 2A.0.1.7 of Appendix 2.A of the BDCP describes the general approach to developing the models. Furthermore, within each species account in Appendix 2.A of the BDCP, detail is provided on how individual models were developed and the data sources used. These data sources include peer reviewed journal articles, USFWS recovery plans and 5-year reviews, CDFW publications, and publications by species experts. Several models were developed with species experts together with input from staff at USFWS, CDFW, and DWR. The models utilized available landcover data, knowledge of the species habitat requirements, information about the species known range, and only for some species was occurrence information utilized. Following the model descriptions are

DEIRS Ltr#	Cmt#	Comment	Response
		CNDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of our customers." Similarly, the California Native Plant Society's Inventory of Rare and Endangered Species states the following: "A reminder: Species not recorded for a given area may nonetheless be present, especially where favorable conditions occur." All conclusions that species were unlikely to occur due to their absences from CNDDB were invalid. Species should be considered likely to occur in the project area if habitat is present and their geographic range maps overlap the project area, or preferably if they were documented in the area by appropriate field surveys.	separate sections on assumptions and model limitations. For those species not-covered by the Plan, EIR/EIS staff developed models and/or described the natural communities in which these species would be found in the study area (see page 12-66 of the Draft EIR/EIS). Occurrence data, which included CNDDB, DHCCCPdata, and records from species experts were used to supplement the development of the models; however, this information was not the sole basis for defining the species modeled habitat within the Plan Area.
1631	9	Transmission Line Impacts Whereas the EIR/EIS mentioned avian collisions with transmission lines, I did not see any predictions of fatality rates. Without predicting fatality rates due to transmission line collisions the EIR/EIS is deficient. Hartman et al. (1992) provided an empirical basis for estimating fatality rates of birds caused by collisions with transmission lines. Hartman et al. monitored bird collisions with a transmission line strung across Mare Island, California, and they also performed searcher detection and scavenger removal trials, which are necessary for adjusting fatality rates for the proportions of birds killed but never detected. Hartman et al. reported 85.3 bird fatalities per mile of transect per year along the portion of the circuit overlying hayfields (this line included 3 circuits). Bird mortality was eleven times greater along that portion of the circuit overlying salt ponds, so transmission lines crossing wetland areas posed a much greater hazard to birds than lines crossing upland areas on Mare Island. An appropriate impact estimate would consider the Mare Island findings to be the minimum impact estimate for the BDCP. I was unable to locate a description of the transmission lines that included length of line, except for a depiction of the lines in the figures. I used a ruler to measure the length of permanent transmission line and I estimated the length of temporary line. I measured 18.8 miles of perment line and guessed about 50 miles of temporary line. On the low end, assuming all of the line spans hayfields or similar crops, multiplying 85.3 birds per transect line per year (Hartman et al. 1992) against 18.8 miles of transmission line yields a predicted fatality rate of 1,604 birds per year, some of which will undoubtedly include sandhill cranes (Yee). Over wetlands, 18.8 miles of transmission line would cause >17,000 fatalities per year. Obviously, the fatality rate extended from the Hartman et al. study would fall somewhere between 1,604 and 17,000 fatalities per year, depending on the distribution of wetlands versus other cover types under the lines. The EIR/EIS should address these impacts and mitigate for them.	The commenter suggests that the EIR/EIS should use the fatality rate of 85.3 bird fatalities per mile reported by Hartman et al. 1992 from a study conducted on Mare Island. The Draft EIR/EIS cited a species-specific vulnerability analysis conducted for the BDCP to analyze the risk of collision with transmission lines that would be constructed as a result of the proposed project (Appendix 5.JC, BDCP). This analysis was cited for multiple avian species in Chapter 12 of the Draft EIR/EIS. The vulnerability analysis considered several factors including the maneuverability of the species, flight height, foraging behavior, the tendency of the species to flock, vision, and migration. Based on this analysis, the greater sandhill crane was the only species analyzed for which there was a high potential for birdstrike to occur. This species-specific vulnerability analysis was applied throughout the Draft EIR/EIS for avian species which were not covered under the BDCP. Transmission line lengths are provided in the FEIR/FEIS under Impact BIO-70: Effects on Greater Sandhill Crane Associated with Electrical Transmission Facilities.
1631	10	Indirect Impacts of Energy Demand Nine years of construction under Alternative 4 would require annually 2,549 GWH of electricity, according to the EIR/EIS, and project operations would subsequently require 175 GWH annually. This energy will have to come from somewhere, and it will have environmental costs that were not addressed in the EIR/EIS. If it was to come from wind energy, for example, then assuming the wind turbines operated with a 35% capacity factor, then 831 MW of wind energy capacity would be needed to complete the construction and the nine years of construction 57 MW would be needed to run the	As discussed in Chapter 21, Energy, the State Water Project (SWP) will procure power and capacity for the project through long-term and mid-term contracts, and the California Independent System Operator (CAISP) power markets, sufficient to meet the power and Resource Adequacy (RA) capacity requirements of the CAISO Tariff and DWR's RA Program. Environmental impacts associated with new or expanded electrical power generation facilities will therefore be addressed through SWP power purchase programs. Similarly, expansions to DWR's Renewable Energy Procurement Program (REPP) to reduce greenhouse gas impacts, as discussed in Chapter 22, Air Quality and Greenhouse Gases, would be analyzed through subsequent and site-specific environmental analyses for individual renewable energy facilities.

DEIRS Ltr#	Cmt#	Comment	Response
		pumps annual. Based on the average annual fatality rates at California's four major wind resource areas (8 collision fatalities/MW/year), the 831 MW of capacity needed for construction would cause 6,648 bird collisions annually for nine years, or 59,832 birds. The wind energy capacity of 57 MW needed to operate the pumps would cause 456 fatalities per year for as many years as the pumps would operate, or indefinitely. The number of bat fatalities caused by construction would be at least 16,620 bats per year for nine years of construction, or 149,580 bats. Afterwards, operating the pumps would cause 1,140 bat fatalities per year indefinitely. Of course, the source of energy could come from natural gas, hydro, or industrial solar, but these energy sources also have their associated environmental impacts that should be estimated in the EIR/EIS.	
1631	11	The mitigation promised for reducing or offsetting impacts to most terrestrial special-status species would require willing sellers of fee title or conservation easements of properties that would total large acreages. However, the EIR/EIS (page 12-139) admitted that willing sellers had yet to be identified. This lack of willing sellers is a fundamental flaw of the EIR/EIS. I was involved in the Natomas Basin HCP during the 1990s, so I remember how that HCP was certified in the absence of a sufficient number of willing sellers (Smallwood 2000) and how a federal judge subsequently ruled the HCP illegal and the associated incidental tale permit invalid due to too few willing sellers that were needed for the promised mitigation. I had warned that willing sellers would be difficult to find, and they were. The EIR/EIS needs to identify where habitat will be protected and where restoration would occur, and it needs to prove that the promised levels of protection and restoration will be feasible. Another fundamental flaw of the mitigation plan is the EIR/EIS's deferral of the formulation of the details of the plan to some unspecified, later date. According to the EIR/EIS (page 12-139), "Detailed plans for restoration, enhancement, and preservation actions have not been prepared for multiple reasons: (1) because the habitat restoration and enhancement would be implemented, if feasible, in areas with willing sellers, none of whom has been identified; (2) to maintain flexibility in the BDCP for adaptive management; and (3) because BDCP implementation has a long timeframe." Whichever the reason, this deferral of the formulation of the mitigation measures effectively prevents me and other members of the public from participating meaningfully with this important aspect of the environmental review of a project that will destroy many thousands of acres of habitat of special-status species.	See response to comment letter 1631- 22 regarding the likelihood of willing sellers for the 2013 BDCP alternative and the proposed action (Alternative 4A). The commenter is incorrect regarding the reasons for the invalidation by the court of the federal take permit for the original Natomas Basin HCP. The court invalidated the federal take permit because the original Natomas Basin HCP had an inadequate and outdated fee structure. The mitigation fees collected were insufficient to buy land at the then current land prices. The lack of willing sellers was not due to an unwillingness of landowners but rather an inadequate revenue sources. The 2013 BDCP relies on a current and conservative model of land costs to determine the necessary land purchase price. This cost model also assumes reasonable inflation of land cost, something that the original Natomas Basin HCP failed to do. See Master Response 5 for a discussion of the public draft BDCP's level of detail regarding mitigation and restoration and how that is appropriate for a programmatic HCP and NCCP of this scale. Numerous comments were received that focused on various elements of the BDCP. 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.
1631	12	Impact BIO-44: Red-legged frog The following mitigation measures were proposed for California red-legged frog (EIR/EIS page 12-2114). My comments in normal font follow each measure in italics. "Increase native species diversity and relative cover of native plant species, and reduce the introduction and proliferation of nonnative species (Objective L2.6, associated with CM11, CM13, and CM20). How would native species diversity be increased? I work in the areas where California red-legged frogs occur to the west and south of the Clinton Forebay, and in fact I have contributed many of the California Natural Diversity Database (CNDDB) records of California red-legged frogs in this area, so I am familiar with the wildlife and plant community there. I am perplexed by this proposed measure to increase species diversity in the area, which is mostly annual grassland. Exactly what would be	The commenter identifies the BDCP biological objectives listed on page 12-2114 as mitigation measures it should be noted that these are not mitigation measures identified by the EIR/EIS but rather part of the BDCP. Commenter states that the Draft EIR/EIS needs to explain how and why increased species diversity would benefit California red-legged frog. Throughout the Draft EIR/EIS the authors refer the reader to the BDCP where more detail is provided. In the example presented by the commenter, the author listed and briefly described the applicable biological objectives that would benefit of California red-legged frog and referenced BDCP Chapter 3, Conservation Strategy. Commenter is directed to the BDCP Chapter 3: Goals and Objectives for more information and discussion of this objective. Objective L2.6 Benefits: Consistent with this objective, the introduction and proliferation of nonnative bullfrogs and other nonnative aquatic wildlife that prey on red-legged frogs will be reduced. As described in CM11 Natural Communities Enhancement and Management, nonnative aquatic predators that threaten California red-legged frog populations will be

DEIRS Ltr#	Cmt#	Comment	Response
		done to increase species diversity while somehow not damaging the local flora and fauna? I am very skeptical that species diversity could or even should be increased to benefit the frog. It would be helpful if the EIR/EIS would explain why increased species diversity would benefit California red-legged frog. In all of my research and survey work with this species, I have never encountered evidence to suggest that species diversity was a limiting factor for this species. I have performed research on the possible impact of methylated mercury in the streams. I have performed research on the siltation of breeding ponds, and I developed a management plan to restore pond function for the frog. I have, during the course of my surveys, found ponds that were choked out by cattails, and stream pools that were isolated by severe streambed incision or degraded by riprap. I have noted that California red-legged frogs occur where ground squirrels were relatively abundant in the upland areas adjacent to streams and ponds. But never in 20 years of surveys and research on this species have I noticed or seen reference to species diversity having anything to do with the abundance and distribution of California red-legged frogs. Whereas I have seen it hypothesized that non-native species might be detrimental to California red-legged frogs, I have yet to see evidence that bullfrogs or other exotic species have limited the distribution of California red-legged frogs. I would not rule out bullfrogs as a limiting factor, but neither would I gamble that eradicating bullfrogs would help conserve red-legged frogs. Protect 8,000 acres of grassland (Objective GNC1.1, associated with CM3). This measure lacks any meaningful details that would translate to conserving California red-legged frogs. There are large tracks of annual grassland that are devoid of the species because they are outside the current range of California red-legged frog or because they lack any suitable water features where the frog would spend part of its life. The specific portion of the study area that hosts California red-legged frog is west and south of Clinton Forebay, which appears to be targeted for dumping bore spoils. Dumping bore spoils in this area will destroy the only California red-legged frogs that occur in the project area, although the species also occurs to the west along the southwestern fringe of the study area. Other than this southwestern fringe, there is no other place within the study area where protecting grasslands will also conserve California red-legged frogs. Within the southwestern fringe, there is no threat to California red-legged frogs other than poisoning to control California ground squirrels, which construct burrows used by the frog. Therefore, due to the plan to dump bore spoils in the only portion of the project area where California red-legged frogs could be protected, and due to the habitat to the west being under no threat of conversion to other uses, the proposed mitigation measure will be ineffective.	removed from ponds and other aquatic habitat, as needed to sustain the red-legged frog population in the reserve system. Furthermore, the reference to this landscape level objective in the Draft EIR/EIS is to highlight the BDCP's overall approach to conservation in the plan area and is not necessarily the primary driver in species conservation under the plan but merely lays out a broad vision for conservation across the Plan Area. More specific natural community and species level objectives follow the landscape level objective listed on page 12-2114. The commenter stated his confusion on how grasslands protection within the Plan Area would benefit California red-legged frog as described in Objective GNC1.1. Commenter is directed to the BDCP Chapter 3: Biological Goals and Objectives for California red-legged frog for more information and discussion of this objective. Objective GNC1.1: Protect 8,000 acres of grassland with at least 2,000 acres protected in Conservation Zone 1, at least 1,000 acres protected in Conservation Zone 8, at least 2,000 acres protected in Conservation Zone 11, and the remainder distributed among Conservation Zones 1, 2, 4, 5, 7, 8, and 11. Objectives GNC1.1 and GNC1.3 Benefits: Protection of at least 1,000 acres of grassland in Conservation Zone 8, west of Byron Highway, will benefit California red-legged frog by providing habitat in the portion of the Plan Area with the highest long-term conservation value for the species based on known species occurrences and large, contiguous habitat areas. Consistent with Objective GNC1.3, ponds and other aquatic features within the grasslands will be protected to provide aquatic habitat for this species, and surrounding grassland will provide dispersal and aestivation habitat. Lands protected in Conservation Zone 8 will connect with lands protected under the East Contra Costa County HCP/NCCP and the extensive Los Vaqueros Watershed lands, including grassland areas supporting this species. This objective will ensure that California red-legged frog upland and associated aquatic habitats will be protected and enhanced in the largest possible patch sizes adjacent to occupied habitat within and adjacent to the Plan Area. Approximately 7,823 acres of upland cover and dispersal habitat is present in the Plan Area, of which approximately 1,670 acres (21%) are currently protected. Following BDCP implementation, approximately 35% of modeled California red-legged frog habitat will be protected, including habitat in CZ 8 that links to occupied habitat outside the Plan Area. Achieving these objectives will preclude potential future fragmentation of the highest-functioning frog habitat in the Plan Area and maintain sufficient habitat area to sustain or increase the existing Plan Area population of California red-legged frogs and to maintain connectivity with occupied core populations adjacent to the Plan Area that are covered under adjacent and overlapping HCP/NCCPs.
1631	13	Protect stock ponds and other aquatic features within protected grasslands to provide aquatic breeding habitat for native amphibians and aquatic reptiles (Objective GNC1.3, associated with CM3). Protecting stock ponds seems unnecessary because cattle ranchers will either protect their stock ponds or not based on their needs. Is the plan to commit ranchers to protecting stock ponds? And how would such protection be carried out? By excluding cattle? If so, cattle are the reason stock ponds exist. Again, the only portion of the study area that hosts California red-legged frog is west and south of Clinton Forebay, which appears to be targeted for dumping bore spoils. Protecting stock ponds in this area would be ridiculous because they will be covered by	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered. 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

DEIRS Ltr#	Cmt#	Comment	Response
		bore spoils. Protecting stock ponds along the southwest fringe of the study area would also be ridiculous because the ranchers already maintain their ponds for use by cattle.	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.
1631	14	Increase burrow availability for burrow-dependent species (Objective GNC2.3, associated with CM11). Having worked with fossorial mammals for nearly 30 years, I can conclude with high confidence that this measure is an empty promise. I have mapped the dimensions of burrows and I have mapped the distribution and abundance of mammal burrows across large areas (Smallwood and Erickson 1995; Smallwood and Geng 1997; Smallwood and Morrison 1997; Smallwood et al. 1997; Smallwood et al. 1998a; Smallwood et al. 1999a,b; Smallwood et al. 2001a, b), including across hundreds of hectares of grassland west of Clinton Forebay (Smallwood et al. 2009). Burrow availability cannot be increased through artificial means, as attempts to do so have proven cost-ineffective and have failed. I would be curious to learn how the preparers of the EIR/EIS might think that natural burrows might be increased. In summary, this mitigation measure is an empty promise; even if it was implemented, it would not succeed.	Note that the proposed project (Alternative 4A) no longer includes the BDCP, and therefore no longer includes this objective as a component of an HCP or NCCP. DWR, however, does plans for grasslands set aside as project mitigation to be managed in a way that is conducive to maintaining and possibly increasing burrow availability by encouraging use by burrowing mammals. One means to achieve this is to eliminate use of rodenticides on grazed grasslands. Another means is to implement grazing regimes that are favorable to burrowing rodents. Please see Lindsey N. Bylo, Nicola Koper, and Kelsey A. Molloy. 2014. Grazing Intensity Influences Ground Squirrel and American Badger Habitat Use in Mixed-Grass Prairies. Rangeland Ecology & Management, 67(3):247-254.
1631	15	Maintain and enhance aquatic features in grasslands to provide suitable inundation depth and duration and suitable composition of vegetative cover to support breeding for covered amphibian and aquatic reptile species (Objective GNC2.5, associated with CM11). This measure appears to suggest that some portion of existing grasslands would be destroyed so that ponds could be created. Such a measure would add to project impacts in the near term but would face high uncertainty over whether any benefits would be realized in the long term. The EIR/EIS should identify where and under what circumstances this measure would be implemented. It should also quantify the number of California red-legged frogs that would be able to occupy the created habitat (Smallwood 2001).	Note that the proposed project (Alternative 4A) no longer includes the BDCP, and therefore no longer includes this objective as a component of an HCP or NCCP. DWR does, however, intend for aquatic habitat areas to be maintains and enhanced to provide suitable inundation regimes for the listed aquatic amphibians and vernal pool species affected by the project. This maintenance and enhancement does not involve wetland creation: rather, it involves actions such as controlling invasive plants that adversely alter hydrology, removing sediment, and managing water flows in stockponds. There is no requirement to quantify the number of California red-legged frogs that would be able to occupy the maintained and enhanced habitat – the purpose of the maintenance and enhancement would be to maintain or increase the number of frogs the habitat can support.
1631	16	Impact BIO-46: California Tiger Salamander The following mitigation measures were proposed for California tiger salamander (EIR/EIS page 12-2122). My comments follow each measure. "Increase the size and connectivity of the reserve system by acquiring lands adjacent to and between existing conservation lands (Objective L1.6, associated with CM3). Those portions of the study area where California tiger salamander occurs do not appear to me to lack for connectivity or habitat patch size, which might be reasons why the species has persisted there. The EIR/EIS needs to explain how increased size and connectivity would be achieved, and it would be achieved without harming the salamanders that already live there. The EIR/EIS needs to explain where and under exactly which circumstances this measure would be implemented, and how the implementation would translate into meaningful units of demography that will be conserved (Smallwood 2001). The acreage basis of success that is used in the EIR/EIS is meaningless unless those acreages can be linked directly to numbers and demography of California tiger salamander. Increase native species diversity and relative cover of native plant species, and reduce the introduction and proliferation of nonnative species (Objective L2.6, associated with CM11). As I commented for California red-legged frog, I have yet to see the hypothesis or any evidence that species diversity has anything to do with the distribution and	The commenter identifies the BDCP biological objectives listed on page 12-2122 as mitigation measures it should be noted that these are not mitigation measures identified by the EIR/EIS but rather part of the BDCP. The commenter states that the Draft EIR/EIS needs to explain how increased size and connectivity would be achieved and should explain the relationship between species diversity and conserving the salamander. Throughout the Draft EIR/EIS the authors refer the reader to the BDCP where more detail is provided. In the example presented by the commenter, the author listed and briefly described the applicable biological objectives that would benefit California tiger salamanders and referenced BDCP Chapter 3, Conservation Strategy. Regarding the specific objective question, on Page 3.3-305 of the BDCP the following analysis of the benefit of the objective to California tiger salamander was presented: Objective L1.6 Benefits: One of the primary causes of the decline of California tiger salamander populations is the fragmentation of habitat resulting from urban and agricultural development. This objective will build on the existing reserve system to protect large, interconnected areas. This objective relates to the California tiger salamander habitat and other areas that may not be used by this species, but may serve to buffer California tiger salamanders and their habitat from the effects of anthropogenic stressors (e.g., hydrologic disturbances, pollutants, nonnative species introductions). Regarding the statement that the EIR/EIS needs to demonstrate how this objective could be met without harming California tiger salamander, this objective sets out to acquire land for conservation purposes. This

DEIRS Ltr#	Cmt#	Comment	Response
		abundance of California tiger salamander. The EIR/EIS should explain the relationship between species diversity and conserving the salamander; else this measure is empty rhetoric.	act in itself would result in physical harm to the species. The commenter further states that the EIR/EIS needs to explain where and under what circumstances reserve establishment will take place. As noted on page 12-139 of the Draft EIR/EIS, the locations of restoration projects and lands for protection were not identified because these actions would be implemented in areas where there are willing sellers, which have not yet been identified and thus the analysis for restoration actions and protection, as noted on page 12-139 was done at a programmatic level. For a more detailed discussion of the feasibility of restoration and protection, and the issue of willing sellers see Master Response 5. Regarding the commenter's request for the EIR/EIS to explain the relationship between species diversity and conserving salamander the commenter is referred to Page 3.3-305 of the BDCP, which states the following: Objective L2.6 Benefits: Nonnative invasive plant species will be reduced and native plant species encouraged in vernal pools and other aquatic California tiger salamander habitat features, consistent with this objective and as described in CM11 Natural Communities Enhancement and Management. Increasing native vegetative cover has been shown to increase vernal pool hydroperiod (Marty 2005), thus making aquatic habitat more suitable for California tiger salamander breeding. Consistent with this objective, the introduction and proliferation of nonnative bullfrogs and other nonnative aquatic wildlife that prey on California tiger salamanders will be reduced. Bullfrogs and predatory fish are a primary source of mortality for this species (Fisher and Shaffer 1996). As described in CM11 Natural Communities Enhancement and Management, nonnative aquatic predators that threaten California tiger salamander populations will be removed from ponds and other aquatic habitat, as needed, to sustain the California tiger salamander population in the reserve system.
1631	17	Protect and improve habitat linkages that allow terrestrial covered and other native species to move between protected habitats within and adjacent to the Plan Area (Objective L3.1, associated with CM3, CM8, and CM11). How is this measure any different from the first one listed? The EIR/EIS should provide details of this measure, which is so vague that it carries absolutely no value. Protect 150 acres of alkali seasonal wetland in CZ 1, CZ 8, and/or CZ 11 among a mosaic of protected grasslands and vernal pool complex (Objective ASWNC1.1, associated with CM3). This measure should specify exactly where 150 acres of alkali seasonal wetland will be protected, and its benefits should be predicted in terms of meaningful demographic units (Smallwood 2001). I assume the 150 acres of alkali seasonal wetland already exists, so it ought to be explained how protecting them will make any difference to the local salamanders. Are these 150 acres under threat of development? Provide appropriate seasonal flooding characteristics for supporting and sustaining alkali seasonal wetland species (Objective ASWNC2.1, associated with CM3 and CM11). The seasonal flooding characteristics already exist, or else the alkali seasonal wetland would not exist. I am familiar with the alkali seasonal wetland in CZ8 because I have performed research next to it for 15 years. I have not seen any threat to the seasonal flooding of this wetland, nor do I see any means of providing any different or the same flooding regime. This measure appears to be an empty promise.	Reserve system assembly principles were used to guide decisions regarding the distribution of targeted natural communities and covered species habitats among the conservation zones to ensure the greatest biological benefits. These assembly principles will also support the decisions of the Lead Agency regarding the acquisition of reserve lands. Decisions on which lands are based the principles outlined in Section 3.2.4.2.1 Reserve Assembly Principles. A few of these principles are listed here: • Protect, enhance, and restore the ecological diversity of natural communities and covered species habitats at the periphery of the Plan Area on lands most likely to accommodate future sea level rise and less likely to be flooded as a result of levee failures (i.e., terrestrial habitat areas should be located where there is a low risk of future flooding). • Design reserves to appropriately scale the ecological gradient and emphasize compatibility between restored natural communities and working landscapes (e.g., cultivated lands). • Protect the highest-value natural communities and covered species habitats available consistent with the project implementation schedule. • Maximize connections between reserves and with existing conservation lands in and adjacent to the Plan Area. Also of note, reserve design and acquisition/protection of natural community and habitat may also depend on the willingness of sellers.
1631	18	Protect 600 acres of existing vernal pool complex in in CZ 1, CZ 8, and/or CZ 11, primarily in core vernal pool recovery areas identified in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (U.S. Fish and Wildlife Service 2005)	The analysis for CMs 2-21 was completed at a programmatic level, as described in Section 4.1.2 of Chapter 4, Approach to the Environmental Analysis. Also, the RDEIR/SDEIS released in 2015 introduced a new preferred alternative, 4A, which does not include a HCP or conservation measures. The alternative implementation

DEIRS Ltr#	Cmt#	Comment	Response
		(Objective VPNC1.1, associated with CM3). The vernal pool complexes in CZ 1 and CZ 8 do not appear to be in need of protection, nor will protecting them offset the number of California tiger salamanders that will be killed by dumping bore spoils on them west and south of Clinton Forebay. Restore vernal pool complex in in CZ 1, CZ 8, and/or CZ 11 to achieve no net loss of vernal pool acreage (up to 67 acres of vernal pool complex restoration, assuming that all anticipated impacts [10 wetted acres] occur and that the restored vernal pool complex has 15% density of vernal pools) (Objective VPNC1.2, associated with CM3 and CM9). Restoring the vernal pools in CZ 1, CZ 8, and CZ 11 would likely damage the existing vernal pools. The EIR/EIS needs to explain why these vernal pools are in need of being restored. Otherwise, this measure seems both vague and potentially reckless. Increase the size and connectivity of protected vernal pool complex within the Plan Area and increase connectivity with protected vernal pool complex adjacent to the Plan Area (Objective VPNC1.3, associated with CM3). This is the third iteration of the same measure listed for this species. Repeating the same measure seems like an attempt to add filler text or to give the appearance that there is more offered in mitigation than truly intended. Again, the EIR/EIS needs to identify where and under what circumstances this measure would be implemented and how it would translate into specific numbers or meaningful demographic units of the species (Smallwood 2001). Protect the range of inundation characteristics that are currently represented by vernal pools throughout the Plan Area (Objective VPNC1.4, associated with CM3). This measure is absurd. How will the range of inundation characteristics be protected? Will someone insert a flow regulator? The EIR/EIS, if it is serious, needs to explain how vernal pool management will improve on nature. Protect 8,000 acres of grassland (Objective GNC1.1, associated with CM3). As I commented on the same measure proposed for California red-legged frog, this measure needs detail on how it will translate into numbers or meaningful demographic units of California tiger salamanders that will be conserved. The EIR/EIS needs to demonstrate that willing sellers exist in sufficient number to achieve the protection of 8,000 acres of grassland, and it needs to explain why the particular grasslands need to be protected. Currently there are large tracts of grassland south of Byron that are being converted to wine grapes. Given that wine grapes are high-value crops, is the mitigation fund going to be large enough to afford buying out whatever might be left of this grassland acreage? Restore 2,000 acres of grasslands to connect fragmented patches of protected (Objective GNC1.2, associated with CM3 and CM8). This measure is too vague to be taken seriously. Where are these 2,000 acres? Why would restoring these grasslands not destroy the habitat value that these grasslands already have? The EIR/EIS needs to demonstrate the need for the restoration, as well as the measurable objectives; otherwise 2,000 acres of brome grasses lacking California tiger salamanders might result.	strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Therefore, substantially less land would be impacted by Alternative 4A, as described in Chapter 3, Alternatives.
1631	19	Impact BIO-49: Giant Garter Snake The following mitigation measures were proposed for giant garter snake (EIR/EIS page 12-2231). My comments follow each measure. "Increase native species diversity and relative cover of native plant species, and reduce the introduction and proliferation of nonnative species (Objective L2.6, associated with	The commenter identifies the BDCP biological objectives listed on page 12-2231 as mitigation measures it should be noted that these are not mitigation measures identified by the EIR/EIS but rather part of the BDCP. The commenter stated that the Draft EIR/EIS needs to explain the relationship between species diversity and giant garter snake numbers or success. Objective L2.6 addresses both increasing native species diversity and relative cover and reducing the introduction and proliferation of nonnative species. The USFWS (2012)

DEIRS Ltr#	Cmt#	Comment	Response
		CM11). This same measure was listed for California red-legged frog and California tiger salamander, and my comment on it is the same -- the EIR/EIS needs to explain the relationship between species diversity and giant garter snake numbers or success. Why is species diversity important to the persistence of giant garter snakes? How does it translate to meaningful units of demography? I have never encountered the hypothesis that species diversity is a limiting factor to giant garter snake. If it was, then surely it would have been a topic of discussion during the environmental review of the Natomas Basin HCP, but this factor never came up. This measure lacks foundation and is vague in how it would be implemented.	5-year review of giant garter snake provides a Five-Factor analysis which describes and evaluates the threats attributable to one or more of the five listing factors, please see Factor A for a discussion of the threats to giant garter snake from the introduction of invasive and non-native plants and Factor C for a discussion of disease and predation threats. The commenter is also referred to the BDCP Chapter 3, page 3.3-293, which provides the following analysis: Objective L2.6 Benefits: While nonnative aquatic plants such as water primrose provide cover for the giant garter snake, they can impede snake movement if they become too dense. Nonnative wildlife species such as bullfrog and largemouth bass prey on young giant garter snakes and may threaten local populations. Consistent with this objective, nonnative invasive plant species that degrade giant garter snake habitat or nonnative wildlife species that prey on the giant garter snake will be controlled if monitoring determines that giant garter snake populations in the reserve system are threatened by these factors.
1631	20	Within the 65,000 acres of tidal natural communities (L1.3), restore or create 24,000 acres of tidal freshwater emergent wetland in CZ 1, CZ 2, CZ 4, CZ 5, CZ 6, and/or CZ 7 (Objective TFEWNC1.1, associated with CM3 and CM4). The EIR/EIS needs to provide details about where and under what circumstances this measure would be implemented. If it was along the shoreline of the Yolo Flood Control Basin, for example, then it would be useless because giant garter snakes do not, and apparently cannot, live in this Basin. Giant garter snakes require ample availability of hibernacula above 100-year flood stage (Smallwood 2001), which does not occur in the Yolo Flood control Basin except for the levees which are too narrow and barren to support the snake.	The commenter states that the Draft EIR/EIS needs to provide details about where and under what circumstances the 24,000 acres of tidal freshwater emergent wetland would be implemented in support of giant garter snake. As noted on page 12-139 of the Draft EIR/EIS, the locations of restoration projects were not identified because these actions would be implemented in areas where there are willing sellers, which have not yet been identified and thus the analysis for restoration actions, as noted on page 12-139 was done at a programmatic level. Details on where and under what circumstances this measure would be implemented can be found in the BDCP Chapter 3: Biological Goals and Objectives for giant garter snake. The commenter also claims that giant garter snakes cannot live in the Yolo Flood Control Basin. It is assumed the commenter is referring to the Yolo Bypass. As stated in the species account for giant garter snake in Appendix 2.A of the BDCP and supported by the U.S. Fish and Wildlife Service in their 2012 5-year review for the species, there is a population of giant garter snakes in the Yolo Bypass.
1631	21	Create at least 1,200 acres of nontidal marsh consisting of a mosaic of nontidal perennial aquatic and nontidal freshwater emergent wetland natural communities, with suitable habitat characteristics for giant garter snake and western pond turtle (Objective NFEW/NPANC1.1, associated with CM3 and CM10). The EIR/EIS needs to identify where these 1200 acres are to be created.	The commenter states that the Draft EIR/EIS needs to identify where the 1,200 acres on nontidal marsh restoration will occur. As noted on page 12-139 of the Draft EIR/EIS, the locations of restoration projects were not identified because these actions would be implemented in areas where there are willing sellers, which have not yet been identified and thus the analysis for restoration actions, as noted on page 12-139 was done at a programmatic level. The commenter is directed to Master Response 5 for a more in depth discussion on the feasibility of restoration actions and the issue of willing sellers.
1631	22	Protect 48,625 acres of cultivated lands that provide suitable habitat for covered and other native wildlife species (Objective CLNC1.1, associated with CM3 and CM11). This measure reminds of the Natomas Basin HCP, which had promised to protect 8,000 acres of rice fields. One of the problems with the Natomas Basin HCP was the lack of willing sellers of rice fields, and another was the notion that such protections could overcome agricultural market conditions. Is this measure going to force the production of alfalfa, for example? If the market is not right for alfalfa, then it would be foolish to require the farmers to grow alfalfa. This measure is empty in value, unless the EIR/EIS can explain how it would work.	The commenter is correct that that 2013 public draft BDCP relies on willing sellers to meet the land acquisition and restoration targets in the conservation strategy. As described in Chapter 3 of the 2013 public draft BDCP, these targets are deemed feasible because willing sellers are expected to be available within the 40-year timeframe of land acquisition in the plan. The Natomas Basin Conservancy, which administers the Natomas Basin HCP, has in the past had some difficulty obtaining land from willing sellers in their plan area. However, these challenges were temporary and were overcome. To date, the Natomas Basin HCP has met its required land acquisition requirements because enough willing sellers have stepped forward. The other operating large-scale HCPs in northern California (San Joaquin County HCP, East Contra Costa County HCP/NCCP) have had similar success in acquiring lands to meet or exceed their land acquisition targets. For these reasons the 2013 BDCP (Alternative 4) and the proposed project (Alternative 4A) are expected to have enough willing sellers in the plan area to meet land acquisition needs. Numerous comments were received that focused on various elements of the BDCP. 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.

DEIRS Ltr#	Cmt#	Comment	Response
1631	23	Target cultivated land conservation to provide connectivity between other conservation lands (Objective CLNC1.2, associated with CM3). This measure is extremely vague. How would this measure translate to conservation of giant garter snakes? Would it replace the number of snakes or snake populations that would be destroyed by the project? The EIR/EIS needs to provide much more detail before such a measure can be taken seriously.	The commenter states that Draft EIR/EIS needs to provide more detail on how Objective CLNC1.2 would conserve giant garter snakes. The commenter is directed to BDCP Chapter 3: Goals and Objectives, page 3.3-294 for more detail and analysis of the benefits of this objective. This analysis emphasizes the conservation of interconnected irrigation canals in cultivated lands and maintaining a matrix of cultivated lands with reliable water, associated emergent vegetation, and adjacent upland habitat suitable for the species.
1631	24	Maintain and protect the small patches of important wildlife habitats associated with cultivated lands that occur in cultivated lands within the reserve system, including isolated valley oak trees, trees and shrubs along field borders and roadsides, remnant groves, riparian corridors, water conveyance channels, grasslands, ponds, and wetlands (Objective CLNC1.3, associated with CM3 and CM11). This measure needs more detail in both where it would be implemented and how it would conserve giant garter snakes.	The commenter states that Objective CLNC1.1 needs more detail on where important small patches of wildlife habitat small patches would be maintained and protected to conserve giant garter snakes. As noted on page 12-139 of the Draft EIR/EIS, the locations of restoration projects and lands for protection were not identified because these actions would be implemented in areas where there are willing sellers, which have not yet been identified and thus the analysis for restoration actions and protection, as noted on page 12-139 was done at a programmatic level. For a more detailed discussion of the feasibility of restoration and protection, and the issue of willing sellers see Master Response 5. Regarding how it would assist in the conservation of giant garter snake, on page 3.3-294 of the BDCP it states the following: Objectives CLNC1.1, CLNC1.2, and CLNC1.3 Benefits: Although dependent on the aquatic environment, the giant garter snake occurs within the cultivated landscape where it uses interconnected watercourses (primarily irrigation canals) and associated freshwater emergent wetland habitat and rice lands during the active season and adjacent noncultivated uplands during the inactive season. Maintaining a matrix of cultivated lands that includes suitable interconnected canals with reliable water, associated emergent vegetation, and adjacent upland habitats is essential for conservation of this species. Cultivated lands protected for Swainson's hawk and greater sandhill crane that occur within the range of the giant garter snake will include water conveyance systems, patches of nontidal marsh, and other aquatic habitats that will be managed to promote use by giant garter snake and other covered species. Protection of cultivated habitats in CZs 2 and 4 for Swainson's hawk and greater sandhill crane conservation is expected to provide opportunities for enhancing connectivity between the Coldani Marsh subpopulation and other historical locations for the species.
1631	25	Of the at least 1,200 acres of nontidal marsh created under (Objective NFEW/NPANC1.1), create 600 acres of aquatic habitat giant garter snake aquatic habitat that is connected to the 1,500 acres of rice land or equivalent-value habitat described below in Objective GGS1.4 (Objective GGS1.1, associated with CM3, CM4, and CM10). The EIR/EIS needs to identify where this measure would be implemented and how it would translate into giant garter snake conservation.	The commenter states that the Draft EIR/EIS needs to identify where Objective GGS1.4 would be implemented and how would it result in giant garter snake conservation. As noted on page 12-139 of the Draft EIR/EIS, the locations of restoration projects were not identified because these actions would be implemented in areas where there are willing sellers, which have not yet been identified and thus the analysis for restoration actions, as noted on page 12-139 was done at a programmatic level. For a more detailed discussion of the feasibility of restoration and protection, and the issue of willing sellers see Master Response 5. The commenter is directed to Chapter 3 BDCP Goals and Objectives for Giant garter snake for this information.
1631	26	Of the 8,000 acres of grassland protected under Objective GNC1.1 and 2,000 acres restored under Objective GNC1.2, create or protect 200 acres of high-value upland giant garter snake habitat adjacent to the at least 600 acres of nontidal perennial habitat being restored and/or created in CZ 4 and/or CZ 5 (Objective GGS1.2, associated with CM3 and CM8). Creating and protecting high-value upland habitat are two different actions and have very different costs. The EIR/EIS needs to identify where this measure would be implemented and how many more giant garter snakes could live within the study area compared to how many live there now. Also, it needs to be explained what is meant by "high-value" habitat.	The commenter states that the Draft EIR/EIS needs to identify where and how Objective GGS1.2 would be implemented and explain what is meant by high-value habitat. The commenter is directed to the BDCP Chapter 3.3 Biological Goals and Objectives, page 3.3-292 for a detailed discussion of all the giant garter snake objectives. High-value habitat is defined in the species habitat suitability model in the BDCP Appendix 2A Species Accounts, which states the following: High-value features are characterized by all of the features required to support permanent populations of giant garter snakes, including the following attributes. • Access to sufficient water during the active season.

DEIRS Ltr#	Cmt#	Comment	Response
			• Emergent, herbaceous aquatic vegetation accompanied by vegetated banks to provide basking and foraging habitat. • Bankside burrows, holes and crevices providing short-term refuge. • Vegetated high ground or upland habitat above the annual high water mark to provide cover and refugia from floodwaters during the dormant winter season.
1631	27	Protect giant garter snakes on restored and protected nontidal marsh and adjacent uplands (Objectives GGS1.1 and GGS1.2) from incidental injury or mortality by establishing 200-foot buffers between protected giant garter snake habitat and roads (other than those roads primarily used to support adjacent cultivated lands and levees). Establish giant garter snake reserves at least 2,500 feet from urban areas or areas zoned for urban development (Objective GGS1.3, associated with CM3). The EIR/EIS needs to identify where this measure would apply or where it would benefit giant garter snakes, or otherwise it seems like an empty promise. Where is there a need for this measure?	The commenter states that the Draft EIR/EIS needs to identify where 200-foot buffers would be established as identified in GGS1.3. The Draft EIR/EIS does refer the reader Chapter 3, Conservation Strategy, in the introduction of the applicable biological goals and objectives for each resource evaluated. The commenter is directed to the BDCP Chapter 3 Conservation Strategy, page 3.3-296 for more detailed discussion on the rationale for GGS1.3 . As noted on Page 12-139 of the Draft EIR/EIR, the analysis of the restoration, enhancement, and protection actions were done at a programmatic level and the location of restoration and protection are not known at this time. The commenter is directed to Master Response 5 for a discussion on the feasibility of restoration actions and the issue of willing sellers. Regarding where there is a need for the measure, as stated in the rationale for Objectives GGS1.3 and GGS2.4, which states: A 2,500-foot buffer between giant garter snake habitat and urban areas is expected to substantially reduce the amount of contact and thus potential mortality caused by domestic cats and other effects from urban areas. Domestic cats have been shown to have a significant impact on populations of various native animal species, including giant garter snake. Objectives GGS1.3 and GGS2.4 are consistent with the Draft Recovery Plan for the Giant Garter Snake (U.S. Fish and Wildlife Service 1999), which calls for buffering lands that support giant garter snake populations from the effects of urbanization and highway expansion.
1631	28	Create connections from the White Slough population to other areas in the giant garter snake's historical range in the Stone Lakes vicinity by protecting, restoring, and/or creating at least 1,500 acres of rice land or equivalent-value habitat (e.g., perennial wetland) for the giant garter snake in CZ 4 and/or CZ 5. Any portion of the 1,500 acres may consist of tidal freshwater emergent wetland and may overlap with the 24,000 acres of tidally restored freshwater emergent wetland if it meets specific giant garter snake habitat criteria described in CM4. Up to 500 (33%) of the 1,500 acres may consist of suitable uplands adjacent to protected or restored aquatic habitat (Objective GGS1.4, associated with CM3 and CM4). This measure proposed to force rice cultivation on landowners or farmer who may not wish to grow rice or who may have to abandon rice production should market conditions dictate. Furthermore, the notion that rice fields are important to giant garter snakes is false (Smallwood 2001). The giant garter snake occurs in agricultural irrigation canals and ditches, and they rarely occur in rice fields, although there is no evidence these areas are anything but ecological sinks for the giant garter snake. There is no convincing evidence that the giant garter snake benefits from rice cultivation in any way, and there is ample evidence that it is harmed by rice cultivation. Using Wylie's (1998) telemetry data, I conducted a use and availability analysis and found that the giant garter snake avoids using rice fields based on the availability of rice (Smallwood 1999). The giant garter snake has declined to the brink of extinction while rice cultivation expanded in the Sacramento Valley. Prior to rice cultivation, the Sacramento Valley produced more alfalfa hay and other crops, and more wetlands were available to the giant garter snake. At this point in time, it is scientifically unfounded to conclude that rice fields serve as suitable giant garter snake habitat. Based on the scientific evidence, the	The commenter's opinion is acknowledged. The commenter's assessment of the importance and use of rice is not in agreement with either biologists or research associated with a number of regulatory agencies including USGS, USFWS, CDFW, and DWR. Both USFWS and CDFW who are responsible for protection and conservation of the listed giant garter snake are clear on their support of the importance of rice and its associated ditches and upland habitat for giant garter snake.

DEIRS Ltr#	Cmt#	Comment	Response
		opposite conclusion should have been reached -- rice cultivation is helping to drive the giant garter snake toward extinction. To focus recovery efforts on maintenance of rice cultivation is to assist in the extinction of the giant garter snake.	
1631	29	Of the at least 1,200 acres of nontidal marsh created under Objective NFEW/NPANC1.1, create 600 acres of connected aquatic giant garter snake habitat outside the Yolo Bypass in CZ 2 (Objective GGS2.1, associated with CM3 and CM10). The EIR/EIS needs to be more specific about where these 600 acres of habitat are to be created. It needs to identify success criteria, and it needs to explain why creating habitat next to an unoccupied flood control basin would be a good idea for conserving giant garter snakes. Creating habitat would mean that some other habitat or land use would need to be destroyed, so the EIR/EIS should explain what will be sacrificed for this created habitat. Also, if it is grassland or fields used for alfalfa production, then this created habitat might come at the cost of Swainson's hawk habitat, so the EIR/EIS needs to be transparent about his measure's impacts on Swainson's hawk and on agricultural production in the region.	The commenter states that the Draft EIR/EIS needs to more specific about where habitat creation for Objective GGS2.1 would occur. As noted on page 12-139 of the Draft EIR/EIS, the locations of restoration projects were not identified because these actions would be implemented in areas where there are willing sellers, which have not yet been identified and thus the analysis for restoration actions, as noted on page 12-139 was done at a programmatic level. For a more detailed discussion of the feasibility of restoration and the issue of willing sellers see Master Response 5. The commenter also states that the Draft EIR/EIS needs to identify success criteria and explain why creating habitat next to an unoccupied flood control basin would "be a good idea for conserving giant garter snakes". The Draft EIR/EIS refers the reader to BDCP Chapter 3, Conservation Strategy, which defines the biological goals and objectives, conservation measures, and the adaptive management and monitoring program. The biological goals and objectives provide the following functions, which essentially serve as criteria for determining success: describe the desired biological outcomes, provide quantitative targets and timeframes, serve as benchmarks by which to measure progress in achieving outcomes, and provide metrics for the monitoring program to evaluate effectiveness and provide a basis to adjust the conservation measures to achieve desired outcomes. Regarding creating habitat next to an unoccupied basin (presumably Yolo Bypass), please see response to comment 1631-20. The commenter states that the DRAFT EIR/EIS needs to be transparent about this measure's impact on Swainson's hawk foraging habitat if replaced by giant garter snake aquatic habitat. The exact locations of nontidal marsh restoration (CM10) are not known; however as stated on page 12-2259 of the Draft EIR/EIS in the analysis of effects on Swainson's hawk for Alternative 4, 1,440 acres of Swainson's hawk foraging habitat would be impacted out of the 1,700 acres of nontidal restoration, which is assumed would all occur on cultivated lands.
1631	30	Protect, restore, and/or create 2,740 acres of rice land or equivalent-value habitat (e.g., perennial wetland) for the giant garter snake in CZ 1, CZ 2, CZ 4, or CZ 5. Up to 500 acres may consist of tidal freshwater emergent wetland and may overlap with the at least 5,000 acres of tidally restored freshwater emergent wetland in the Cache Slough ROA if this portion meets giant garter snake habitat criteria specified in CM4. Up to 1,700 acres may consist of rice fields in the Yolo Bypass if this portion meets the criteria specified in CM3, Reserve Design Requirements by Species. Any remaining acreage will consist of rice land or equivalent-value habitat outside the Yolo Bypass. Up to 915 (33%) of the 2,740 acres may consist of suitable uplands adjacent to protected or restored aquatic habitat (Objective GGS3.1, associated with CM3, CM4, and CM10)." This measure needs to be more specific about where some of these acreages would be located. Also, giant garter snakes do not routinely live in the Yolo Bypass because it lacks suitable hibernacula and refugia. Protecting rice cultivation in the Yolo Bypass will not conserve the snake for this reason and for reasons explained earlier. Rice is not suitable giant garter snake habitat, despite a few snakes having been found in rice fields. This snake needs natural wetland environments with ample adjacent uplands.	The commenter states that the Draft EIR/EIS needs to be more specific about where some of the 2,740 acres of rice land or its equivalent would be located. As noted on page 12-139 of the Draft EIR/EIS, the locations of restoration projects were not identified because these actions would be implemented in areas where there are willing sellers, which have not yet been identified and thus the analysis for restoration actions, as noted on page 12-139 was done at a programmatic level. The commenter is also directed to Master Response 5 for a discussion on the feasibility of restoration actions and the issue of willing sellers. Details on where and under what circumstances this measure would be implemented can be found in the BDCP Chapter 3: Biological Goals and Objectives for giant garter snake. Also direct commenter to Attachment 5J.E Estimation of BDCP Impact on Giant Garter Snake Foraging Habitat in the Yolo Bypass for a discussion of BDCPs approach on rice issues and giant garter snake. In addition, direct the commenter to the Giant Garter Snake: 5-year Review by USFWS (2012) for current information on the use of rice by giant garter snake and its importance to the snake's recovery.
1631	31	"Restore or create at least 5,000 acres of valley/foothill riparian natural community, with at least 3,000 acres occurring on restored seasonally inundated floodplain (Objective VFRNC1.1, associated with CM7). The EIR/EIS needs to provide more detail about this measure, such as where the restoration or creation of habitat will occur and which types of existing environments will have to be destroyed or modified to accommodate this	See response to comment 1734-106.

DEIRS Ltr#	Cmt#	Comment	Response
		measure. The EIR/EIS needs to explain why restoring or creating habitat on 3000 acres of seasonally inundated floodplain would benefit Swainson's hawk. This measure, as described is vague and inadequate.	
1631	32	Plant and maintain native trees along roadsides and field borders within protected cultivated lands at a rate of one tree per 10 acres (Objective SH2.1, associated with CM11). This measure might be effective, but the EIR/EIS needs to identify willing sellers of the cultivated lands that are to be "protected." Also, it needs to be explained how the loss of crop yields due to shading from trees will be compensated, if at all, and how trees will be managed when planted under or near electric distribution lines. I have performed many surveys for Swainson's hawk (Smallwood 1995, Smallwood et al. 1996, and Smallwood, unpublished data), and during these surveys I have seen many trees that could have been used by nesting Swainson's hawks lose their value to Swainson's hawks because the utilities severely trimmed the trees to prevent line interference.	Please see Master Response 5 regarding the use of biological goals and objectives in BDCP. 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.
1631	33	Establish 20- to 30- foot-wide hedgerows along fields and roadsides to promote prey populations throughout protected cultivated lands (Objective SH2.2, associated with CM11). This measure might help conserve Swainson's hawk, but it should be accompanied by an experimental design and monitoring to test whether the hedgerows do provide Swainson's hawks with increased prey, and if so, then to want extent. Planting hedgerows seems like a good idea, but the EIR/EIS cited no evidence that it will be effective. The EIR/EIS also needs to present the costs of implementing this measure, including a maintenance plan and its cost.	Please see Master Response 5 regarding the use of biological goals and objectives in BDCP. 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.
1631	34	Increase prey abundance and accessibility for grassland-foraging species (Objectives ASWNC2.4, VPNC2.5, and GNC2.4, associated with CM11). The EIR/EIS should explain how prey abundance would be increased. Are bread crumbs going to be fed to the mice in grasslands? If the EIR/EIS is to be taken seriously, then it needs to include realistic mitigation measures and it needs to tie the measures to measureable objectives related to conserving the special-status species.	Please see Master Response 5 regarding the use of biological goals and objectives in BDCP. 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.
1631	35	Conserve at least 1 acre of Swainson's hawk foraging habitat for each acre of lost foraging habitat (Objective SH1.1, associated with CM3 and CM11). Whereas this measure is consistent with mitigation requirements of the California Department of Fish and Wildlife, the cost of it will be very high. The EIR/EIS needs to show where willing sellers will enable the conservation of this size of an area. Protect at least 42,275 acres of cultivated lands as Swainson's hawk foraging habitat with at least 50% in very high-value habitat in CZs 2, 3, 4, 5, 7, 8, 9, and (Objective SH1.2, associated with CM3 and CM11). The EIR/EIS needs to explain what composes "high-value" habitat, and as stated above, it needs to demonstrate that 42,275 acres are available to be protected. The EIR/EIS needs to clarify whether protecting cultivated lands means locking in the production of certain crops even when market conditions or water availability might change. This measure seems unrealistic. Of the at least 42,275 acres of cultivated lands protected as Swainson's hawk foraging habitat under Objective SH1.2, up to 1,500 acres can occur in CZs 5 and 6, and must have land surface elevations greater than −1 foot NAVD88 (Objective SH1.3, associated with CM3). The EIR/EIS should explain the justification of this measure and why it will adequately conserve Swainson's hawk.	Please see Master Response 5 regarding the use of biological goals and objectives in BDCP. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		Protect at least 10,750 acres of grassland, vernal pool, and alkali seasonal wetland as Swainson's hawk foraging habitat (Objective SH1.4, associated with CM3). The EIR/EIS should identify where these acres will be protected, and it should demonstrate why protecting these acres will conserve Swainson's hawks any more effectively than had these acres not been protected. Protect and enhance at least 8,100 acres of managed wetland, at least 1,500 acres of which are in the Grizzly Island Marsh Complex (Objective MWNC1.1, associated with CM3). Unless something has changed recently, Swainson's hawks have not lived within the Grizzly Island Marsh Complex. There is only one CNDDB record of Swainson's hawk occurring in this Marsh. This measure appears to be empty and will do very little if anything to conserve Swainson's hawk. Maintain and protect the small patches of important wildlife habitats associated with cultivated lands within the reserve system including isolated valley oak trees, trees and shrubs along field borders and roadsides, remnant groves, riparian corridors, water conveyance channels, grasslands, ponds, and wetlands (Objective CLNC1.3, associated with CM3." The EIR/EIS needs to identify where these patches of habitat occur and it needs to explain how protecting these patches will translate into nesting pairs of Swainson's hawks that will benefit.	
1632	1	The U.S. Fish and Wildlife Service and National Marine Fisheries Service have failed to protect the public trust and carry out their duties under NEPA by allowing the U.S. Bureau of Reclamation (USBR) to act as a co-lead agency and in-turn turning over direction and control of consultants to the DWR. The USBR and DWR are the agencies exporting excessive amounts of water from the Delta and violating the conditions of their water right permits and licenses. Their allegiance with their contractors who receive water exported from the Delta is without question. Their past conduct and the revolving door of employment between such public agencies and such water contractors should raise the antenna of any public agency and public official with responsibility for protecting the public interest and trust and in particular the responsibility for acting in good faith to assure a rigorous exploration and objective evaluation of all reasonable alternatives. The most obvious alternative which is being ignored is the need for reduction in water demand on the Bay-Delta Estuary due to the SWP and CVP exports which are by law to be limited to water which is surplus to the present and future needs, including fish and wildlife needs of the Delta and other areas of origin. The purpose and need basis for the BDCP DEIS/EIR includes the "up to full contract amounts" purpose which is an inappropriate constraint on an EIS to support a fifty (50) year take permit from agencies responsible for protecting endangered species. The purpose statement for an EIS to support U.S. Fish and Wildlife Service and National Marine Fisheries Service action should clearly include a statement requiring consideration of a range of alternatives from reducing exports to zero to an upper level of what can be reasonably demonstrated to be amounts and times when water is truly surplus to the present and future needs of the Delta and other areas of origin including fish and wildlife.	As indicated in Chapter 1, Introduction of this Final EIR/EIS DWR and Reclamation are co-lead agencies under CEQA and NEPA because the California WaterFix (Alternative 4A) is the preferred alternative (proposed action). Because USFWS and NMFS would not have a permitting role under Alternative 4A, those two agencies have assumed roles as cooperating agencies for purposes of NEPA review of the RDEIR/SDEIS and this Final EIR/EIS. With regards to comments related to Water Rights, please refer to Master Response 32 and related to public trust obligations please reference Master Response 13. 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 with the understanding that full contract amounts would not be delivered on average for the alternatives considered in the EIR/EIS, as described in Chapter 2, Project Objectives and Purpose and Need. DWR and Reclamation are responsible to deliver up to the full contract amounts in accordance with water availability and contractual obligations. 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 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 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 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.
1632	2	The failure of DWR to comply with legal requirements for access to private property does not excuse the need for information and data necessary for good faith compliance with	Section 4A.2.4 of Appendix 4A describes the environmental review for geotechnical activities, and details the time periods in which geotechnical activities were scheduled. Other comments regarding access to private property and complying with the law are not specifically directed at the content of the EIR/EIS or

DEIRS Ltr#	Cmt#	Comment	Response
		NEPA or CEQA. BDCP DEIS/EIR Appendix 4a in section 4A.1 provides: "Under CEQA and NEPA, state and federal lead agencies are required to undertake a certain amount of original research and analysis in order to obtain the information required to prepare legally sufficient environmental impact reports (EIRs) and environmental impact statements (EISs). Although there is no bright line rule articulating precisely how much effort is required, the applicable general principle is that lead agencies must undertake thorough investigations in light of what is reasonably feasible under the circumstances facing a particular proposed 'project' or 'major federal action'." In Appendix 4a after an excusatory explanation of DWR efforts to gain access to private property, it is concluded that "In short, DWR has done all that is reasonably feasible under the circumstances to conduct thorough investigation of the impacts of all of the BDCP alternatives." What is not included is that DWR did not comply with the statutory and constitutional requirements protecting private property rights. Whether due to political pressures to get "Sh*t" done (See Exhibit 7 [BDCP1561-ATT7]) they didn't want to take the time to comply with law or whether they wanted to avoid the due process to landowners and cost to the water contractors of providing legally required compensation, their efforts were not conducted in good faith. Also absent from the obviously self-serving explanation by DWR is that relevant data including boring data was obtained by DWR from access to cooperating landowners lands on Mandeville Island and Bacon Island in June and July of 2012 which was not revealed in the Draft EIS/EIR in the November 2013 posting of boring data although it was compiled on about April of 2013. See Exhibit 30 [ATT1] which contains the data which was not posted or acknowledged. Lead agencies other than DWR with adequate funding from the water contractors or the applicant agencies could have made efforts to obtain the necessary data. Failure to proceed in compliance with law is not a valid excuse.	environmental review process and no additional response is required.
1632	3	The NEPA lead agencies have failed to comply with 40 CFR 1502.22 which in pertinent part provides: [Section] 1502.22 Incomplete or unavailable information When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking. (a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement. (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means	Please refer to Appendix 4A of the Final EIR/EIS. DWR has been unable, despite diligent efforts, to gain access to all of the private properties within the Delta on which it would like to conduct ground surveys, Environmental Site Assessments, and engineering, biological, geotechnical, and archaeological, floral and faunal studies. Although DWR has been able to conduct some of the geotechnical studies it contemplated originally, In short, DWR has done all that is reasonably feasible under the circumstances to conduct 9 thorough investigation of the impacts of all of the BDCP alternatives. The methods section of Chapter 12 Terrestrial Resources, Chapter 9 Geology and Seismicity and Chapter 18 Cultural Resources include detailed methodologies used to analyze proposed project impacts to resources. These details include research and theoretical approaches that meet NEPA requirements for assessing project impacts. Additional cultural and geotechnical surveys will be conducted once the final construction design has been accepted. Also please refer to Master Response 20 for more information on cultural surveys.

DEIRS Ltr#	Cmt#	Comment	Response
		to obtain it are not known, the agency shall include within the environmental impact statement: (1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, 'reasonably foreseeable' includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason." The required disclosures, relevance of the data not obtained and theoretical data substituted for such information have not be provided. Exhibit 31 [ATT2] is a copy of the typical DWR requested Temporary Entry Permit which indicates the data which was claimed necessary for the proper preparation of the BDCP EIS/EIR. The relevance, foreseeable significant adverse impacts and the "agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community" must be provided.	
1632	4	THE DISCLOSED AND UNDISCLOSED SOIL BORING SAMPLES COLLECTED BY DWR WERE IN SIGNIFICANT PART NOT HANDLED PROPERLY, NOT ADEQUATELY TESTED FOR CHEMICAL COMPOSITION, AND NOT ANALYZED IN A MANNER TO PROVIDE A GOOD FAITH DISCLOSURE OF IMPACTS FROM REUSE OF TUNNEL MATERIAL. The Reusable Tunnel Material (RTM) Testing Report dated March 2014 and the supporting "Laboratory Reports" are located on the BDCP EIS/EIR website under "Supporting Technical Studies." The proposed Reuse of Tunnel Material includes deposit near the various access tunnel shafts for the purpose of habitat restoration and as fill on subsiding Delta islands. In order to evaluate the impacts, the specific material that is likely to be extracted from the particular tunnel shaft should be analyzed as to the impacts at the particular location where it is to be deposited. At page 2-4 of said Reusable Tunnel Material testing report, it is explained that testing was based on a composite sample created by mixing "soil core from nineteen borings (elevation -100 ft. to -170 ft.). Table 3-3 on pages 3-9 to 3-13 show the constituents where there is an exceedance of minimum soil screening concentration for human health. Table 3-5 on page 3-21 shows the constituents where there is an exceedance of an ecological screening guideline. At page 3-23, the following statements are made: "However, exposure of people, wildlife and plants to conditioned soil has not been fully assessed under unrestricted-use conditions, creating an uncertainty for potential adverse effects. If RTM is to be placed in the environment where people could contact the soil, either directly (e.g., through skin contact) or indirectly (e.g., as airborne particulate, or as leachate in surface or drinking water), then human health risk assessment(s) will need to be developed." (3.2.5) "Although the tests performed indicate favorable results for reusability of RTM, if conditioned soil is to be placed in the environment for large-scale uses then additional	The scope of the RTM study included mixing representative soil conditioner products with available soil samples from the proposed tunnel zone. Prior to development of the RTM study, previous test results on soil samples from within the proposed tunnel zone had not identified environmental concerns with regard to volatile organic compounds. Accordingly, after mixing with representative conditioner products, the laboratory soil samples were allowed to air dry to model anticipated field construction sequencing. RTM samples were tested for a variety of potential environmental constituents primarily to evaluate if the addition of soil conditioners would significantly alter the chemical composition of the RTM. Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1). Note as stated the RTM report provided an initial analysis of existing information. With additional design and data please refer to the Final EIR/EIS Chapter 31, Section 5.1.4. It is anticipated that these materials will require handling, storage, and disposal, as well as chemical characterization, prior to any reuse. It is anticipated that one or more of the disposal and reuse methods could be implemented on any individual spoil, reusable tunnel material (RTM), or dredged material site. Depending on which combination of these approaches is selected, implementation of material reuse plans could create environmental impacts related to ground disturbance, noise, release of hazardous materials, traffic, air quality, water quality, and Important Farmland or farmland with habitat value for covered species.

DEIRS Ltr#	Cmt#	Comment	Response
		plant growth tests may be required by regulatory agency and/or permitting agency authorities." (3.3.2) At page 3-24, the following statement is made: "The safety of human or animal consumption of agricultural crops grown in the conditioned soil was outside the scope of this study. Consultation with the California Department of Food and Agriculture would be required to evaluate this issue further."	
1632	5	On the Bates-Stamped pages, Case Narratives are presented for the various samples used for the March 2014 Reusable Tunnel Material Testing Report. The following statement is made for numerous samples used for the testing report: "Samples were received out of prescribed holding time and without thermal preservation. The samples were analyzed upon client advice to proceed with the analysis." (Emphasis added.) This statement is made on the following pages: Bates Pages 4001, 5001, 5011, 5021, and 8011. The sample dates collected as reflected on the sample test results do not appear to be correlated with boring dates. See Figure 1-1 on page 1-3 which shows the nineteen borings from which the cores were taken and mixed. The borings are scattered over thirty (30) miles with most in the north. Chemical composition for each boring is not given and thus the impact in each area of deposit cannot be determined. Chemical analysis of the core samples for each of the borings should have been performed so that impacts at each of the reuse sites could be examined based on the results from the borings which reflect the material to be deposited at the particular reuse site. The composite sample precludes such analysis.	Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1). The scope of the completed RTM study included mixing representative soil conditioner products with available soil samples from the proposed tunnel zone. Prior to development of the RTM study, previous test results on soil samples from within the proposed tunnel zone had not identified environmental concerns with regard to volatile organic compounds. Accordingly, after mixing with representative conditioner products, the laboratory soil samples were allowed to air dry to model anticipated field construction sequencing. RTM samples were tested for a variety of potential environmental constituents primarily to evaluate if the addition of soil conditioners would significantly alter the chemical composition of the RTM.
1632	6	THE BDCP AND DRAFT EIS/EIR HAVE FAILED TO FORTHRIGHTLY SEGREGATE THE MITIGATION REQUIREMENTS AND ALLEGED BENEFITS OF THE BDCP FROM THE MITIGATION REQUIREMENTS AND AFFIRMATIVE OBLIGATIONS OF THE SWP AND CVP UNDER OTHER PLANS AND LAWS. At page 4 of the BDCP Executive Summary, Footnote 3 correctly provides the requirements for BDCP as follows: "The BDCP is responsible for the mitigation of its effects. The mitigation actions and mitigation requirements of the BDCP must be additive to the mitigation obligations of other plans (i.e., BDCP mitigation cannot supplant the mitigation obligations of other plans and vice-versa)." SWP and CVP compliance with yet to be fulfilled existing obligations does not provide a legitimate basis for granting a fifty (50) year take permit. The projects are obligated to meet the current Biological Opinions which have recently been upheld by the 9th Circuit Court of Appeals. The Central Valley Project Improvement Act (CVPIA) anadromous fish restoration requirements are in place but compliance is lacking. (Exhibit 32 [ATT3] is the Listen to the River: An Independent Review of the CVPIA Fisheries Program December 2008 which discusses the non-compliance.) The projects are required by State Water Resources Control Board D-1641 to meet specific Bay-Delta water quality objectives	Additional testing and characterization of RTM will be performed. The process for determining disposal, storage, and reuse of RTM is described in Appendix 3B, Environmental Commitments (Section 3B.2.18) of the RDEIR/SDEIS, and illustrated by a flowchart (Figure 3B-1). The scope of the completed RTM study included mixing representative soil conditioner products with available soil samples from the proposed tunnel zone. Prior to development of the RTM study, previous test results on soil samples from within the proposed tunnel zone had not identified environmental concerns with regard to volatile organic compounds. Accordingly, after mixing with representative conditioner products, the laboratory soil samples were allowed to air dry to model anticipated field construction sequencing. RTM samples were tested for a variety of potential environmental constituents primarily to evaluate if the addition of soil conditioners would significantly alter the chemical composition of the RTM.

DEIRS Ltr#	Cmt#	Comment	Response
		which they continue to violate. (See discussed in DJN Sr. Part One [BDCP1561] and Exhibits 19 and 20 [BDCP1561-ATT19 and ATT20].) The projects are to provide salinity control and an adequate water supply in the Delta sufficient to maintain and expand agriculture, industry, urban and recreational development in the Delta and as a precondition to the export of water from the Delta. (See discussion in DJN Sr. Part One, Water Code section 12200 et seq. and Exhibit 14, page 12 [BDCP1561-ATT14].) The projects are to maintain the interior Delta as a "common pool" or source for both local supply and export and the management of releases from storage for use outside of the area must be integrated to the maximum extent possible to provide salinity control and such adequate supply for the Delta. (See particularly Water Code 12200 and 12205 and Exhibit 14, page 11, second paragraph and page 44, second paragraph.) The projects cannot directly or indirectly deprive the Delta and other areas of origin of water needed for all present and future purposes including future maintenance of fish resources. (See discussion in DJN Sr. Part One [BDCP1561] and Water Code section 11460 et seq.) The SWP must preserve fish and wildlife. (Water Code section 11912.) Mitigation must also be provided by the SWP and CVP for the adverse impacts such as: Diversion of the San Joaquin River by the CVP which deprives the Delta and fish of the historic high quality natural flow of the San Joaquin River; SWP and CVP actions to provide water to the west side of the San Joaquin Valley which result in degradation of the San Joaquin River water quality due to direct discharge of high salinity return flow and drainage water and indirectly the accretion to the river of high salinity groundwater; SWP and CVP inducement of upstream diversion and consumption of water; SWP and CVP storage of winter and spring natural flushing flows, project inducted salinity intrusion from the West caused by export pumps, lowered water levels in the vicinity of the export pumps, destruction of anadromous fish spawning habitat due to construction of reservoirs which submerge such habitat and otherwise block fish passage to such habitat, relocation of and damage to special status fish such that critical habit designations restrict activities in the Delta, increased temperature and other impacts. The SWP and CVP must also comply with Water Code section 85054 Co-equal goals and Water Code section 85021 Reduction of reliance on Delta for future water supply needs. Compliance with law is not a benefit but an obligation of the projects. Compliance with already existing requirements and obligations is not additive.	
1632	7	THE BDCP HAS FAILED TO ADEQUATEL Y IDENTIFY CHANGED CIRCUMSTANCES, PLAN RESPONSES AND ALLOCATE FUNDS IN THE EVENT THAT THEY SHOULD OCCUR. The BDCP Executive Summary at page 24 sets forth the changed circumstances for which there must be a planned response and allocation of funds in the event that they should occur. The listing includes: levee failures, flooding, new species listing, wildfire, toxic or hazardous spills, drought, non-native invasive species or disease, climate change and vandalism. The BDCP Public Draft Plan Implementation 6.4.2 Changed Circumstances at page 6-31 provides the following to define "changed circumstances." "In the context of the ESA, changed circumstances are defined as 'changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the [USFWS and NMFS] and that can be planned for.' The NCCPA similarly defines changed circumstances as 'reasonably foreseeable circumstances that could affect a covered species or geographic area covered	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. No revisions to the Draft BDCP regarding change circumstances have been made. Should an HCP/NCCP alternative be selected during project decision making, the suggested revisions will be considered. The commenter may refer to the Final EIR/EIS, Appendix 6A, BDCP/California WaterFix Coordination with Flood Management Requirements.

DEIRS Ltr#	Cmt#	Comment	Response
		by the plan' (50 CFR 17. 3, 50 CFR 222. 102, and Fish & Game Code 2805(c)." (Emphasis added.)	
1632	8	With regard to "Changed Circumstances", there are major deficiencies in the BDCP: BDCP limits its focus to the physical habitat in a particular geographic area and ignores other "circumstances affecting a species." The obvious purpose of the law is to protect the species. Habitat without fish is not a solution. All of the circumstances necessary to have fish must be assured to be in place. For example, in the case of drought there must be cold water in the rivers upstream of the Delta for successful spawning of winter run chinook salmon. Without winter run salmon, the conservation measures for such are not effective. The planned response and "allocated funding" to assure the provision of such cold water are not identified.	This comment addresses issues relating to changed circumstances affecting aquatic species. The proposed project will be implemented with an adaptive management plan similar to considerations of changed circumstances as described in the BDCP alternatives. With regards to impacts during drought t conditions please refer to Chapter 11 of the Final EIR/EIS and Master Response 47. For comments regarding funding, please see Master Response 5.
1632	9	With regard to "Changed Circumstances", there are major deficiencies in the BDCP: BDCP assumes if the changed circumstances are addressed in the modeling that there is no need to provide a planned response and an allocation of funds. The BDCP itself requires the assurance that it will be carried out. Real funding must be identified and allocated. It is quite apt that the real funding for the BDCP has not been identified and certainly not allocated.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within For detailed responses on the primary issues being raised with regard to the BDCP and funding, please see Master Response 5.
1632	10	With regard to "Changed Circumstances", there are major deficiencies in the BDCP: The process for response has no substance and certainly no enforceable deadline for response. Adaptive management and monitoring could be applied until the endangered species are extinct.	Please refer to responses 7 and 9 above.
1632	11	With regard to "Changed Circumstances", there are major deficiencies in the BDCP: Real funding is not identified in any meaningful way and is certainly not allocated. There is no identification of funding sources with supporting documents to verify that it will be available in the future and certainly no allocation of such funding. The fifty (50) years of permitted take must be accompanied with specifically allocated real funding.	With regards to flood protection, again please refer to Appendix 6A of the final EIR/EIS.
1632	12	The BDCP is not meaningfully responsive to the requirements. By way of example, with regard to levee failure, the following is provided in 6.4.2.2.1 pages 6-35 and 36: "...The site of the levee failure will be evaluated to allow adequate time for the Implementation Office to contact and coordinate with the responsible flood management entity. For example, the Implementation Office may need to obtain permission from the local entity to access the property. The Implementation Office will follow the same procedure for site assessment as it will for a BDCP-related levee failure. The Implementation Office will also coordinate with the responsible flood management entity to ensure that the responsible entity repairs the levee. The responsible flood management entity will therefore assume financial responsibility for the costs of the remedial action, including for the levee repair work and the restoration of the affected reserve system lands. However, to ensure that the repair work occurs quickly and permit compliance is not compromised, the Implementation Office may need to assist the responsible local flood management entity (e.g., provide	For information related to levee maintenance and flood management in the Delta, please refer to the Final EIR/EIS, Chapter 6, Appendix 6A, Construction Assumptions, Appendix 3C and for construction and best management plans, Appendix 3B Environmental Commitments.

DEIRS Ltr#	Cmt#	Comment	Response
		funding to be reimbursed or complete repairs and be reimbursed." No assurance is provided that the local flood management entity will be solvent and there is no assurance that the Implementation Office will assist or has the financial capability to assist. The word "may" does not provide certainty.	
1632	13	In addition to the major deficiencies, the "changed circumstances" have been redefined to narrow the obligation. The net result is that there is no real assurance that all elements will be in place for the species of concern to recover or survive. In BDCP Public Draft Chapter 8 at page 8-101, the appropriations to the Central Valley Project Improvement Act (CVPIA) Restoration Fund are set forth in Table 8-53. For the period of 1994-2002, the total amount is $866,829,000. Even with such funding, the CVPIA 3406(b)(1) objective that "by the year 2002, natural production of anadromous fish in Central Valley rivers and streams will be sustainable, on a long-term basis, at levels not less than twice the average levels attained during the period of 1967-1991" has not been achieved. "the term 'anadromous fish' means those stocks of salmon (including steelhead), striped bass, sturgeon, and American shad that ascend the Sacramento and San Joaquin Rivers and their tributaries and the Sacramento-San Joaquin Delta to reproduce after maturing in San Francisco Bay or the Pacific Ocean" Exhibit 33 [ATT3] contains the CVPIA Anadromous Fish Restoration Program (AFRP) Graphs showing the production and obligated target for only some of the anadromous fish. Comparable graphs are not provided for other anadromous species such as striped bass, sturgeon and American shad. The graphs show that the target has not been met for the major populations of salmon and steelhead. The amount of funding needed to achieve such foreseeable changed circumstance and the specific allocation of such funding is not provided.	The commenter raises questions related to the implementation of the CVPIA. Please see the Environmental Setting Chapter 5 of the Final EIR/EIS, beginning on page 5. For comments related to funding, please refer to Master Response 5.
1632	14	[ATT1: 2012 boring data from Bouldin, Mandeville, and Bacon Islands.]	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.
1632	15	[ATT2: Typical DWR-BDCP Temporary Entry Permit for access to private property.]	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.
1632	16	[ATT3: Listen to the River: An Independent Review of the Central Valley Project Improvement Act Fisheries Program. December 2008.]	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.
1632	17	[ATT4: Figures 1 through 36. Graphs from the Central Valley Project Improvement Act Anadromous Fish Restoration Program showing the production and obligated target for certain anadromous fish in Central Valley rivers and creeks.]	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.
1633	1	Fundamentally flawed modeling: The climate change scenario violates CEQA and NEPA because the No Action Alternative (NAA) assumes certain changes as the result of climate change, and that the export projects' water operations would continue as if the climate changes were not taking place. As a result, under the NAA major California reservoirs are projected to operate to dead pool conditions in approximately 10% of years. Such operations do not reflect what	The “dead pool” conditions presented in the CALSIM II model results in the EIR/EIS are developed from calculated monthly average reservoir volumes. Because the model only calculates and reports SWP and CVP water operations at an average monthly basis, the model cannot simulate changes that occur on a weekly basis by water users and SWP and CVP operations. In addition, the model cannot make decisions that occur in real-time, such as drought operations during the ongoing drought. Instead the model includes average operating criteria for all dry periods, and does not reflect specific changes. The dead pool conditions occur in the No Action Alternative as compared to the Existing Conditions because the model includes changes in

DEIRS Ltr#	Cmt#	Comment	Response
		"would reasonably be expected to occur" and do not include "predictable actions" (as required by CEQA and NEPA) that would likely be taken by water managers to avoid such conditions. This years' experience at Folsom Reservoir demonstrates the lengths to which water managers will go to avoid depleting water levels approaching the dead pool. The NAA is unrealistic and no confidence can be placed in the EIR/EIS comparisons between the NAA and the project alternatives. Unfortunately, the flawed modeling fails to meet the CEQA and NEPA standards to provide the public with accurate information on the potential impacts of the project. Attachment 1 [see ATT 1 and ATT 2] provides further discussion and documentation on this technical issue.	precipitation without making changes in water diversion patterns. The EIR/EIS analysis considers changes between the frequency of dead pool conditions under the alternatives and the No Action Alternative (both with the same climate change assumptions) to determine if the changes are adverse or beneficial. It is recognized that operations of the SWP and CVP reservoirs and other reservoirs probably will be modified in the future in response to climate change and other water resources operations. However, it would be speculative to develop hypothetical changes in operations under the No Action Alternative or Cumulative Impact Analysis; and these changes are not consistent with the Project Objectives and Purpose and Need statement for the action alternatives. Future changes in reservoir operations would require separate environmental analyses under CEQA and NEPA, and revised reservoir operations permits which could affect SWP and CVP operations. For additional information regarding purpose and need, please see Master Response 2. For additional information regarding cumulative impacts, please see Master Response 9. For additional information regarding greenhouse gas emissions and climate change, please see Master Response 19. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30. 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.
1633	2	Incomplete assessment of Mokelumne fishery impacts: The EIR/EIS documents fail to provide a complete assessment of the potential impacts on the Mokelumne River fisheries as required by CEQA/NEPA. As we have noted previously, the BDCP frequently assumes that the Mokelumne is "part of" either the San Joaquin or Sacramento Rivers. It inappropriately either extrapolates results to the Mokelumne River from studies conducted on those river systems, or combines data from different systems to determine "overall" impacts on a species while failing to identify specific impacts on Mokelumne populations. The Mokelumne is a distinct river system and the Mokelumne fish face conditions that are significantly different than those in the San Joaquin and Sacramento Rivers. It is essential that the BDCP assess impacts specifically on the Mokelumne fishery, as the Mokelumne River contributes a very high percentage of non-Sacramento-origin salmonid return in the Central Valley. Attachment 2 [see ATT 3] provides additional technical comments and recommendations regarding fishery impacts.	Quantitative analysis of through-Delta survival for juvenile fall-run Chinook salmon from the Mokelumne River was conducted separately from the analyses for Sacramento River and San Joaquin River-origin fish, and the overall conclusion for all populations combined was consistent across runs; indeed, the differences between NAA and alternatives (e.g., Alternative 4A in the RDEIR/SEIS and Final EIR/EIS) in terms of through-Delta survival estimates from the Delta Passage Model were lower for the Mokelumne River juvenile fall-run Chinook salmon than for those from other tributaries.
1633	3	Specific to the conservation measures, the only actions directed at the Mokelumne River involve the construction of 1,500 acres of seasonal floodplain which have uncertain benefits. The only modeled result from building the habitat is that it will increase residency time of Mokelumne and Cosumnes River origin water within the central Delta. Increasing the residency time of Mokelumne and Cosumnes River origin water may adversely affect juvenile salmonid survivability, and the EIR/EIS fails to include that potential impact. Throughout the document the poor survival outcome for salmonids migrating via the central Delta is described in detail using results from studies focused on Sacramento origin salmonids, not Mokelumne and Cosumnes.	Changes in residence time are reflected in the river flow modeling outputs used in the Delta Passage Model. The Delta Passage Model uses Mokelumne River survival estimates for fish originally released in the Sacramento River because these are the best available quantitative estimates. The assessment of survival changes in relation to habitat restoration is qualitative. Note that the new preferred alternative, 4A, does not include large-scale restoration; restoration proposed would be designed to mitigate for lost habitat values.
1633	4	The EIR/EIS discusses the influence of DCC (Delta Cross-Channel) operations on migrating adult fall-run salmon. As far back as 1989 the operation of the DCC was identified as a	The BDCP/CWF does not propose any changes to DCC operations, but should these be developed as part of the existing investigation led by Reclamation that the commenter references, they would occur within the

DEIRS Ltr#	Cmt#	Comment	Response
		potential impact to salmonid migration in the first meeting of the multi-agency Mokelumne River Technical Advisory Committee. The Lower Mokelumne River Partnership, which includes representatives from CDFW, USFWS, and NMFS worked with USBR to develop a low-risk study plan looking at the effects of DCC closures on migrating salmon. Moreover, both USFWS and CDFW provided comments supporting continued evaluation of DCC closures to improve salmon returns to both the Sacramento and Mokelumne River systems. Yet, no such evaluations are presented as part of the BDCP nor are any other studies or actions focused on Mokelumne origin salmonids proposed in the document. While the hazards and low survival of migratory fish passing through the central Delta are recognized, no attempt is made to determine or overcome the uncertainties involved in the limited measures targeting the area.	overall framework of BDCP/CWF operations. Results of DSM2-QUAL fingerprinting analysis as an assessment of changes in olfactory cues for upstream migrating salmonids returning to the Mokelumne River are included in the Final EIR/EIS.
1633	5	Assurances not justified given significant uncertainties: Hidden costs of "No Surprises" assurances: A key component of the BDCP is the assurances that will be granted to the project proponents in the form of long-term operating permits. Under both the federal ESA and the NCCP (Natural Community Conservation Planning) Act, assurances ("No Surprises" benefits) are available to permittees in exchange for commitments to implement conservation measures in accordance with an approved HCP (Habitat Conservation Plan)/NCCP. As described in Chapter 6 in the BDCP, under the No Surprises rule, "[i]f 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, or other non-Federal landowners who have not yet developed an HCP." (BDCP at 6-29 through 30 [citing 63 Fed. Reg. 8867].) The core concern for EBMUD (East Bay Municipal Utility District) is about how the assurances provided to BDCP permittees might affect non-permittees; specifically, where will the water and funding come from to implement additional measures that may be required? The BDCP leaves many related questions unanswered. Assurances must be proportional to the certainty that the BDCP will be effective. See, e.g., Fish and Game Code [Section] 2820(t)(l) (listing factors CDFW must consider in determining the level of assurances to be provided to permittees). Unfortunately, the BDCP, a habitat conservation plan/natural community conservation plan of unprecedented scope and complexity, is pervaded by uncertainties regarding costs, funding, operations, conservation measure implementation, conservation measure outcomes, and the "silver bullet" of adaptive management. As the Independent Review Panel (Panel) noted in its March 2014 review of the draft EIR/EIS, "many of the critical justifications behind the supposed benefits of the conservation measures are highly uncertain." The Panel further noted; "Uncertainty plus uncertainty is more uncertainty. Uncertainty never averages or cancels out uncertainty." Given the high uncertainties, it is difficult to imagine how any long-term assurances could be granted to the permittees.	Please see Master Response 5 regarding the assurances in BDCP. Please see letter number 1448 for a comprehensive response to the comments raised by the Independent Scientific Review Panel.
1633	6	Adaptive management is ill-defined and significantly underfunded: The BDCP relies heavily on the concept of adaptive management. The Panel noted that the "foundation of the BDCP is weak" and the "burden to ensure covered species benefit, if not recovery, depends on adaptive management."	Please see responses to comment letter 1448 for a comprehensive response to comments from the Independent Scientific Review Panel, which addresses adaptive management. Also, please note that the proposed project (Alternative 4A) no longer includes the BDCP although BDCP (Alternative 4) remains a viable alternative. See Master Response 33 regarding monitoring and adaptive management for the

DEIRS Ltr#	Cmt#	Comment	Response
		Adaptive management is defined as a structured, iterative process of decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. Critical to adaptive management is effective system monitoring that provides accurate, timely, and useful information for iterative decision making. Unfortunately, the BDCP fails to demonstrate a firm commitment to the adaptive management process. Active ecological monitoring, independent scientific review, and feedback systems are lacking in the BDCP. The adaptive management program offered by the BDCP is ill-defined and lacking in scientific rigor and adequate funding. For adaptive management to provide any degree of success, it must either be implemented as a specific and mandatory conservation measure, or in some other way be made a firm and clear commitment of the BDCP with appropriate levels of dedicated funding. In Appendix 8A, costs associated with monitoring actions for many of the conservation measures have been subsumed under a general category of administrative costs. Such an approach heightens the risk of underfunding a critical element of adaptive management. A transparent, comprehensive and dedicated budget must be developed that covers all the adaptive management costs, including active monitoring, independent scientific review, and feedback systems. The budget should also reflect the fact that there is significant uncertainty in the system and the monitoring and review must be sufficient to track the system responses. EBMUD (East Bay Municipal Utility District) has extensive experience with biological monitoring of the Mokelumne fishery as well as the costs involved in comprehensive ecosystem monitoring. The cost estimates provided in the BDCP for adaptive management are significantly underestimated and demonstrate a serious misunderstanding of the needs associated with the implementation of an adaptive management program as complex as that required for the BDCP. For example, the cost estimate presented in Appendix 8A-122 for Monitoring Action 16-2 is unrealistically low. The plan estimates a program cost for MA16-2 of $3.5 million over 5 years, but based on EBMUD's experience with fish tagging, the cost of tags alone will be about $4.9 million, not including staff time, data analysis, or camera monitoring equipment. In this one example, the monitoring costs are underestimated by nearly 50%, suggesting a broader concern with the cost estimates of the entire adaptive management program. A poorly conceived and underfunded adaptive management program is more likely to result in poor performance that will negatively affect covered species and produce unexpected or unforeseen circumstances. The inadequate planning for adaptive management increases the risk that government agencies and others will be forced to fund additional measures for protecting the species.	proposed project.
1633	7	Impact of assurances on water supplies: If USBR (U.S. Bureau of Reclamation) provides water from federal facilities as an element of additional measures it undertakes in the BDCP, it is reasonable to expect that such action would reduce the water supplies available to CVP contractors that are not BDCP permittees. In the Conservation Strategy chapter (3.4.23.4) there is a reference to "voluntary sellers [of] long-term access to water for the purposes of, among other things, enhancing environmental conditions in the Delta." However, the existence of such voluntary sellers is speculative and section 3.4.23.1 states that adaptive management actions will be "water-neutral" for BDCP permittees. Therefore, a zero-sum situation might easily ensue in which CVP contractual	Under the range of alternatives considered in the EIR/EIS, only water under existing water rights issued by State Water Resources Control Board to DWR and Reclamation could be delivered to SWP and CVP water contractors. The action alternatives provide a range of operations to improve ecosystem conditions and water supply reliability, but not necessarily to increase long-term Delta exports. For example, the proposed project, Alternative 4A, would increase Delta exports in winter and spring months, especially in wetter years, and reduce Delta exports in the summer and fall months of dry and critical dry years as compared to the Existing Conditions and the No Action Alternative, as indicated in Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the EIR/EIS. Although long-term exports would decline for SWP and CVP Delta exports, water supply reliability would increase over the long-term.

DEIRS Ltr#	Cmt#	Comment	Response
		obligations are directly in conflict with assurances for yield under the BDCP. It is likely that adaptive management will require increased Delta flows and with the water-neutral assurance, those increased flows could only derive from non-permittees. The BDCP does not address how such a situation would be managed or resolved. In a similar vein, water right holders could be subject to the same risk. Despite a commitment from the current Governor that other water users will not be harmed by the BDCP, it can be expected that the BDCP permittees would exert great effort to ensure that their investment paid off. Once the BDCP has been permitted, the agencies will be under increased obligation to implement the conservation measures in all circumstances, foreseeable and otherwise. Water right holders could be subject to increased flow releases to meet water quality standards, or to address adverse changes in the status of covered species, as a backstop for the assurances granted to BDCP permittees.	As described in Chapter 3, Description of Alternatives, the action alternatives considered in the EIR/EIS do not include specific water transfers. The EIR/EIS acknowledges that water transfers would continue in a similar manner as historic transfers and in accordance with State and Federal laws and regulations. The EIR/EIS also acknowledges that the use of water transfers between agencies could increase in the future as SWP, CVP, and other surface water supplies are reduced due to climate change, sea level rise, and increased water demand in the Delta watershed, as described in Appendix 1E, Water Transfers in California: Types, Recent History, and General Regulatory Setting, and Appendix 5D, Water Transfer Analysis Methodology and Results, of the EIR/EIS. Because specific agreements have not been identified for water transfers and other non-project voluntary water market transactions, project level analysis of impacts upstream of the Delta is highly speculative and this EIR/EIS does not constitute the CEQA/NEPA coverage required for any specific transaction. Rather, it provides an analysis of how transfers relate to the proposed water 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. As shown in Table 5D-8, the maximum cross-Delta transfers under Alternatives 1 through 9 would be greatest under Alternative 8 because there would be the most available capacity. Any future water transfers will require separate approvals. The analysis of any potential upstream impacts is not a part of this EIR/EIS and must be covered pursuant to separate laws and regulations once the specific transfer has been proposed. For additional information regarding water transfers, please see Master Response 43. With regards to water rights, please see Master Response 32.
1633	8	The implementation of additional measures by the federal and state agencies will require funding. The inclusion of "non-Federal landowners" along with the Federal and other parties responsible for funding such measures is of concern for two reasons. First, the term "non-Federal landowners" is not defined, therefore many water users could fall into that category. And second, "non-Federal landowners" are not cited in the language of the rule itself. The failure of Chapter 8 to identify firm funding sources for virtually the entire Plan, let alone procedures for dealing with unforeseen circumstances, leaves open significant questions about whether non-permittee water users could be exposed to costs of BDCP implementation, whether in the form of water supplies or dollar funds.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. Master Response 5 provides an overview of the cost to construct the BDCP and an overview of funding sources. As described in the Chapter 8 of the Draft BDCP, the entire cost of the BDCP would be paid for by the participating state and federal water contractors whose ratepayers (businesses and residents) receive water from the Delta. Master Response 5 also provides information on the proportion of funding of the BDCP from different sources. The funding assurances are consistent with state and federal regulations.
1633	9	Failure to comply with ESA and NCCPA (Natural Community Conservation Planning Act): The BDCP does not comply with ESA and NCCP Act standards for cost estimates and funding projections. As in previous drafts of the BDCP, Chapter 8 provides inadequate information for a reasoned assessment of how the BDCP will be paid for, and by whom. At a threshold level, Chapter 8 (Implementation Costs and Funding Sources) does not meet the requirements of the NCCP Act, which requires 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 and Game Code Section 2820(b)(3)). Similarly, the federal ESA requires that HCPs (Habitat Conservation Plans) specify "the applicant will ensure that adequate funding for the plan will be provided" for conservation actions that minimize and mitigate impacts on covered species. The statute, applicable case law, and guidance documents provide that the BDCP: - Must "ensure" funding over the lifetime of the permit;	Please see response to comment 8.

DEIRS Ltr#	Cmt#	Comment	Response
		- Cannot rely on federal funding to "ensure" funding of the plan in light of the "Anti-Deficiency Act and the availability of appropriated funds"; - Must provide "remedies for failure to meet funding obligations by signatory measures"; - "Cannot rely on speculative future actions of others" for funding; and - Must be backed by a guarantee by the applicant to ensure funding for all plan elements. [Footnote 1: 16 USC 1539(a)(2)(B)(iii); National Wildlife Federation v. Babbit, 128 F.Supp.2d 1274, 1294-95 (E.D. Cal., 2000); Southwest Center for Biological Diversity v. Bartel, 470 F.Supp.2d 1118, 1155 (S.D. Cal., 2006); HCP Handbook, pp. 3-33 to 3-34.] The BDCP meets none of these conditions, and in fact relies on arguments that are expressly in contradiction to the statutory requirements. In essence, the BDCP will rely on funding from three primary sources: state and federal water contractors, two state water bonds, and continuing and expanded federal appropriations. Each of these three sources is fraught with uncertainties that pose fundamental challenges to the financial viability of the Plan.	
1633	10	State and federal contractors: Chapter 8 provides barely any elaboration on the statement that "funding of CM1 Water Facilities and Operation will come from state and federal contractors." Critical information is lacking on: - The respective financial obligation of urban and agricultural contractors; - The ability and willingness to pay on the part of the agricultural contractors, who will use approximately 70% of the yield; - How the $2 billion obligation previously assigned to the Friant Water Users will be paid; - The financial obligation, if any, of the CVP contractors who are not BDCP permittees regarding Level 2 refuge supplies; and - The respective financial obligation of the CVP and SWP contractors. On this last point, the Plan states that "The actual funding share that is provided by the state versus federal water contractors for CM1 will be determined near the time that permits are issued for the BDCP." Delaying important financing decisions to the end of the permitting process effectively precludes the opportunity for the public to identify, evaluate, and communicate any concerns. This is particularly relevant given the possibility that the state (and therefore its taxpayers) might have to be the guarantor of any default by the Plan permittees, or that a statewide water use surcharge might be enacted to cover unmet costs.	Please see response to comment 8.
1633	11	State water bonds: The BDCP assumes that two water bonds, totaling more than $3.7 billion and 91% of the state share of the non-conveyance BDCP costs, will be approved by the voters. Given that the bond bills currently before the legislature dedicate no more than $1.5 billion to Delta sustainability, this projection of state bond funding for the BDCP is unrealistically optimistic even if a bond measure were to pass. The case Southwest Center for Biological Diversity v. Bartel directly addresses reliance on	Please see response to comment 8.

DEIRS Ltr#	Cmt#	Comment	Response
		funding from a future bond requiring voter approval. In the case of Southwest Ctr. for Biological Diversity v. Bartel, 470 F.Supp.2d 1118 (S.D. Cal. 2006), the Court noted that "the uncertainty of these ideas is readily apparent," that such funding is speculative in light of future voter approval requirements, and that relying on future bonds does not meet the requirement to ensure funding of an HCP under the ESA. (See id. at 1156.) Further, under the NCCP (Natural Community Conservation Planning) Act, the reliance on speculative future funding from state water bonds gives no reasonable assurance of maintaining "rough proportionality between impacts on habitat or covered species and conservation measures" (Fish and Game Code Section 2820(b)(3)(B)). Nor can reliance on speculative future state water bonds meet the requirement for the Implementation Agreement to include mechanisms to ensure adequate funding. Fish and Game Code Section 2820(b)(8).	
1633	12	Continuing and expanded federal appropriations: Several very optimistic assumptions are required to accept the Plan's projections of future federal funding. The discussion begins with a description of the CVPIA (Central Valley Project Improvement Act) Restoration Fund, and an expectation that this over- subscribed source could be used to fund several conservation measures in the BDCP. In an equally hopeful manner, the Plan projects future federal funding based on past appropriations to a wide variety of existing programs that are already committed to supporting other actions. However, the evidence is entirely in support of the opposite trend: federal funding for a huge array of discretionary programs has been declining for years, with no sign that a reversal can be expected.	Please see response to comment 8.
1633	13	Impacts on existing and proposed Mokelumne Aqueducts: the BDCP and EIR/EIS need to address a likely conflict between a future EBMUD (East Bay Municipal Utility District) cross-Delta tunnel and the proposed BDCP tunnels. EBMUD owns the land and subsurface rights along the alignment of the Mokelumne Aqueducts. Ninety miles of aqueducts traverse the Delta from Pardee Reservoir in the east to Walnut Creek in the west. In their east-west crossing of the Delta, the aqueducts pass over Lower Roberts Island, Upper Jones Tract, Woodward Island, and Palm-Orwood Tract. EBMUD has begun planning for a cross-Delta tunnel that could replace its existing above-ground aqueducts. In a telephone conversation on March 12, 2012, and in a follow-up email on March 23, 2012, EBMUD staff discussed with DWR the potential conflicts between a BDCP tunnel and EBMUD's planned cross-Delta tunnel. EBMUD's design for its cross-Delta aqueduct places the EBMUD tunnels within an elevation range of -100 ft mean sea level to -143 ft mean sea level. Tunnel design will be developed further in the future, and subsequent design phases may identify a tunnel profile outside of these elevations. The proposed BDCP tunnels will intersect the EBMUD property, existing aqueducts, and planned cross-Delta tunnel. Despite prior notification given by EBMUD to DWR, the BDCP documents fail to note the potential conflict, analyze the resulting environmental impacts, or propose mitigation. In fact, Chapter 13.1.5 of the BDCP Conceptual Engineering Report (CER)--which is the only mention, to our knowledge, of the Mokelumne Aqueduct crossing in the available BDCP documents--erroneously concludes that "no conflicts are anticipated" with regard to the Mokelumne Aqueduct crossing. The BDCP EIR/EIS must address this reasonably foreseeable conflict, and EBMUD expects the BDCP to avoid tunnelling within the -100 to -143 msl elevation range at the site of the tunnel intersection and also to provide an appropriate additional buffer between the two facilities. Attachment 3 [see ATT 4] provides additional documentation to clarify EBMUD's existing	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel or approved the referenced project.

DEIRS Ltr#	Cmt#	Comment	Response
		and planned facilities, and it is incorporated into this comment letter by reference. The EIR/EIS must address how the BDCP proponents will mitigate the environmental impacts that will result from conflicts with EBMUD's existing and planned facilities. As explained in detail in Attachment 3 [see ATT 4], the BDCP tunnel threatens to expose the Mokelumne Aqueducts and their deep foundations to substantial adverse effects resulting from soil settlement/subsidence, undermining, lateral earth movement, construction vibrations and vibration induced settlement. Attachment 3 [see ATT 4] also provides detailed mitigation measures that will be necessary to protect the existing aqueduct facilities. Protecting this existing infrastructure is especially important given its vital role in the provision of reliable and safe drinking water service to the approximately 1.3 million people within EBMUD's service area. Accordingly, not only is the BDCP tunnel likely to cause significant direct impacts along the Mokelumne Aqueduct and EBMUD's right-of-way, it also poses a significant risk of indirect environmental impacts resulting from the potential suspension of water service that could occur if its impacts on EBMUD's facilities are not appropriately mitigated. For similar reasons, as discussed in Attachment 3 [see ATT 4], the BDCP tunnel is also likely to cause significant cumulative impacts when considered in conjunction with EBMUD's future cross-Delta tunnel project. Because the DEIR/EIS failed entirely to consider these significant impacts, a supplemental DEIS/recirculated DEIR must be prepared and made available for public comment. See CEQA Guidelines [Section] (setting forth standard for EIR recirculation); 40 C.F.R. [Section] 1502.9©(1).	
1633	14	Impacts on Freeport Regional Water Project: The EIR/EIS fails to address adverse impacts that the BDCP intake facilities may have on operations of the existing Freeport Regional Water Project (FRWP) facilities. Modeling simulations performed with DSM2 by DWR, and confirmed by independent DSM2 modeling, show that proposed BDCP operations will cause a significant increase in reverse flows in the Sacramento River in the vicinity of Freeport, and such flow changes will adversely impact FRWP operations. Interruption of FRWP operations poses a risk of indirect environmental impacts resulting from the potential suspension of water service that could occur if FRWP operations were curtailed as the result of reverse flows. The modeling results show that eventual wetland restoration in certain areas will mitigate these impacts, but such restorations should be undertaken concurrently with, or in advance of, the conveyance construction so as not to delay the mitigation. Attachment 4 [see ATT 5] provides additional details regarding this issue.	As described in the Final EIR/EIS, Alternative 4A would be required to operate to a positive downstream sweeping velocity and meet north Delta diversion bypass flows downstream of the intakes. The DSM2 results for Alternative 4A upstream of the North Delta Diversion were analyzed to evaluate the potential for increased frequency of reverse flows. The results indicated that the advective distance 0.9 miles associated with tidal reversals would not increase under Alternative 4A compared to the No Action Alternative. Therefore, the modeling results indicate that the north Delta diversion are not exacerbating the tidal reversals upstream of the proposed intakes. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered that does not include large scale habitat restoration.
1633	15	Unfounded "optimistic bias" present throughout the documents: In a number of critical aspects, the BDCP relies on optimal conditions and outcomes to achieve its goals. In its draft report released in May, the Delta Independent Science Board states that "Expectations for the effectiveness of conservation actions are too optimistic" for the purposes of counterbalancing any negative impacts of water diversions and changes in flow. In other words, there is well-grounded doubt that the proposed ecosystem measures will be able to contribute to the recovery of the listed species to the extent assumed. As noted by the Independent Review Panel, the BDCP and EIR/EIS authors used "professional judgment" rather than scientific data to understate or ignore uncertainties and arrive at conclusions that are more positive than the science suggests. Such scientifically unsupported "optimistic bias" present throughout the entire BDCP process is disconcerting. It implies an unwillingness of the project proponents to view the project	Please refer to comment letters 1448 and 2546 to see responses to the Delta Independent Science Board's comments. 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. Please refer to Master Response 5 regarding assurances.

DEIRS Ltr#	Cmt#	Comment	Response
		realistically. The findings of the numerous peer reviews strongly suggest that the EIR/EIS has failed to adhere to best available science as required by the ESA (Endangered Species Act), NCCPA (Natural Community Conservation Planning Act), and Delta Reform Act. It is critical that the EIR/EIS be thorough, non-biased, and realistic. EBMUD (East Bay Municipal Utility District) is greatly concerned that unjustified assurances granted through the BDCP will result in fiscal and resource responsibilities being shifted to non-BDCP permittees.	
1633	16	In Chapter 8 the BDCP asserts that "The potential funding sources described in this chapter have been made conservatively. That is, costs may be lower than estimated, or actual funding from state and federal sources may exceed these projections." This claim is unsubstantiated, and ignores the distinct possibility that costs may be higher than expected, and that actual funding from state and federal sources may be substantially less than the projections. We believe the costs associated with implementing a viable adaptive management program have not been given serious consideration. And on a broader level, the BDCP simply has not been realistic about the range of possible outcomes in cost and performance. The proposed BDCP tunnels are unprecedented in their scale and magnitude, which would seem to heighten the uncertainties over the cost estimates of construction and operation. Nonetheless, the BDCP fails to consider the likely cost overruns and instead notes that "costs may be lower than estimated." The BDCP and draft EIR/EIS rely on unfounded optimistic bias in both restoration effectiveness and financial projections, and therefore fail to comply with the ESA and NCCP (Natural Community Conservation Planning) Act standards for use of best available science and cost estimates and funding projections.	Please see Master Response 5 regarding the conservative nature of the cost estimate and the regarding the proposed project's funding strategy. 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.
1633	17	[ATT 1: Attachment 1 -- Report on Review of Bay Delta Conservation Program Modeling, MBK Engineers and Dan Steiner, 6/20/2014. See also BDCP1722-ATT 1, BDCP1563-ATT 38.1, and BDCP1597-ATT 6.1, and BDCP1674-ATT 3.1]	This comment describes the title of an attachment to the comment letter. Detailed responses to substantive comments follow.
1633	18	[From ATT 1:] Implementation of Climate Change: The analysis presented in the BDCP Documents attempts to incorporate the effects of climate change at two future climate periods: the early long term (ELT) at approximately the year 2025; and the late long term (LLT) at approximately 2060. As described in the BDCP documents [Footnote 2: BDCP EIR/EIS Appendix 5A, Section A and BDCP HCP/NCCP Appendix 5.A.2], other analytical tools were used to determine anticipated changes to precipitation and air temperature that is expected to occur under ELT and LLT conditions. Projected precipitation and temperature was then used to estimate runoff into from the watersheds over an 82-year period of variable hydrology; these time series were then used as inputs into the BDCP Model. A second aspect of climate change, the anticipated amount of sea level rise, is incorporated into the BDCP CalSim II model by modifying flow-salinity relationships that estimate salinity within the Delta based on sea level and flows within Delta channels. This Report does not evaluate the analytical processes by which reservoir inflows and runoff were developed, nor does it evaluate the modified flow-salinity relationships that are assumed due to sea level rise; those items could be the focus of another independent review. This Report is limited to evaluating how the modified flows were incorporated into the BDCP Model and whether the operation of the CVP and SWP water system in	The discussion in the first paragraph of this comment is consistent with information presented in the EIR/EIS. The second paragraph is a summary of what is not included in the overall study included with comments on this letter. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		response to the modified flows and the modified flow-salinity relationship is reasonable for the ELT and LLT conditions. This work reviews the assumed underlying hydrology and simulated operation of the CVP/SWP, assumed regulatory requirements, and the resultant water delivery reliability.	
1633	19	[ATT 1: att1 -- Table 1. Scenarios used to evaluate climate change.]	This table shows the modeling assumptions for climate change in the early long term and late long term.
1633	20	[From ATT 1:] Climate change implementation is incorrect, yielding non-sensible results. Climate change hydrology in the Upper San Joaquin River basin (above Friant Dam) was incorporated incorrectly into the BDCP Model, resulting in non-sensible results. Because overall CVP operations and the San Joaquin River are interconnected, this error causes problems throughout the CVP system. With the coordinated operations of the CVP and SWP, this error can affect the SWP system. Specifically, under climate change, inflow to Millerton Lake is expected to decrease (BDCP DEIR/EIS, Appendix 29B). However, when climate change was implemented into the BDCP Model, it was done incorrectly such that: (1) the inflow into Millerton Lake was not adjusted for climate change and is thus overestimated, and yet (2) the flood control operations and water allocation decisions for Millerton Lake were adjusted for climate change as if the inflow was reduced. The net effect is that storage in Millerton Lake is overestimated; in fact, the BDCP model indicates that the amount of water stored in Millerton Lake will actually be increased as a result of climate change even though the inflow to the lake is projected to be reduced (i.e., non-sensible). This error results in the overestimation of Millerton Lake storage causing an overestimation of reservoir releases for flood control purposes and available water downstream at the Mendota Pool; these unreasonably high flood releases are then diverted by CVP exchange contractors in lieu of taking CVP Delta water, which means that either CVP Delta exports are reduced or the water is backed up into San Luis Reservoir (SLR), overestimating SLR storage. Furthermore, any excess water from the Millerton Lake that is not diverted at Mendota Pool would continue downstream and ultimately increase Vernalis flow, which subsequently affects Delta exports. Ultimately, changes in exports have the potential to affect upstream reservoir releases (i.e., from Lake Shasta) as well. This is a situation where one seemingly minor error cascades through the entire system. This error exists in all BDCP Model scenarios (baselines and project alternatives) that have climate change incorporated at either ELT (Early Long Term) or LLT (Late Long Term) conditions. In other words, all model results reported in the BDCP and associated Draft EIR/EIS contain this error, with the only exception of the Existing Biological Conditions baselines numbers 1 and 2 (EBC1 and EBC2), which are evaluated in the BDCP.	The climate change assumptions were consistent across all the EIR/EIS Alternatives including the No Action Alternative. As shown in the EIR/EIS, San Joaquin River operations remain unchanged under the action alternatives compared to the No Action Alternatives. The error in the Millerton climate-modified inflow was found to only affect Millerton storage and flows in the San Joaquin River, and it had only minor impacts to the Delta and Sacramento River operations. 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.
1633	21	[From ATT 1:] Effects of climate change create unrealistic operations. Review of the BDCP Model output for the Without Project condition with climate change assumptions for the ELT (Early Long Term) or LLT (Late Long Term) (NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term), respectively) reveal that the model is operated beyond its usable range. The purpose of CalSim II is to simulate how the CVP and SWP systems would be operated in order to	The proposed project operations do not change operational criteria of Shasta, Trinity, or Folsom Reservoirs or any San Joaquin River and tributaries water storage facilities. It is recognized that operations of the SWP and CVP reservoirs and other reservoirs probably will be modified in the future in response to climate change and other water resources operations. However, it would be speculative to develop changes in operations under the No Action Alternative or Cumulative Impact Analysis; and these changes are not consistent with the Project Objectives and Purpose and Need statement for the action alternatives. Future changes in reservoir operations would require separate engineering environmental analyses under CEQA and NEPA, and revised reservoir operations permits which could affect SWP and CVP operations. For

DEIRS Ltr#	Cmt#	Comment	Response
		meet regulatory requirements and water delivery objectives based on a certain amount of precipitation and runoff. When the precipitation patterns and resultant runoff were changed in the BDCP Model for climate change, the logic regarding how the system is operated to meet the regulatory and water delivery objectives was not changed. The net effect is that neither the regulatory criteria nor the delivery objectives are met. With rising temperatures and shifting precipitation patterns with less snow, temperature criteria on the Sacramento River will become increasingly more difficult to meet. For instance, the BDCP Model includes an assumption that equilibrium temperatures in the Sacramento River between Shasta and Gerber will increase on an average annual basis by 1.6°F by 2025 (ELT) by 3.3°F by 2060 (LLT). NMFS 2009 Biological Opinion specifies temperature targets of 56°F in the Sacramento River between Balls Ferry and Bend Bridge for the protection of salmon. Because of lower storage conditions in Shasta Lake and the magnitude of temperature increase in the assumptions is so large, the BDCP Model shows that the probability of exceeding the mortality threshold in the Sacramento River at Bend Bridge in August and September increases from approximately 80% in the No Action Alternative to 90% to 95% by 2025 (under ELT conditions) and to 95% to 100% by 2060 (under LLT conditions). This significant difference shows the overwhelming influence that the climate change assumptions have on the BDCP Model results.	additional information regarding purpose and need, please see Master Response 3. 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.
1633	22	[From ATT 1:] Reservoir Storage: Under the climate change scenarios, reservoir storage (particularly in the CVP system) is operated very aggressively so that the reservoirs are drawn down to an extremely low level (termed "dead pool") in approximately 1 of every 10 years, even without the BDCP. At dead pool level, little or no water can be released from the reservoir -- not for fish, not for drinking water, not for agriculture. For example, since Folsom Reservoir became operational in 1955, the storage has never been drawn down to reach dead pool (which is approximately 100,000 acre-feet); the lowest storage level on record was 147,000 acre-feet at the end of September 1977. However, the BDCP Model predicts that, under climate change, the reservoir will be about 100,000 acre-feet or about 30% lower than its historical low in 10% of years. Some municipalities, such as the city of Folsom, are entirely dependent on reservoir releases for drinking water. Reaching dead pool would cut municipal deliveries below the level required to maintain public health and safety. In reality, and to avoid such dire circumstances, the CVP and SWP would likely request that regulatory agencies modify standards to conserve storage and would likely mandate conservation (or rationing) by water users. Similar steps were taken early in 2014 to reduce water diversions and reservoir releases for fishery needs and Delta requirements. Emergency measures such as these are not simulated in the model, so the BDCP Model does not reflect reasonable future operations with climate change. With the predicted changes in precipitation and temperature implemented in the BDCP Model, there is simply not enough water available to meet all regulatory objectives and water user demands. Yet the BDCP Model continues its normal routine and thus fails to meet its objectives. In this aspect, the BDCP Model simply does not simulate reality. For instance, if the ELT (Early Long Term) and LLT (Late Long Term) conditions actually occur, the CVP and SWP would likely adapt to protect water supplies and the environment. Examples of reactions to climate change would likely include: (1) updating operational rules regarding water releases for flood protection; (2) during severe droughts, emergency drought declarations could call for mandatory conservation and changes in some regulatory criteria similar to what has been experienced in the current and previous	The "dead pool" conditions presented in the CALSIM II model results in the EIR/EIS are developed from calculated monthly average reservoir volumes. Because the model only calculates and reports SWP and CVP water operations at an average monthly basis, the model cannot simulate changes that occur on a weekly basis by water users and SWP and CVP operations. In addition, the model cannot make decisions that occur in real-time, such as drought operations during the ongoing drought. Instead the model includes average operating criteria for all dry periods, and does not reflect specific changes. The dead pool conditions occur in the No Action Alternative as compared to the Existing Conditions because the model includes changes in precipitation without making changes in water diversion patterns. The EIR/EIS analysis considers changes between the frequency of dead pool conditions under the alternatives and the No Action Alternative (both with the same climate change assumptions) to determine if the changes are adverse or beneficial. It is recognized that operations of the SWP and CVP reservoirs and other reservoirs probably will be modified in the future in response to climate change and other water resources operations. However, it would be speculative to develop hypothetical changes in operations under the No Action Alternative or Cumulative Impact Analysis; and these changes are not consistent with the Project Objectives and Purpose and Need statement for the action alternatives. Future changes in reservoir operations would require separate environmental analyses under CEQA and NEPA, and revised reservoir operations permits which could affect SWP and CVP operations. 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

DEIRS Ltr#	Cmt#	Comment	Response
		droughts ; and (3) if droughts become more frequent, the CVP and SWP would likely revisit the rules by which they allocate water during shortages and operate more conservatively in wetter years. The likelihood of an appropriate operational response to climate change is supported by the many modifications to CVP and SWP operations made during the winter and spring of 2014 to respond to the current drought. The BDCP Model is, however, useful in that it reveals that difficult decisions must be made.	the CEQA/NEPA process.
1633	23	[From ATT 1:] BDCP CalSim II Assumptions The assumptions for these runs are defined in the December 2013 Draft BDCP [Footnote 4: BDCP EIR/EIS Appendix 5A.] and associated Draft EIR/EIS. Each of the no action alternatives assumes the same regulatory requirements, generally representing the existing regulatory environment at the time of study formulation (February 2009), including Stanislaus ROP the National Marine Fisheries Services (NMFS) Biological Opinion (BO) (June 2009) Actions III.1.2 and III.1.3, Trinity Preferred EIS Alternative, NMFS 2004 Winter-run BO, NMFS BO (June 2009) Action I.2.1, SWRCB WR90-5, CVPIA (b)(2) flows, NMFS BO (June 2009) Action I.2.2, ARFM NMFS BO (June 2009) Action II.1, no SJRRP flow modeled, Vernalis SWRCB D1641 Vernalis flow and WQ and NMFS BO (June 2009) Action IV.2.1, Delta D1641 and NMFS Delta Actions including Fall X2 Fish & Wildlife Service (FWS) BO (December 2008) Action 4, Export restrictions including NMFS BO (June 2009) Action IV.11.2v Phase II, OMR FWS BO (December 2008) Actions 1-3 and NMFS BO (June 2009) Action IV.2.3v. The modeling protocols for the recent USFWS BO (2008) and NMFS BO (2009) have been cited as being cooperatively developed by Reclamation, NMFS, U.S. Fish and Wildlife Service (USF&WS), California Department of Fish and Wildlife (CDF&W), and DWR. Each of the BDCP no action alternatives -- NAA, NAA-ELT, and NAA-LLT (No Action Alternative, No Action Alternative-Early Long Term, and No Action Alternative-Late Long Term) -- uses the same New Melones Reservoir and other San Joaquin River operations. At the time of these studies' formulation, the NMFS BO (June 2009) had been recently released. Also, the San Joaquin River Agreement (SJRA), including the Vernalis Adaptive Management Program (VAMP) and its incorporation into D1641 for Vernalis flow requirements were either still in force or being discussed for extension. As a component of study assumptions, the protocols of the SJRA and an implementation of the NMFS BO for San Joaquin River operations (including New Melones Reservoir operations) are included in the studies. These protocols, in particular the inclusion of VAMP which has now expired, are not appropriate as an assumption within either the No Action or Alternative Scenarios within a full disclosure of BDCP impacts. Although appropriate within the identification of actions, programs and protocols present at the time of the NOI/NOP, they are not representative of current or reasonably foreseeable operations.	The No Action Alternative and all of the action alternatives included assumptions for the New Melones Reservoir operations and Reclamation's responses to the Vernalis Adaptive Management Program based upon the continuation of existing policy and management at the time of publication of the Notice of Preparation. Because the model runs are used in a comparative manner, and not a predictive manner to develop absolute values, and because operations on the San Joaquin River are not modified in action alternatives as compared to the No Action Alternative, the effects of these two sets of operations on the San Joaquin River would not affect evaluation of the changes in Delta conditions due to implementation of the action alternatives. 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.
1633	24	[From ATT 1:] The BDCP Model assumes no San Joaquin River Restoration Program releases in the future operation of the Friant Division of the CVP. While assuming no difference in the current and future operation of the Friant Division avoids another difference in existing and projected future hydrology of the San Joaquin River, the assumption does not recognize the existence of the San Joaquin River Restoration Program. Results of CVP and	The No Action Alternative and action alternatives included qualitative assumptions for the San Joaquin River Restoration Program because at the time of publication of the Notice of Preparation and Notice of Determination Reclamation was evaluating alternatives within a separate NEPA process. Because the model runs are used in a comparative manner, and not a predictive manner to develop absolute values, and because operations on the San Joaquin River are not modified in the action alternatives as compared to the No Action Alternative, the effects of these two sets of operations on the San Joaquin River would not affect

DEIRS Ltr#	Cmt#	Comment	Response
		SWP operations, in particular as affected by export constraints dependent on San Joaquin River flows and their effect on OMR (Old & Middle Rivers), E/I (Export to Inflow Ratio) and I/E (Inflow to Export Ratio) diversion constraints, would be different with a different set of assumptions for San Joaquin River operations. The habitat restoration requirements in the 2008 FWS BO (Biological Opinion) and the 2009 NMFS BO are not included in the NAA (No Action Alternative) baselines. Although the restoration is required to be completed either with or without completion of the BDCP, the restoration was only analyzed as part of the with project scenarios.	evaluation of the changes in Delta conditions due to implementation of action alternatives.
1633	25	[From ATT 1:] The benchmark study upon which the BDCP Model was built contains inaccuracies that affect the analysis. CalSim II is continuously being improved and refined. As the regulatory environment changes and operational and modeling staff work together to improve the model's capability to simulate actual operations, the model is continually updated. The BDCP Model relied upon a version of CalSim II that dates back to 2009, immediately after the new Biological Opinions (BiOps) from the NMFS (National Marine Fisheries Service) and the United States Fish and Wildlife Service (USFWS) significantly altered the operational criteria of the CVP and SWP. In the last 4 to 5 years, DWR, [Bureau of] Reclamation, and outside modeling experts have worked together to improve the model. Changes include better (more realistic) implementation of the new BiOps and numerous fixes to the code. Since CalSim II is undergoing continual improvements, there will always be "vintage" issues in that by the time a project report is released, the model is likely slightly out of date. However, in this case -- with the major operational changes that have occurred in the new regulatory environment -- many issues have been identified and fixed in the last 4 to 5 years that have a significant effect on model results. CalSim II modeling for the DWR 2013 Delivery Reliability Report contains numerous modeling updates and fixes that significantly alter results of the BDCP Model. A key modeling revision in the 2013 DWR modeling was fixing an error regarding artificial minimum instream flow requirements in the Sacramento River at Hood. An "artificial" minimum instream flow requirement had been specified; the requirement is artificial in that it does not represent a regulatory requirement, but rather is a modeling technique to force upstream releases to satisfy Delta needs.	Modeling for the BDCP and the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models), which were the state-of-the-art at the time, and formed the basis for universal assumptions in the other action alternatives in the EIR/EIS. However, in August 2011 several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS. This update was performed to verify if the compiled model improvements altered the incremental changes between Alternative 1 and the Existing Conditions and the No Action Alternative relative to the 2010 models. The findings from the 2011 update showed that the incremental differences between Alternative 1 and the Existing Conditions and the No Action Alternative remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability throughout the EIR/EIS. Similarly, when Alternative 4A was modeled using the 2013 baseline, the incremental changes in the operational results for Alternative 4A as compared to the No Action Alternative were similar to the prior incremental results between the 2010 modeling for the No Action Alternative and Alternative 4A. It should be noted that the modeling used in the EIR/EIS must be used in a comparative manner and not to define absolute values. For additional information regarding modeling, please see Master Response 30.
1633	26	[From ATT 1:] Assumptions for the "High Outflow Scenario" (HOS) are unrealistic. The HOS is one branch of the BDCP Decision Tree, also identified as Alternative 4, operational scenario H4 in the DEIR/EIS. The HOS requires additional water (Delta outflow) during certain periods in the spring, in excess of the current regulatory requirements. The BDCP Model assumes that if the required additional Delta outflow cannot be met by reducing exports, this increased Delta outflow will be met by releases made by the SWP's Oroville Reservoir. The assumptions regarding how much water to release from Oroville to attempt to meet the proposed regulations and how much and when to refill Oroville are unrealistic. According to the Draft EIR/EIS [Footnote 8: Draft EIR/EIS, Appendix 5A-C, Table C-13-20-2], the HOS will reduce SWP south of Delta water deliveries for municipal and	As described in Appendix 5A, Section B, of the EIR/EIS flows to meet the Delta outflow criteria based upon the State Water Resources Control Board Decision 1641 and the 2008 USFWS biological opinion are provided by a combination of SWP and CVP reservoir releases and limitations on Delta exports. Under Alternatives 4 H2 and 4 H4, water to support enhanced spring Delta outflow was provided by additional water releases from reductions in Delta exports and releases from Lake Oroville. The enhanced spring Delta outflow was considered to be met outside of the Coordinated Operations Agreement which defines sharing criteria between the SWP and CVP. This would result in reductions in SWP water contract deliveries as indicated in Appendix 5A, Section C, Modeling Results. Under Alternative 4A, the enhanced spring Delta outflow was only met by reduction in Delta exports. For additional information regarding modeling, please see Master Response 30. 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

DEIRS Ltr#	Cmt#	Comment	Response
		industrial (M&I) water users 7% below the level that they would receive without the BDCP (on average). During dry and critical years, SWP south of Delta water deliveries for M&I and agricultural water users will drop 17% below the level that they would receive without the BDCP. In other words, according to the BDCP Model results SWP Contractors would get less water than they would otherwise get without BDCP. CVP and SWP obligations for providing flow to satisfy Delta outflow requirements is described in the Coordinated Operations Agreement (COA). Because the CVP and SWP share responsibility for meeting required Delta outflow based on specific sharing in the agreement, it is not reasonable to conclude that CVP water supplies would increase an average of 70 TAF while SWP water supplies decrease on average of 100 TAF under the HOS. The manner in which this alternative is modeled is inconsistent with existing agreements and operating criteria. If the increases in outflow were met based on COA, there would likely be reductions in Shasta and Folsom storage that would likely cause adverse environmental impacts, which have not been modeled or analyzed in the BDCP EIR/EIS. Furthermore, there is no apparent source of water to satisfy the increased outflow requirements and pay back the COA debt. It appears, through recent public discussions regarding the HOS that BDCP anticipates additional water to satisfy the increased Delta outflow requirement and to prevent the depletion of cold water pools will be acquired through water transfers from upstream water sources. However, this approach is unrealistic. During most of the spring, when BDCP proposes that Delta outflow be increased, agricultural water users are not irrigating. This means that there is not sufficient transfer water available to meet the increased Delta outflow requirements without releasing stored water from the reservoirs.	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.
1633	27	[From ATT 1:] San Luis Reservoir operational assumptions produce results that are inconsistent with real world operations. San Luis Reservoir (SLR) is an off-stream reservoir located south of the Delta and jointly owned and operated by CVP and SWP. The reservoir is used to store water that is exported from the Delta when available and used to deliver water to CVP and SWP Contractors when water demands exceed the amount of water that can be pumped from the Delta. The decision of when to move water that is stored in upstream reservoirs, such as Shasta, Folsom, or Oroville, through the Delta for export to fill SLR is based on the experience and expert judgment of the CVP and SWP operators. CalSim II attempts to simulate the expert judgment of the operators by imposing artificial operating criteria; the criteria are artificial in the sense that they are not imposed by regulatory or operational constraints but rather imposed as a tool to simulate expert judgment. One such artificial operating criteria is the SLR target storage level: CalSim II attempts to balance upstream Sacramento Basin CVP and SWP reservoirs with storage in SLR by setting artificial target storage levels in SLR, such that the CVP and SWP will release water from upstream reservoirs to meet target levels in SLR. The artificial target storage will be met as long as there is ability to convey water (under all regulatory and physical capacity limits) and as long as water is available in upstream reservoirs. SLR target storage criteria are also sometimes described in section 4.2 as the "San Luis rule-curve". In the BDCP Model, CVP and SWP reservoir operating criteria for Alternative 4 H3 ELT	One of the goals for the EIR/EIS impact analysis modeling is to maintain similar end-of-May and end-of-September carryover storage conditions as simulated under the No Action Alternative. In the action alternatives with the north Delta diversion facility, the availability of the additional export capacity in the winter and spring months compared to the No Action Alternative allows capturing winter and spring excess flows and filling of the San Luis Reservoir to a greater extent than the No Action Alternative. This also changes the release patterns from the upstream reservoirs. However, the end-of-May and end-of-September storage conditions are similar to the No Action Alternative under Alternative 4. The effects of modified release patterns and changes in the storage conditions on the river temperatures are evaluated in Chapter 11, Fish and Aquatic Resources, in the EIR/EIS. The San Luis Reservoir rule curve is an input to CALSIM II which provides a target storage each month that is dependent on the South-of-Delta allocation and upstream reservoir storage. The rule curve allows CALSIM II to emulate judgement of the operators in balancing the north-of-Delta and south-of-Delta storage conditions. In the absence of any other operating criteria controlling the upstream reservoir releases or the Delta exports, different San Luis Reservoir rule curves can result in differences in upstream reservoir release patterns, and Delta exports. Assumed San Luis Reservoir rule curve could differ depending on the available export capacity during winter and spring months, and the need to protect upstream carryover storage in the fall months. For the No Action Alternative simulation, the San Luis Reservoir rule curve is managed to maximize filling during summer and fall months when the Delta export pumping is less constrained to minimize situations in which south-of-Delta shortages may occur due to lack of storage or exports. Under the action alternatives with the north Delta diversion, the CALSIM II San Luis Reservoir rule curve was modified in expectation that the new north Delta diversion facility would allow capturing winter and spring excess flows and filling of the

DEIRS Ltr#	Cmt#	Comment	Response
		(Early Long Term) differ from the corresponding without project scenario (e.g. NAA-ELT (No Action Alternative-Early Long Term)). The difference in criteria and result is primarily driven by changes to the artificial constraint used to determine when to fill SLR: the SLR target storage. In Alternative 4 H3 ELT, SLR target storage is set very high in the spring and early summer months, and then reduced in August and set to SLR dead pool from September through December. This change in SLR target storage relative to the no action alternative causes upstream reservoirs to be drawn down from June through August and then recuperate storage by cutting releases in September. This change to the artificial operating criteria SLR target storage causes changes in upstream cold water pool management and affects several resource areas. In addition to changes in upstream storage conditions, changes in SLR target storage cause SLR storage to drop below a water supply concern level (300,000 acre-feet) in almost 6 out of every 10 years under ELT conditions and more than 7 out of every 10 years under LLT (Late Long Term) conditions for Alternative 4 H3. When storage in SLR drops below this 300,000 acre-foot level, algal blooms in the reservoir often cause water quality concerns for drinking water at Santa Clara Valley Water District. The change in SLR target storage also causes SLR levels to continue to drop and reach dead pool level for the SWP in 4 out of every 10 years and also dead pool level for the CVP in 1 out of every 10 years under the ELT conditions. Reaching dead pool level in SLR creates shortages to water users south of the Delta. Although some delivery shortages are due to California Aqueduct capacity constraints, the largest annual delivery shortages are a result of inappropriately low SLR target storage. Average annual Table A shortages due to artificially low SLR storage levels increased from 3 TAF in the NAA-ELT scenario to 35 TAF in the Alt4-ELT scenario. Such shortages occurred in 2% of simulated years in the NAA-ELT scenario and 23% of years in the Alt4-ELT scenario. In addition to the inability to satisfy Table A allocations, low storage levels cause loss of SWP Contractors' Article 56 water stored in SLR. Average annual Article 56 shortages were 43 TAF in the Alt4-ELT scenario because of low San Luis storage and 5 TAF in the NAA-ELT scenario. Low San Luis storage causes Article 56 shortages in 27% of simulated years in the Alt4-ELT scenario as compared to 5% of simulated years in the NAA-ELT. Another consequence of low storage levels in SLR is a shift in water supply benefits from Article 21 to Table A. In summary, the operational assumptions for SLR are unrealistic in Alternative 4 because they create problems in upstream storage reservoirs and create shortages for south of Delta water users that would not occur in the real world. In reaching this conclusion, the Reviewers met with operators from CVP and SWP to review the BDCP Model results and discussed real-time operations. The operators provided guidance in selection of superior assumptions, which results in more realistic operations in the independent model.	San Luis Reservoir to a greater extent than the No Action Alternative. Additional modifications to the rule curve were included to preserve upstream carryover storage conditions while minimizing south-of-Delta shortages in the fall months. Under Alternative 4, the San Luis Reservoir storage conditions are also affected by the restrictive south Delta export operations in October. With regards to upstream reservoir effects, please see Master Response 25. 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.
1633	28	[From ATT 1:] Delta Cross Channel (DCC) operational assumptions overestimate October outflow When south Delta exports are low due to regulatory limits, and upstream reservoirs are making releases to meet the instream flow objectives at Rio Vista, operators have the ability to close the Delta Cross Channel (DCC) in order to reduce the required reservoir releases (by closing the DCC a greater portion of water released from the reservoirs stays in the Sacramento River to meet the Rio Vista requirements). As long as the Delta salinity standards are met, operators have indicated that they would indeed close the DCC in this	The Delta Cross Channel assumptions in the CALSIM II model are consistent between the No Action Alternative and action alternatives in the EIR/EIS. As discussed in this comment, the criteria for Sacramento River flows at Rio Vista in October would become more critical with action alternatives that include north Delta intakes. Under the future operations, there would be a balance between operations of Delta Cross Channel closure to minimize effects on upstream reservoir storage and water quality criteria. Operations under proposed project (Alternative 4A) would increase Delta outflow due to Old and Middle River criteria which will improve water quality as compared to the No Action Alternative. It is recognized that assumptions were used for the impact analysis in the EIR/EIS based upon modeling analyses; and that the real-time operations would provide more flexibility than the CALSIM II monthly-model time step. However, the

DEIRS Ltr#	Cmt#	Comment	Response
		manner (as was done in October and November 2013). In the BDCP Model, the DCC is not closed in this manner. The net result is that the BDCP Model overestimates outflow under such circumstances typically occurring in October. The overestimated outflow leads to incorrect conclusions regarding the effects of BDCP. For instance, an actual increase in fall outflow could be beneficial for the endangered fish species delta smelt (USFWS, 2008). Therefore, by overestimating outflow in October, the BDCP studies likely overestimate the benefit to delta smelt (Mount et al, 2013). Similarly, an actual increase in fall outflow would reduce salinity in the western Delta, which could be beneficial for in-Delta diverters; therefore, overestimating outflow in October artificially reduces salinity, incorrectly reducing the net impacts on in-Delta diverters.	incremental differences that could occur under the No Action Alternative conditions and Alternative 4A would be similar with different CALSIM II model assumptions in the No Action Alternative conditions and Alternative 4A.
1633	29	[From ATT 1:] BDCP's "High Outflow Scenario" (HOS) is not sufficiently defined for analysis. The HOS requires additional water (Delta outflow) during certain periods in the spring. The BDCP Model places most of the responsibility for meeting this new additional outflow requirement on the SWP. However, the SWP may not actually be responsible for meeting this new additional outflow requirement. This is because the COA (Coordinated Operations Agreement), as it is currently being implemented, would require a water allocation adjustment that would keep the SWP whole. Where one project (CVP or SWP) releases water to meet a regulatory requirement, the COA requires a water balancing to ensure the burden does not fall inappropriately among the projects. The BDCP Model is misleading because it fails to adjust project operations, as required by the COA, to "pay back" the water "debt" to the SWP due to these additional Delta outflow requirements. Unless there is a significant revision to COA, the BDCP Model overstates the impacts of increased Delta outflow on the SWP and understates the effects on the CVP. Furthermore, after consulting with DWR and Reclamation project operators and managers, the Reviewers conclude that there is no apparent source of CVP or SWP water to satisfy both the increased Delta outflow requirements and pay back the COA "debt" to the SWP without substantially depleting upstream water storage. It appears, through recent public discussions regarding the HOS, that BDCP anticipates additional water to satisfy the increased Delta outflow requirement and to prevent the depletion of cold water pools will be acquired through water transfers from upstream water users. However, this approach is unrealistic because during most of the spring, when BDCP proposes that Delta outflow be increased, agricultural water users are not typically irrigating. This means that there is not sufficient transfer water available to meet the increased Delta outflow requirements without releasing stored water from the reservoirs. Releasing stored water to meet the increased Delta outflow requirements could potentially impact salmonids on the Sacramento and American River systems.	As described in Appendix 5A, Section B, of the EIR/EIS flows to meet the Delta outflow criteria based upon the State Water Resources Control Board Decision 1641 and the 2008 USFWS biological opinion are provided by a combination of SWP and CVP reservoir releases and limitations on Delta exports. Under Alternatives 4 H2 and 4 H4, water to support enhanced spring Delta outflow was provided by additional water releases from reductions in Delta exports and releases from Lake Oroville. The enhanced spring Delta outflow was considered to be met outside of the Coordinated Operations Agreement which defines sharing criteria between the SWP and CVP. This would result in reductions in SWP water contract deliveries as indicated in Appendix 5A, Section C, Modeling Results. Under Alternative 4A, the enhanced spring Delta outflow was only met by reduction in Delta exports. For additional information regarding modeling, please see Master Response 30. 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.
1633	30	[From ATT 1:] Simulated operation of BDCP's dual conveyance, coordinating proposed North Delta diversion (NDD) facilities with existing south Delta diversion (SDD) facilities, is inconsistent with the project description. The Draft BDCP and associated Draft EIR/EIS specify criteria for how much flow can be diverted by the new NDD facilities and specify when to preferentially use either the NDD facilities or the existing SDD facilities. However, the BDCP Model contains an artificial	Alternative 4 allows for the discretion and operations flexibility available for the Delta exports in the summer months. As noted in the Tables 5-7 through 5-9 of the EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the resulting north versus south Delta exports will be different under Alternative 4 compared to the No Action Alternative. The range of water quality effects under Alternative 4 as a result of these export changes are analyzed in Chapter 8 of the EIR/EIS. For additional information regarding modeling, please see Master Response 30.

DEIRS Ltr#	Cmt#	Comment	Response
		constraint that prevents the NDD facilities from taking water as described in the BDCP project description. In addition to affecting diversions from the NDD, this artificial constraint contains errors that affect the NAA (No Action Alternative) operation. This error has been fixed by DWR and Reclamation in more recent versions of the model; however, the error remains in the BDCP Model. Additionally, the BDCP Model does not reflect the Summer operations of the SDD that are described in the Draft EIR/EIS as a feature of the BDCP project intended to prevent water quality degradation in the south Delta. The net effect of these two errors is that the BDCP Model significantly underestimates the amount of water diverted from the NDD facilities and overestimates the amount of water diverted from the SDD.	
1633	31	[From ATT 1:] Independent Modeling output and analysis of BDCP Effects: Analysis for this effort was focused on BDCP Alt 4 with existing spring and Fall X2 requirements, which corresponds to "Alternative 4 H3" in the Decisions Tree. This modeling is performed without climate change, and includes refined operating criteria for the NDD (North Delta Diversion), CVP and SWP reservoirs, DCC (Delta Cross Channel) gate closures, and water supply allocations. This modeling includes all Project features that are included in Alt 4 in the BDCP Model. The key Project features incorporated into BDCP are displayed in Figure 1 and summarized as: * North Delta Diversion capacity of 9,000 cfs * NDD bypass flow requirements * 25,000 acres of additional tidal habitat * Notched Fremont Weir to allow more flow into Yolo Bypass * Additional positive Old & Middle River flow requirements * Removal of the San Joaquin River I/E (inflow to export) ratio (NMFS 2009) * Changed location for Emmaton water quality standard in SWRCB D-1641 * Additional Sacramento River flow requirement at Rio Vista For the purpose of describing results of the Independent Modeling, the revised baseline scenario without climate change, originally termed No Action Alternative (NAA) in the BDCP Draft EIR/EIS, is referred to as the Future No Action (FNA) in this discussion. Additionally, in the Independent Modeling, Alternative 4 operational scenario H3 without climate change is simply referred to as "Alt 4". The results for the Independent Modeling are illustrated in the Technical Attachment. Key results are presented below. The change in conditions between FNA and Alt 4 is indicative of the effects of the BDCP on water supply and Delta flows. An effect of the BDCP is an anticipated increase in Delta export and corresponding decrease in Delta Outflow. Table 2 illustrates the estimated change in Delta Outflow by year type, amounting to an average annual 0.76 MAF. Table 3 illustrates the corresponding change in exports by year type, and also illustrates the estimated change in geographical source of export water. With the BDCP it is anticipated that exports from the South Delta (via through Delta conveyance) will decrease by 2.53	The EIR/EIS modeling of Alternative 4 H1 through H4 was based on a No Action Alternative model developed in 2010. Models always evolve as the understanding of the system and operations improves and the assumptions are better defined. MBK's independent modeling of the No Action Alternative included different assumptions than the BDCP EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the BDCP EIR/EIS Alternative 4 H1 through H4. Some of the differences in Alternative 4 assumptions include May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the BDCP EIR/EIS. Modeling for the BDCP and the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models). In 2010, CALSIM II Existing Conditions and No Action Alternative models were updated in coordination with the fishery agencies to include the USFWS and NMFS biological opinions. This model formed the basis for the BDCP Alternative 1 model development in 2010. All the BDCP Alternatives modeled since then, including Alternative 4, were continued to be based on the 2010 models allowing comparability with the baselines. See Master Response 1 for discussion of environmental baselines and existing conditions. The models always evolve as the understanding of the operations improves and the assumptions are better defined. In August 2011, several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the BDCP Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS modelers. This update was performed to verify if the compiled model improvements have altered the incremental changes between the Alternative 1 and the Existing Conditions and No Action Alternative relative to the 2010 modeling. The findings from the 2011 update showed that the results remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability. It should be noted that the modeling used in the EIR/EIS must be used in a comparative manner and not to define absolute values. Reclamation, DWR and others have continued to improve the 2011 Existing Conditions and No Action Alternative models for other analyses. The majority of the changes included in the baseline model presented by MBK at the January 2014 Independent Science Board (ISB) meeting, were part of the 2011 modeling. Some of these changes cannot be part of the BDCP baselines because of when the Notice of Preparation and Notice of Intent for the EIR/EIS were issued. When Alternative 4 was modeled using the 2013 No Action Alternative model without these changes, the incremental changes in the operational results for Alternative 4 compared to the No Action Alternative were similar to Alternative 4 results. In the presentation to the ISB, MBK's modeling did not include climate change and sea level rise effects, and were compared to the BDCP

DEIRS Ltr#	Cmt#	Comment	Response
		MAF. Exports derived from the North Delta (via the tunnels) will amount to 3.28 MAF. The Independent Modeling shows that implementation of the BDCP could shift a portion of the SWP exports from summer to winter and spring because the proposed NDD facilities can export water at times when the existing SDD facilities are constrained due to fishery concerns. As a result of this shift in timing, capacity is available at the SWP facilities during the summer months. The BDCP Model assumes that CVP could utilize the SWP facilities (Table 4) at any time when the CVP facilities are fully utilized; this sharing of diversion facilities is termed "joint point of diversion" or JPOD. Additional criteria to meet specific water quality and water level objectives are defined in response plans required by the State Water Board's water right decision D-1641. BDCP Model assumes that these additional criteria are met; the Independent Modeling continues this assumption without making any judgment as to whether the criteria would be met. An evaluation of this would require additional hydrodynamic modeling. The Independent Modeling shows higher average annual CVP carryover (end of September) storage than the NAA by about 28 TAF. During dryer years when upstream storage is lower there is an increase in carryover and during wetter years when storage is higher there are storage decreases (Table 5). Upstream SWP storage, Table 6, behaves in a similar manner as CVP storage, there are decreases in wetter years and increased in dryer years. CVP San Luis Reservoir fills in about 40% of years in Alt 4 compared to about 20% in the FNA. CVP San Luis reaches dead pool in about 25% of years in both the FNA and Alt 4. SWP San Luis Reservoir fills in about 43% of years in Alt 4 compared to about 18% in the FNA. SWP San Luis reaches dead pool in about 25% of years in Alt 4 and about 30% of years in the FNA.	Early Long-Term (ELT) results, which included climate change and sea level rise effects. Modeling is continuously evolving as the operational understanding improves. However, in a planning study such as the BDCP, models are generally frozen to allow consistency and comparability in the effects analysis. The Proposed Action results were continuously verified using the most up to date Existing Conditions and No Action Alternative models available (e.g. 2011 updates and 2013 updated baseline). MBK's Alternative 4 modeling included several changes to the discretionary operations, which may be refined as the project elements are further operationalized. For a planning study, the implementation used in the BDCP modeling provides a fair representation of the proposed operations criteria under the Alternatives, and is consistent across all the Alternatives. MBK's independent modeling of the No Action Alternative included different assumptions than the EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the EIR/EIS Alternative 4 H1 through H4. Some of the differences in Alternative 4 assumptions include May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the EIR/EIS. With regards to modeling, please see Master Response 30. With regards to baseline, please see Master Response 1. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.
1633	32	[ATT 1: att2 -- Figure 1. Map of Delta with location of key BDCP facilities and regulatory changes]	This figure shows the key Project features incorporated into BDCP and summarized as: •North Delta Diversion capacity of 9,000 cfs •NDD bypass flow requirements •25,000 acres of additional tidal habitat •Notched Fremont Weir to allow more flow into Yolo Bypass •Additional positive Old and Middle River flow requirements •Removal of the San Joaquin River I/E ratio (NMFS 2009) •Changed location for Emmaton water quality standard in SWRCB D-1641 •Additional Sacramento River flow requirement at Rio Vista
1633	33	[ATT 1: att3 -- Table 2. Change in Delta outflow due to the BDCP (Alt 4 minus Future No Action) (Million Acre-Feet)]	This table presents BDCP Delta outflow into the San Francisco Bay changes by water year type compared to the No Action Alternative and does not contain a comment on the Draft EIR/EIS.
1633	34	[ATT 1: att4 -- Table 3. Change in quantity of water exported due to the BDCP (Alt 4 minus Future No Action) (Million Acre-Feet)]	This table presents BDCP exports from existing South Delta export facilities and proposed North Delta facilities, compared to the No Action Alternative total exports by water year type and does not contain a comment of the Draft EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1633	35	[ATT 1: att5 -- Table 4. Change in quantity of CVP water exported by SWP facilities (Alt 4 minus Future No Action) (Thousand Acre-Feet)]	This table presents Alternative 4 CVP water exported at Banks Pumping Plant compared to the No Acton Alternative by water year type and does not contain a comment on the Draft EIR/EIs.
1633	36	[ATT 1: att6 -- Table 5. Change in CVP upstream carryover storage (Alt 4 minus Future No Action) (Thousand Acre-Feet)]	This table presents Alternative 4 CVP carryover (end of September) storage compared to the No Action Alternative and does not contain a comment on the Draft EIR/EIS.
1633	37	[ATT 1: att7 -- Table 6. Change in SWP upstream carryover storage (Alt 4 minus Future No Action) (Thousand Acre-Feet)]	This table presents Alternative 4 changes in SWP upstream storage compared to the No Action Alternative by water year type and does not contain a comment on the Draft EIR/EIS.
1633	38	[From ATT 1:] Based on the Independent Modeling, the amount of water exported (diverted from the Delta) may be approximately 200 thousand acre-feet (TAF) per year higher than the amount disclosed in the Draft EIR/EIS. This total represents: - approximately 40 TAF/yr more water diverted and delivered to the SWP south of Delta contractors, and - approximately 160 TAF/yr more water diverted and delivered to the CVP south of Delta contractors.	The EIR/EIS modeling of Alternative 4 H1 through H4 was based on a No Action Alternative model developed in 2010. Models always evolve as the understanding of the system and operations improves and the assumptions are better defined. MBK's independent modeling of the No Action Alternative included different assumptions than the EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the EIR/EIS Alternative 4 H1 through H4. Some of the differences in Alternative 4 assumptions include May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the EIR/EIS. As noted in the Tables 5-7 through 5-9 of the EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the long-term average Delta exports under Alternative 4 remain similar or increase compared to the No Action Alternative. With respect to the reference to the impact designation in the EIR/EIS for WS-2, it was determined that no impact designations would be developed for Water Supply changes because the true impacts occur under other environmental resources. For example, increased surface water deliveries under Water Supply is assumed to result in less groundwater pumping and less effects on groundwater conditions. Further, MBK's modeling compares the projected Delta exports under the No Action Alternative included in the EIR/EIS, which considers the effects of climate change and sea level rise, to a model run of No Action Alternative that does not include climate change and sea level rise effects, and includes different operational assumptions than the EIR/EIS. With regards to greenhouse gas emissions and climate change, please see Master Response 19. Please also see Master Response 30.
1633	39	[From ATT 1:] The BDCP Model estimates that, under the NAA ELT (No Action Alternative-Early Long Term) (without the BDCP), total average annual exports for CVP and SWP combined are estimated to be 4.73 million acre feet (MAF) and in the Independent Modeling FNA combined exports are 5.61 MAF. The BDCP Model indicates an increase in exports of approximately 540 TAF and the Independent Modeling shows an increase of approximately 750 TAF in Alt 4.	Please see response to Comment 1633-38. With regards to modeling, please see Master Response 30.
1633	40	[From ATT 1:] The Independent Modeling suggests that Delta outflow would decrease by approximately 200 TAF/yr compared to the amount indicated in the Draft EIR/EIS. - This lesser amount of Delta outflow has the potential to cause greater water quality	The EIR/EIS modeling of Alternative 4 H1 through H4 was based on a No Action Alternative model developed in 2010. Models always evolve as the understanding of the system and operations improves and the assumptions are better defined. MBK's independent modeling of the No Action Alternative included different assumptions than the EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the EIR/EIS Alternative 4 H1 through H4. Some of the differences in Alternative 4

DEIRS Ltr#	Cmt#	Comment	Response
		and supply impacts for in-Delta beneficial uses and additional adverse effects on species. To determine the potential effects of the reduced amount of outflow, additional modeling is needed using tools such as DSM2.	assumptions include May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the EIR/EIS. The aggregate effect of the changed assumptions under MBK's modeling of Alternative 4 is resulting in increased Delta exports and a corresponding reduction in Delta outflow compared to the EIR/EIS. Further, as noted in the Tables 5-7 through 5-9 of the Draft EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the resulting Delta outflow will be different under Alternative 4 compared to the No Action Alternative. The effects of changes in Delta outflow on water quality, fisheries and other environmental resources under Alternative 4 are analyzed in other resource chapters of the EIR/EIS. MBK's modeling of Alternative 4 does not allow for the discretion and operations flexibility available for the Delta exports in the summer months, which results in a different split in the exports from the north Delta versus the south (through) Delta compared to EIR/EIS modeling. As noted in the Tables 5-7 through 5-9 of the Draft EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the resulting north versus south Delta exports will be different under Alternative 4 compared to the No Action Alternative. The range of water quality effects under Alternative 4 as a result of these export changes are analyzed in Chapter 8 of the EIR/EIS. With regards to water quality, please see Master Response 14. With regards to modeling, please see Master Response 30.
1633	41	[From ATT 1:] The BDCP Model does not accurately reflect the location of the diversions that the SWP and CVP will make from the Delta. - When the errors in the model are corrected, it reveals that the North Delta intakes could divert approximately 680 TAF/yr more than what was disclosed in the BDCP Draft EIR/EIS, and - the amount of water diverted at the existing South Delta facilities would be approximately 460 TAF/yr less than what is projected in the BDCP Draft EIR/EIS.	It appears that this comment was based on the MBK January 2014 review of BDCP modeling. The EIR/EIS modeling of Alternative 4 H1 through H4 was based on a No Action Alternative model developed in 2010. Models always evolve as the understanding of the system and operations improves and the assumptions are better defined. MBK's independent modeling of the No Action Alternative included different assumptions than the EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the EIR/EIS Alternative 4 H1 through H4. Some of the differences in Alternative 4 assumptions include May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the EIR/EIS. The aggregate effect of the changed assumptions under MBK's modeling of Alternative 4 is resulting in increased Delta exports and a corresponding reduction in Delta outflow compared to the EIR/EIS. Further, as noted in the Tables 5-7 through 5-9 of the Draft EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the resulting Delta outflow will be different under Alternative 4 compared to the No Action Alternative. The effects of changes in Delta outflow on water quality, fisheries and other environmental resources under Alternative 4 are analyzed in other resource chapters of the EIR/EIS. MBK's modeling of Alternative 4 does not allow for the discretion and operations flexibility available for the Delta exports in the summer months, which results in a different split in the exports from the north Delta versus the south (through) Delta compared to EIR/EIS modeling. As noted in the Tables 5-7 through 5-9 of the Draft EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the resulting north versus south Delta exports will be different under Alternative 4 compared to the No Action Alternative. The range of water quality effects under Alternative 4 as a result of these export changes are analyzed in Chapter

DEIRS Ltr#	Cmt#	Comment	Response
			8 of the EIR/EIS. For additional information regarding modeling, please see Master Response 30.
1633	42	[From ATT 1:] Hydrologic modeling of BDCP alternatives using CalSim II has not been refined enough to understand how BDCP may affect CVP and SWP operations and changes in Delta flow dynamics. Better defined operating criteria for project alternatives is needed along with adequate modeling rules to analyze how BDCP may affect water operations. Without a clear understanding of how BDCP may change operations, affects analysis based on this modeling may not produce reliable results and should be revised as improved modeling is developed.	The EIR/EIS modeling of the action alternatives was based on a No Action Alternative model developed in 2010. Models always evolve as the understanding of the system and operations improves and the assumptions are better defined. MBK's independent modeling of the No Action Alternative included different assumptions than the EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the EIR/EIS Alternative 4 H1 through H4. The aggregate effect of the changed assumptions under MBK's modeling of Alternative 4 is resulting in increased Delta exports and a corresponding reduction in Delta outflow compared to the EIR/EIS. MBK's modeling compares the projected Delta exports under the No Action Alternative included in the EIR/EIS, which considers the effects of climate change and sea level rise, to a model run of No Action Alternative that does not include climate change and sea level rise effects, and includes different operational assumptions than the EIR/EIS. MBK's modeling of Alternative 4 does not allow for the discretion and operations flexibility available for the Delta exports in the summer months, which results in a different split in the exports from the north Delta versus the south (through) Delta compared to EIR/EIS modeling. It should be noted that the EIR/EIS modeling is used in a comparative manner to compare conditions under the Existing Conditions and the No Action Alternative to conditions under the action alternatives in order to compare the alternatives. The results cannot be used in a predictive manner to predict absolute values. For additional information regarding modeling, please see Master Response 30.
1633	43	[ATT 2: Review of Bay Delta Conservation Program Modeling, by MBK Engineers and Daniel B. Steiner (Consulting Engineer), Technical Appendix to Attachment 1. See also BDCP1722-ATT 2, BDCP1563-ATT 38.2, BDCP1597-ATT 6.2, and BDCP1674-ATT 3.2.]	This comment describes the title of an attachment to the comment letter.
1633	44	[ATT 2: att1 -- Table 1. Scenarios used to evaluate climate change]	This table provides no comments on the Draft EIR/EIS.
1633	45	[From ATT 2:] Inflow and Reservoir Storage in the Sacramento River Basin: The significance of changed hydrology between the three without project baselines is illustrated in Figure 1 below. The figure illustrates the projected combined inflow of Trinity, Shasta, Oroville, and Folsom Reservoirs under the three NAA (No Action Alternative) baselines. Numerous modeling projections for climate change have been developed, and in this BDCP group of Scenarios Trinity, Shasta, and Oroville inflow are projected to increase overall, but with a significant shift from spring runoff to winter runoff and increases in wetter years with decreases in dryer years. Folsom Reservoir inflow is projected to remain about the same at the time of the NAA-ELT (No Action Alternative-Early Long Term) Scenario but decreases by the time of the NAA-LLT (No Action Alternative-Late Long Term) Scenario. The spring to winter shift in runoff is also projected for Folsom Reservoir inflow. If climate change resulted in such drastic inflow changes, there is argument that certain underlying operating criteria such as instream flow requirements and flood control diagrams would require change in recognition of the changed hydrology. Regarding current environmental flow requirements carried into the NAA Scenarios, we question an assumed operation that continues to attempt to meet temperature targets when flow releases are unlikely to meet the target and thus a sustainable operation plan is not	As described in Chapter 5, Water Supply, the EIR/EIS analyses assume continued implementation of regulatory requirements in accordance with the requirements under the CEQA definition of Existing Conditions and under the NEPA definition of the No Action Alternative. It is recognized that operations of the SWP and CVP reservoirs and other reservoirs probably will be modified in the future in response to climate change and other water resources operations. However, it would be speculative to develop changes in operations under the No Action Alternative or Cumulative Impact Analysis; and these changes are not consistent with the Project Objectives and Purpose and Need statement for the action alternatives. Following adoption of changes to the operational or regulatory requirements by the State and federal governments, DWR and Reclamation would need to determine if changes in the SWP and CVP would be necessary. Future changes in reservoir operations would require separate engineering environmental analyses under CEQA and NEPA, and revised reservoir operations permits which could affect SWP and CVP operations. For additional information regarding baseline, please see Master Response 1. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding cumulative impacts, please see Master Response 9. For additional information regarding greenhouse gas emissions and climate change, please see Master Response 19. For additional information regarding upstream reservoir effects, please see Master Response 25.

DEIRS Ltr#	Cmt#	Comment	Response
		possible. For example, the CVP and SWP are unlikely to draw reservoirs to dead pool as often as the models depict. The NAA-ELT and NAA-LLT model Scenarios show project reservoirs going to dead pool in 10% of years; such operation would result in cutting upstream urban area deliveries below what is needed for public health and safety in 10% of years and would lead to water temperature conditions that would likely not achieve the assumed objectives. Again in short, the Scenarios that include climate change do not provide a reasonable underlying CVP/SWP operation with a changed hydrology from which to impose a Project upon to understand how BDCP Alternatives will affect the water system and water users. In our opinion, the CalSim II depicted operations that incorporate climate change are not reasonably foreseeable and do not represent a likely future operation of the CVP/SWP. Although an argument is typically made that these study baselines will be used in a comparison analysis with Project Alternatives tiering from these baselines, we believe that the depicted operations do not represent credible CVP/SWP operations and we have no confidence in the results and they are inappropriate as the foundation of a Project Alternative. As such, although the modeling approach may provide a relative comparison between equal foundational operations, we are apprehensive to place much confidence in the computed differences shown between the NAA and Project Alternative Scenarios.	
1633	46	[ATT 2: att2 -- Figure 1. Projected Inflow to Trinity, Shasta, Oroville, and Folsom Reservoirs -- NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term)]	This figure presents surface water inflows data under No Action Alternative conditions and does not contain a comment on the Draft EIR/EIS.
1633	47	[From ATT 2:] Carryover Storage in the Sacramento River Basin: For upstream CVP and SWP reservoirs the assumed shift of inflows due to climate change (Figure 1, see ATT 2: att2) along with a continuing need to satisfy exports demands significantly affects carryover storage. The CVP and SWP simply cannot satisfy water demands and regulatory criteria imposed on them in the NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term) modeling scenarios. Figure 2 (see ATT 2: att3) illustrates the typical change in carryover storage as shown for Trinity, Shasta, Oroville, and Folsom Reservoirs. The relatively high frequency (approximately 10% of time) of minimum storage occurring at CVP reservoirs illustrates our questioning of credible operations in the studies.	The CALSIM II model includes assumptions for long-term conditions of the SWP and CVP over an 82-year long hydrologic period with extended wet periods and dry/critical dry periods. The evaluation is a comparative analysis to determine the incremental differences between conditions under the action alternatives and conditions under the Existing Conditions and the No Action Alternative. The analyses were not conducted to identify specific values or to respond to short-term emergency situations, such as the ongoing drought. Separate engineering and environmental studies have been and will continue to be prepared when water quality criteria and other regulations are modified in emergencies. The No Action Alternative and all of the action alternatives include climate change and sea level rise assumptions. These changes would result in SWP and CVP operational conditions that generally would not occur because operators of the projects would make real-time decisions. For example, the “dead pool” conditions presented in the CALSIM II model results in the EIR/EIS are developed from calculated monthly average reservoir volumes. Because the model only calculates and reports SWP and CVP water operations at an average monthly basis, the model cannot simulate changes that occur on a weekly basis by water users and SWP and CVP operations. In addition, the model cannot make decisions that occur in real-time, such as drought operations during the ongoing drought. Instead the model includes average operating criteria for all dry periods, and does not reflect specific changes. The dead pool conditions occur in the No Action Alternative as compared to the Existing Conditions because the model includes changes in precipitation without making changes in water diversion patterns. As described in Chapter 5, Water Supply, in the EIR/EIS, the analyses assume continued implementation of existing regulatory reservoir operations. Changes in the regulatory requirements would only occur following detailed analyses, including project-specific CEQA and NEPA analyses and ESA and CESA analyses. Following adoption of changes to the regulatory requirements by the State and federal governments, DWR and Reclamation would need to determine if changes in the SWP and CVP would be necessary. These changes are considered to be speculative and are not included in the No Action Alternative or in the Cumulative Impact Analysis.

DEIRS Ltr#	Cmt#	Comment	Response
			For additional information regarding baseline, please see Master Response 1. For additional information regarding cumulative impacts, please see Master Response 9. For additional information regarding upstream reservoir effects, please see Master Response 25.
1633	48	[ATT 2: att3 -- Figure 2. Projected Shasta Reservoir Carryover Storage, NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term)]	This figure presents Shasta carryover storage data under No Action Alternative conditions. Response to the comment associated with this figure can be found in comment 1633-47.
1633	49	[From ATT 2:] Inflow and Carryover Storage in the San Joaquin River Basin: San Joaquin Valley reservoirs are depicted with an overall decrease in annual runoff with some shifting of runoff from spring to winter, but mostly just decreases in spring runoff due to a decline in snowmelt runoff during late spring. [Footnote 5: BDCP Appendix 5A.2] Figure 3 (see ATT 2: att4) illustrates the assumed effects of climate change upon inflow to Millerton Lake. The hydrology differences imposed in the NAA (No Action Alternative) Scenarios of the Friant Division are described above, and its appropriateness may be subject to additional debate and Alternative assumptions. However, our review found that implementation of Millerton Reservoir inflow as affected by climate change was improperly performed. Inflow to Millerton Reservoir in this version of CalSim is input in three separate time series for purposes of depicting the hydrology of potential upper basin reservoirs. Climate change hydrology was inconsistently incorporated at Millerton Reservoir and misapplied to the water supply and flood control operations. The result is an unrealistic operation for river releases and canal diversions. Figure 3 illustrates the projected ELT (Early Long Term) and LLT (Late Long Term) changes in Millerton Reservoir inflow incorporated in these studies. On face value of the input data, regardless of Friant Dam river release assumptions the effect of climate change at Millerton Lake will affect water deliveries. Evidence of the inconsistent inflow problem is shown in the result for the comparison of carryover storage of Millerton Reservoir under the NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term), and NAA-LLT (No Action Alternative-Late Long Term) Scenarios (Figure 4). Carryover storage is higher in the ELT and LLT Scenarios due to climate change effects to inflow incorporated in reservoir operations but not in the computation of water supply deliveries. Thus, water deliveries are suppressed and the reservoir ends the year with greater storage. CVP Water Service Contractor's water allocations are based on available CVP supplies, Figure 5 (see ATT 2: att7)) contains exceedance probability plots of deliveries and allocation percentages to these contractors. Table 2 (see ATT 2: att6) contains average annual allocation to these CVP Water Service Contractors. Water supplies to these contractors decrease in the ELT and LLT relative to NAA Conditions. CVP Sacramento River Settlement, San Joaquin River Exchange, and Refuge deliveries are based on Shasta Criteria and are 100% in most years and 75% in "Shasta critical" years. [Footnote 6: A "Shasta critical" year is determined when the forecasted full natural inflow into Shasta Lake is equal to or less than 3.2 million acre-feet.] Figure 6 (see ATT 2: att8) contains exceedance probability charts for annual water deliveries to CVP contractors whose allocations are based on Shasta Criteria. In the NAA-ELT and NAA-LLT modeling	The climate change assumptions were consistent across all the EIR/EIS alternatives including the No Action Alternative. As shown in the EIR/EIS, San Joaquin River operations remain unchanged under the action alternatives compared to the No Action Alternative. The error in the Millerton Lake climate-modified inflow was found to only affect Millerton Lake storage and flows in the San Joaquin River, and it had only minor impacts to the Delta and Sacramento River operations. The portion of the comment related to increased frequency of reductions in deliveries based upon the Shasta Index is consistent with information presented in Appendix 5A, Section C of the EIR/EIS. 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. For additional information regarding greenhouse gas emissions and climate change, please see Master Response 19.

DEIRS Ltr#	Cmt#	Comment	Response
		scenarios, the Sacramento River Settlement and Refuge deliveries are reduced due to water shortages that occur more often under the climate change assumptions.	
1633	50	[ATT 2: att4 -- Figure 3. Projected Inflow to Millerton Lake -- NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term)]	This figure presents surface water inflows to Millerton Lake data under No Action Alternative conditions and does not contain a comment on the Draft EIR/EIS.
1633	51	[ATT 2: att5 -- Figure 4. Millerton Reservoir Carryover Storage, NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term) Scenarios]	This figure presents Millerton Reservoir carryover storage data under No Action Alternative conditions and does not contain a comment on the Draft EIR/EIS.
1633	52	[ATT 2: att6 -- Table 2. CVP Water Service Contractor Allocation Summary]	This table is a summary of CVP water service contractor allocations and does not contain a comment on the Draft EIR/EIS.
1633	53	[From ATT 2:] SWP Water Supply: Corresponding with the CVP operation is the projected operation of the SWP under No Action Conditions. These illustrations are shown to provide a comparison to SWP storage and exports, particularly during drought. A comparison of SWP exports to CVP SOD (South of Delta) deliveries shows that each project exports about the same amount of water during drought. Average annual SWP Table A water supply allocations are 62% for NAA (No Action Alternative), 61% for NAA-ELT (No Action Alternative-Early Long Term), and 57% for NAA-LLT (No Action Alternative-Late Long Term). Figure 7 (see ATT 2: att9) contains an exceedance probability plot summary of SWP deliveries. SWP North of Delta deliveries to the Feather River Service Area in both the ELT (Early Long Term) and LLT (Late Long Term) are less than NAA during about 10% of the time.	The comment is consistent with model results presented in the Draft EIR/EIS. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. With regards to modeling, please see Master Response 30.
1633	54	[ATT 2: att7 -- Figure 5. CVP Water Service Contractor Delivery Summary]	This figure is a summary of CVP water service contractor deliveries and does not contain a comment on the Draft EIR/EIS.
1633	55	[ATT 2: att8 -- Figure 6. CVP Contractor Delivery Summary for Contractors with Shasta Criteria Allocations]	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 comment referencing the attachment or the Final EIR/EIS. This figure is a summary of CVP contractor deliveries for contractors with Shasta criteria allocations and does not contain a comment on the Draft EIR/EIS.
1633	56	[ATT 2: att9 -- Figure 7. SWP Delta Delivery Summary]	This figure is a summary of SWP Delta deliveries and does not contain a comment on the Draft EIR/EIS.
1633	57	[From ATT 2:] CVP/SWP Exports: Exports of the CVP and SWP have been projected to change due to a combination of climate change effects on water availability (primary effect), flow requirements for salinity control (sea level rise), additional in-basin water demands, and to a small extent greater export potential (DMC-CA (Delta Mendota Canal-California Aqueduct) intertie). Figure 8 (see ATT 2: att10) illustrates the simulation of CVP exports and combined CVP/SWP exports under NAA (No Action Alternative), NAA-ELT (No Action	The comment is consistent with model results presented in the Draft EIR/EIS. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.

DEIRS Ltr#	Cmt#	Comment	Response
		Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term) Scenarios. Under NAA average annual CVP exports are about 2.24 MAF (2.18 at Jones PP) and are about 100 TAF less in the NAA-ELT Scenario and 230 TAF less in the NAA-LLT. Annual average SWP exports are about 2.61 MAF in the NAA and are 68 TAF less in the NAA-ELT and 212 TAF less in the NAA-LLT. Annual average combined CVP/SWP exports are about 4.9 MAF in the NAA modeling (Figure 9, see ATT 2: att11) and about 170 TAF and 460 TAF less in the NAA-ELT and NAA-LLT respectively.	
1633	58	[ATT 2: att10 -- Figure 8. CVP Exports at Jones Pumping Plant, NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term)]	This figure presents CVP exports at Jones pumping plant for No Action Alternative conditions and does not contain a comment on the Draft EIR/EIS.
1633	59	[ATT 2: att11 -- Figure 9. Total CVP/SWP Exports, NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term)]	This figure presents total CVP/SWP exports for No Action Alternative conditions and does not contain a comment on the Draft EIR/EIS.
1633	60	[From ATT 2:] Joint Point of Diversion: The NAA Alternatives do not make use of Joint Point of Diversion (JPOD), however CVP water is pumped at Banks to satisfy the Cross Valley Canal (CVC) contracts. Figure 10 shows annual Banks wheeling for CVC for the NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term).	The comment is consistent with model results presented in the Draft EIR/EIS. As described in Appendix 5A, Section B of the EIR/EIS, the CALSIM II assumptions only considered the Cross Valley Canal contracts under implementation of the Joint Point of Diversion. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.
1633	61	[ATT 2: att12 -- Figure 10. Cross Valley Canal Wheeling at Banks]	This figure presents Cross Valley Canal Wheeling at Banks pumping data under No Action Alternative conditions and does not contain a comment on the Draft EIR/EIS.
1633	62	[From ATT 2:] San Luis Reservoir Operations: Modeling protocols will use San Luis Reservoir to store water when available and provide supply as exports are constrained by hydrology or regulatory constraints. Figure 11 (see ATT 2: att13) illustrates the projected operation of San Luis Reservoir under the NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term) Scenarios. The annual maximum storage shows that the ability to fill San Luis Reservoir is somewhat similar for NAA and NAA-ELT but with less ability to fill in the NAA-LLT. The frequency of a low annual low point of San Luis Reservoir is exacerbated in the NAA-LLT Scenario. In all the Scenarios, San Luis Reservoir is heavily exercised. As currently projected, San Luis Reservoir will only fill as the result of very favorable hydrologic conditions including the availability of spill water from Friant or the Kings River system that offsets DMC (Delta Mendota Canal) water demands at the Mendota Pool.	The comment is consistent with model results presented in the Draft EIR/EIS. The San Luis Reservoir rule curve is an input to CALSIM II which provides a target storage each month that is dependent on the South-of-Delta allocation and upstream reservoir storage. The rule curve allows CALSIM II to emulate judgement of the operators in balancing the north-of-Delta and south-of-Delta storage conditions. In the absence of any other operating criteria controlling the upstream reservoir releases or the Delta exports, different San Luis Reservoir rule curves can result in differences in upstream reservoir release patterns, and Delta exports. Assumed San Luis Reservoir rule curve could differ depending on the available export capacity during winter and spring months, and the need to protect upstream carryover storage in the fall months. For the No Action Alternative simulation, the San Luis Reservoir rule curve is managed to maximize filling during summer and fall months when the Delta export pumping is less constrained to minimize situations in which south-of-Delta shortages may occur due to lack of storage or exports. Under the EIR/EIS proposed project and other action alternatives with the north Delta diversion, the CALSIM II San Luis Reservoir rule curve was modified in expectation that the new north Delta diversion facility would allow capturing winter and spring excess flows and filling of the San Luis Reservoir to a greater extent than the No Action Alternative. Additional modifications to the rule curve were included to preserve upstream carryover storage conditions while minimizing south-of-Delta shortages in the fall months. Under Alternative 4A, the San Luis Reservoir storage conditions are also affected by the restrictive south Delta export operations in October. It is recognized that future projects could change the San Luis Reservoir rule curve. However, these future actions would require engineering and environmental analyses that would consider the potential changes to the existing and planned infrastructure at the time of those studies. Changes in these assumptions would be

DEIRS Ltr#	Cmt#	Comment	Response
			speculative and are not included in the No Action Alternative in this EIR/EIS. Changes in these assumptions also are not necessarily consistent with the project objectives or purpose and need for the project proponents, and are not included in the action alternatives. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. For additional information regarding modeling, please see Master Response 30.
1633	63	[ATT 2: att13 -- Figure 11. San Luis Reservoir Storage -- NAA (No Action Alternative), NAA-ELT (No Action Alternative-Early Long Term) and NAA-LLT (No Action Alternative-Late Long Term)]	This figure presents San Luis Reservoir storage results for No Action conditions and does not contain a comment on the Draft EIR/EIS.
1633	64	[From ATT 2:] Sacramento River Temperature: CalSim II results, along with meteorological data, are used in temperature models that simulate reservoir temperature and river temperature. The BDCP modeling provided by DWR for review included the Sacramento River temperature model and results for the No Action and Alternatives. Each BDCP Alternative used temperature target criteria for the upper Sacramento River as is used for the Existing Conditions modeling scenario. Equilibrium temperatures, a calculated model input that approximately depicts the effective air temperature for interaction with water temperature in the model, between Shasta and Gerber are increased by an annual average of 1.6°F for the ELT (Early Long Term) Scenarios and by 3.3°F for LLT (Late Long Term) Scenarios. Figure 12 (see ATT 2: att14) contains monthly exceedance probability charts of temperature at Bend Bridge in the Sacramento River for April through October for the Existing Conditions and NAA-ELT (No Action Alternative-Early Long Term) Scenarios. There is about a 1 degree increase in average monthly temperature for the April through October period. Figure 13 (see ATT 2: att15) contains similar information as Figure 12, but compares modeling results for the NAA-LLT (No Action Alternative-Late Long Term) and Existing Conditions Scenarios, there is often a 2°F increase in the NAA-LLT relative to Existing Conditions. The increase in equilibrium temperatures combined with decreases in storage would lead to water temperature conditions that would likely not achieve the assumed objectives. Figure 12 and Figure 13 illustrate an increase in the probability that a water temperature target of 56°F would be exceeded at Bend Bridge under both the NAA-ELT and NAA-LLT Scenarios. The probability of exceedance increases approximately 5% to 20% depending on the month for the NAA-ELT Scenario and approximately 10% to 40% for the NAA-LLT Scenario.	The comment is consistent with model results presented in the Draft EIR/EIS. The ability to meet water temperature criteria occur more frequently under the No Action Alternative as compared to the Existing Conditions due to climate change and future water demands that would occur with or without the project. In the drier years when these conditions occur, water primarily released for water rights holders in accordance with water rights issued by the State Water Resources Control Board. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. For additional information regarding modeling, please see Master Response 30.
1633	65	[ATT 2: att14 -- Figure 12. Temperature Exceedance Sacramento River at Bend Bridge Existing, No Action Alternative, ELT (Early Long Term)]	This figure presents Sacramento River temperature exceedance results for No Action conditions and does not contain a comment on the Draft EIR/EIS.
1633	66	[ATT 2: att15 -- Figure 13. Temperature Exceedance Sacramento River at Bend Bridge Existing, No Action Alternative, LLT (Late Long Term)]	This figure presents Sacramento River temperature exceedance results for No Action conditions and does not contain a comment on the Draft EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1633	67	[From ATT 2:] Conclusions regarding Climate Change Assumptions and Implementation: In examining the possible effects of climate change, it is not appropriate to assume that current project operations will remain static and not respond to climate change. The BDCP's simplistic approach of assuming a linear operation of the CVP and SWP produces results that are not useful for dealing with the complex problem of climate change because it does not reflect the way in which the CVP and the SWP would actually operate whether or not the BDCP is implemented. Reviewers recommend a sensitivity analysis be conducted to develop a better understanding of the range of possible responses to climate change by the CVP and SWP, and the regulatory structures that dictate certain project operations. Including climate change, without adaptation measures, results in insufficient water needed to meet all regulatory objectives and user demands. For example, the BDCP Model results that include climate change indicate that during droughts, water in reservoirs is reduced to the minimum capacity possible. Reservoirs have not been operated like this in the past during extreme droughts and the current drought also provides evidence that adaptation measures are called for long in advanced to avoid draining the reservoirs. In this aspect, the BDCP Model simply does not reflect a real future condition. Foreseeable adaptations that the CVP and SWP could make in response to climate change include: (1) updating operational rules regarding water releases for flood protection; (2) during severe droughts, emergency drought declarations could call for mandatory conservation; and (3) if droughts become more frequent, the CVP and SWP would likely revisit the rules by which they allocate water during shortages and operate more conservatively in wetter years. The modifications to CVP and SWP operations made during the winter and spring of 2014 in response to the drought supports the likelihood of future adaptations. The BDCP Model is, however, useful in that it reveals that difficult decisions must be made in response to climate change. But, in the absence of making those decisions, the BDCP Model results themselves are not informative, particularly during drought conditions. With future conditions projected to be so dire without the BDCP, the effects of the BDCP appear positive simply because it appears that conditions cannot get any worse (i.e., storage cannot be reduced below its minimum level). However, in reality, the future condition will not be as depicted in the BDCP Model. The Reviewers recommend that Reclamation and DWR develop more realistic operating rules for the hydrologic conditions expected over the next half-century and incorporate those operating rules into the any CalSim II Model that includes climate change.	The "dead pool" conditions presented in the CALSIM II model results in the EIR/EIS are developed from calculated monthly average reservoir volumes. Because the model only calculates and reports SWP and CVP water operations at an average monthly basis, the model cannot simulate changes that occur on a weekly basis by water users and SWP and CVP operations. In addition, the model cannot make decisions that occur in real-time, such as drought operations during the ongoing drought. Instead the model includes average operating criteria for all dry periods, and does not reflect specific changes. The dead pool conditions occur in the No Action Alternative as compared to the Existing Conditions because the model includes changes in precipitation without making changes in water diversion patterns. The EIR/EIS analysis considers changes between the frequency of dead pool conditions under the alternatives and the No Action Alternative (both with the same climate change assumptions) to determine if the changes are adverse or beneficial. It is recognized that operations of the SWP and CVP reservoirs and other reservoirs probably will be modified in the future in response to climate change and other water resources operations. However, it would be speculative to develop hypothetical changes in operations under the No Action Alternative or Cumulative Impact Analysis; and these changes are not consistent with the Project Objectives and Purpose and Need statement for the action alternatives. Future changes in reservoir operations would require separate environmental analyses under CEQA and NEPA, and revised reservoir operations permits which could affect SWP and CVP operations. For additional information regarding upstream reservoir effects, please see Master Response 25.
1633	68	[From ATT 2:] Description of the BDCP Project: At the time of review, this Alternative was coined Alt 4 and represented a dual conveyance facility. The two DWR analyses reviewed were identified as: * Alt 4 (dual conveyance) -- ELT (Early Long Term) The same system demands and facilities as described in the NAA-ELT (No Action Alternative-Early Long Term) with the following primary changes: three proposed North Delta Diversion (NDD) intakes of 3,000 cfs each; NDD bypass flow requirements; additional positive OMR (Old & Middle River) flow requirements and elimination of the	It is recognized that operations of the SWP and CVP reservoirs and other reservoirs probably will be modified in the future in response to climate change and other water resources operations. However, it would be speculative to develop changes in operations under the No Action Alternative or Cumulative Impact Analysis; and these changes are not consistent with the Project Objectives and Purpose and Need statement for the action alternatives. Future changes in reservoir operations would require separate engineering environmental analyses under CEQA and NEPA, and revised reservoir operations permits which could affect SWP and CVP operations. 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

DEIRS Ltr#	Cmt#	Comment	Response
		San Joaquin River I/E ratio and the export restrictions during VAMP; modification to the Freemont Weir to allow additional seasonal inundation and fish passage; modified Delta outflow requirements in the spring and/or fall (defined in the Decision Tree discussed below); movement of the Emmaton salinity standard; redefinition of the EI ratio; and removal of current permit limitations for the south Delta export facilities. Set within the ELT environment. * Alt 4 (dual conveyance) -- LLT (Late Long Term) The same as the previous Scenario except established in the LLT environment. The BDCP contemplates a dual conveyance system that would move water through the Delta's interior or around the Delta through an isolated conveyance facility. The BDCP CalSim II files contained a set of studies evaluating the projected operation of a specific version of such a facility. The Alternative was imposed on two baselines: the NAA-ELT scenario and the NAA-LLT (No Action Alternative-Late Long Term) scenario. The changes (benefits or impacts) of the operation due to Alt 4 are highly dependent upon the assumed operation of not only the BDCP facilities and the changed regulatory requirements associated with those facilities, but also by the assumed integrated operation of the CVP and SWP facilities. The modeling of the NAA (No Action Alternative) Scenarios introduced a significant change in operating protocols suggested primarily for reaction to climate change. We consider the extent of the reaction not necessarily representing a likely outcome, and thus have little confidence that the NAA baselines are a "best" (or even valid) representation of a baseline from which to compare an action Alternative. However, a comparison review of the Alternative to the NAA baselines illuminates operational issues in the BDCP modeling and provides insight as to where benefits or impacts may occur as additional studies are provided.	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. For additional information regarding baseline, please see Master Response 1. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding cumulative impacts, please see Master Response 9. For additional information regarding water quality, please see Master Response 14. For additional information regarding greenhouse gas emissions and climate change, please see Master Response 19. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30. For additional information regarding decision tree, please see Master Response 44.
1633	69	[From ATT 2:] BDCP's Alternative 4 has four possible sets of operational criteria, termed the Decision Tree, that differ based on the "X2" standards [Footnote 7: X2 is a salinity standard that requires outflows sufficient to attain a certain level of salinity at designated locations in the Delta at certain times of year.] that they contemplate: * Low Outflow Scenario (LOS), otherwise known as operational scenario H1, assumes existing spring X2 standard and the removal of the existing fall X2 standard; * High Outflow Scenario (HOS), otherwise known as H4, contemplates the existing fall X2 standard and providing additional outflow during the spring; * Evaluated Starting Operations (ESO), otherwise known as H3, assumes continuation of the existing X2 spring and fall standards; * Enhanced spring outflow only (not evaluated in the December 2013 Draft BDCP), scenario H2, assumes additional spring outflow and no fall X2 standards. While it is not entirely clear how the Decision Tree would work in practice, the general concept is that the prior to operation of the new facility, implementing authorities would select the appropriate Scenario (from amongst the four choices) based on their evaluation of targeted research and studies to be conducted during planning and	Under Alternative 4 H4, the SWP would provide the additional Delta outflow outside of Coordinated Operations Agreement (as described in Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions in the EIR/EIS). This would result in reductions in SWP water contract deliveries as indicated in Appendix 5A, Section C, Modeling Results. 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. For additional information regarding water quality, please see Master Response 14. For additional information regarding modeling, please see Master Response 30. For additional information regarding decision tree, please see Master Response 44.

DEIRS Ltr#	Cmt#	Comment	Response
		construction of the facility. For our analysis, we reviewed the HOS (or H4) scenario because the BDCP [Footnote 8: Draft BDCP, Chapter 3, Section 3.4.1.4.4] indicates that the initial permit will include HOS operations that may be later modified at the conclusion of the targeted research studies. The HOS includes the existing fall X2 requirements but adds additional outflow requirements in the spring. We reviewed the model code and discussed the operations with DWR and Reclamation, who acknowledged that although the SWP was bearing the majority of the responsibility for meeting the additional spring outflow in the modeling, the responsibility would need to be shared with the CVP. [Footnote 9: August 7, 2013 meeting with DWR, Reclamation, and CH2M HILL] In subsequent discussions, DWR and Reclamation have suggested that the additional water may be purchased from other water users. However, the actual source of water for the additional outflow has not been defined. Since the BDCP modeling assumes that SWP bears the majority of the responsibility for meeting the additional outflow, yet this is not how the project will be operated in reality, our review of the BDCP modeling results for HOS is limited to the evaluation of how the SWP reservoir releases on the Feather River translate into changes in Delta outflow and exports.	
1633	70	[From ATT 2:] High Outflow Scenario (HOS or H4) Results: In Alt 4-ELT (Early Long Term) H4 Feather River flows during wetter years are increased more than 3,000 cfs in April and May and then decreased in most year types during July and August, while September flow is only decreased in wetter years. Figure 14 (see ATT 2: att16) shows average monthly change in Feather River flow by water year type. Accompanying the changes in Feather River flow are changes in Oroville Reservoir storage levels, Figure 15 (see ATT 2: att17) contains average monthly changes in Oroville storage. Alt4-ELT H4 end of June storage in Oroville during wetter years is about 480 TAF lower than the NAA-ELT while critical year storage is about 400 TAF higher. Counter to the reduction in Oroville storage, CVP average upstream carryover storage increases about 80 TAF and critical year increases by 380 TAF. Figure 16 (see ATT 2: att18) contains average monthly changes in Delta outflow, increases in Feather River spring time flows are generally not used to increase Delta outflow, but are allowed to support increases in Delta exports. Figure 17 (see ATT 2: att19) displays changes in average monthly Delta exports, there are increases when diverting higher upstream spring releases in wetter years, while there are decreases during summer months in most years. Figure 18 (see ATT 2: att20) contains an average annual summary of project deliveries, total CVP deliveries increase by about 70 TAF while SWP deliveries decrease by about 100 TAF. Dryer year SWP deliveries decrease by 250 to 400 TAF, while wet year deliveries increase by 200 TAF. Total CVP deliveries increase in wetter years by exporting increased releases from Oroville. The overall effect of the HOS appears to be increases in Oroville releases that support both CVP and SWP exports in wetter years, with modest increases in Delta outflow. There is also a decrease in SWP reliability through large delivery reductions in dryer years accompanied by Oroville storage increases. In addition to increases in dry and critical year storage in Oroville, total CVP dry and critical year carryover increases by 100 TAF and 380 TAF respectively with negligible reductions in wetter years types.	Under Alternative 4 H4, the SWP would provide the additional Delta outflow outside of COA (as described in Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions in the Draft EIR/EIS). This would result in reductions in SWP water contract deliveries as indicated in Appendix 5A, Section C, Modeling Results. Please note that operations under the new proposed project, Alternative 4A, will be guided by the H3+ operational scenario, which includes Fall X2 requirements consistent with the 2008 USFWS BiOP and spring outflow criteria to minimize and avoid project-related impacts to longfin smelt. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.

DEIRS Ltr#	Cmt#	Comment	Response
		CVP and SWP obligation for providing flow to satisfy Delta outflow requirements is described in the Coordinated Operations Agreement (COA). Because the CVP and SWP share responsibility for meeting required Delta outflow based on specific sharing agreement, it doesn't seem reasonable that CVP water supplies would increase while SWP water supplies decrease under this Alternative. The manner in which this alternative is modeled is inconsistent with existing agreements and operating criteria. If the increases in outflow were met based on COA, there would likely be reductions in Shasta and Folsom storage that may cause adverse environmental impacts.	
1633	71	[ATT 2: att16 -- Figure 14. Changes in Feather River Flow, Alt 4 H4 ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents changes in Feather River flow for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	72	[ATT 2: att17 -- Figure 15. Changes in Oroville Storage, Alt 4 H4 ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents changes in Lake Oroville storage for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	73	[ATT 2: att18 -- Figure 16. Changes in Delta Outflow, Alt 4 H4 ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents changes in Lake Oroville storage for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	74	[ATT 2: att19 -- Figure 17. Changes in Delta Export, Alt 4 H4 ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents changes in Lake Oroville storage for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	75	[ATT 2: att20 -- Figure 18. Changes in CVP and SWP Deliveries, Alt 4 H4 ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents changes in Lake Oroville storage for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	76	[From ATT 2:] North Delta Diversion Intakes: Sacramento River flow below the North Delta Diversion (NDD) must be maintained above the specified bypass flow requirement, therefore the NDD rates are limited to the Sacramento River flow above the bypass requirement. Due to an error in CalSim II that specifies an unintended additional bypass requirement, modeling performed for the BDCP EIR/EIS often bypasses more Sacramento River flow than is specified in the BDCP project description. This error has been fixed in the most recent public releases of CalSim II, but BDCP modeling has not been updated to reflect these fixes. Figure 19 (see ATT 2: att21) contains exceedance probability plots showing the Sacramento River required bypass, Sacramento River bypass flow, NDD, and excess Sacramento River flow to the Delta as modeling for BDCP. As can be seen in Figure 19, the bypass flow is always above the bypass requirement in July and August. The BDCP version of CalSim sets a requirement for Sacramento River inflow to the Delta needed to satisfy all Delta flow, quality, and export requirements, this requirement should be removed when modeling the NDD.	The action alternatives, as presented in the DEIR/DEIS and the RDEIR/SDEIS, assume use of a portion of Sacramento River inflow to maintain south Delta water quality in summer months, as described in this comment. In the Final EIR/EIS, the CALSIM II model was modified to simulate Alternative 4A to explicitly provide a preference for use of the south Delta intakes for up to 3,000 cfs in the summer months. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.
1633	77	[ATT 2: att21 -- Figure 19. NDD, Bypass Requirement, Bypass Flow, and Excess Sacramento R. flow for Alt 4-ELT (Early Long Term)]	This figure presents starting operations requirements for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	78	[From ATT 2:] CVP/SWP Exports: Overall the Alt 4 will increase exports compared to the NAA-ELT (No Action Alternative-Early Long Term), with the majority of the increased exports realized by the SWP. Figure 20 (see ATT 2: att22) illustrates a comparison between the NAA-ELT and Alt	The initial portion of the comment related to the CALSIM II results Is consistent with model results presented in the RDEIR/SDEIS. With respect to the portion of the comment related to the south Delta diversion preference in the summer months, the action alternatives, as presented in the DEIR/DEIS and the RDEIR/SDEIS, assume use of a portion of Sacramento River inflow to maintain south Delta water quality in summer months, as described in this comment. In the Final EIR/EIS, the CALSIM II model was modified to simulate Alternative 4A to explicitly

DEIRS Ltr#	Cmt#	Comment	Response
		4-ELT (Early Long Term) of CVP and SWP exports. On average, total combined exports under Alt 4-ELT are projected to increase by 537 TAF from 4.73 MAF to 5.26 MAF compared to the NAA-ELT. With the addition of the North Delta Diversion (NDD) facility, the water exported dramatically shifts from South Delta diversions (SDD) to North Delta diversions. Figure 21 (see ATT 2: att23) illustrates the change in routing of South of Delta exports under Alt 4 compared to the NAA-ELT. On average, export through the South Delta facility are projected to decrease by 2.1 MAF and the North Delta diversions will export 2.6 MAF which includes the 2.1 MAF shifted from the South Delta facility plus the additional 537 TAF of increased exports. Figure 22 (see ATT 2: att24) contains figures for July, August, and September for Alt 4-ELT that plot NDD against SDD. In the months of July to September SDD are occasionally very high, exceeding 14,000 cfs in July, with minimal NDD. This occurs due to outdated model code that imposes an instream flow requirement in Sacramento River flow below Hood in excess of the bypass criteria prescribed in the BDCP. There are numerous occurrences when bypass flows prescribed in the BDCP are exceeded and SDD are higher than expected. On the other hand, there are also many times when NDD are above minimum pumping levels and SDD are below the BDCP prescribed 3,000 cfs threshold indicated by the green line in Figure 22. For unknown reasons, the model code requiring SDD to be greater than 3,000 cfs before NDDs occur from July through September is deactivated in the BDCP modeling of this Alternative. South Delta Diversion at Banks is not limited to existing permit capacity of 6,680 cfs and pumping may reach full capacity of 10,300 cfs in July, August, and September. Figure 23 (see ATT 2: att25) contains exceedance probability charts of South Delta Diversion at Banks for July, August, and September. The chart for July shows SDD at Banks exceeding existing permit capacity 20% of years, in August this occurs in about 7% of years. There are South Delta diversions at Banks 25% of the time in September while diversions from the Sacramento River may range from 2,500 cfs to 7,500 cfs. Generally, exports increase during winter and spring months due to the ability to avoid fishery concerns by diverting at the North Delta rather than South Delta.	provide a preference for use of the south Delta intakes for up to 3,000 cfs in the summer months. With respect to the portion of the comment related the Clifton Court Forebay diversion limitations, 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 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. Under the Proposed Project (Alternative 4A), the model assumptions maintained the existing diversion limits at Clifton Court Forebay per the USACE agreements; and export of up to 10,300 cfs of SWP water in the wetter months is based upon conveyance through the Banks Pumping Plant of water diverted at the north and south Delta intakes. For additional information regarding modeling, please see Master Response 30.
1633	79	[ATT 2: att22 -- Figure 20. Change in CVP (Jones) and SWP (Banks) Exports (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents changes in CVP and SWP exports for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	80	[ATT 2: att23 -- Figure 21. Change in Conveyance Source of Exports (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents changes in north and south Delta exports for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	81	[ATT 2: att24 -- Figure 22. Alt 4-ELT (Early Long Term) North Delta Diversion versus South Delta Diversion for July, August, and September.]	This figure presents changes in north and south Delta exports for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	82	[ATT 2: att25 -- Figure 23. South Delta Diversion at Banks.]	This figure presents changes in south Delta diversions for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	83	[From ATT 2:] Delta Outflow: Figure 24 (see ATT 2: att26) illustrates a comparison of Delta outflow between the	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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

DEIRS Ltr#	Cmt#	Comment	Response
		NAA-ELT (No Action Alternative-Early Long Term) and Alt 4-ELT (Early Long Term). Decreases in Delta outflow are the result of the CVP and SWP ability to increase Delta exports in Alt 4-ELT. The apparent increase in Delta outflow in October is partially due to additional export restrictions though Old & Middle River flow requirements. However, the increase in October Delta outflow is also due to an unrealistic operation of the Delta Cross Channel. The additional export restrictions cause the flow standards imposed at Rio Vista to be the controlling point in CVP and SWP operations; the water quality standards are all being met and do not require flows above the amount needed to satisfy the Rio Vista standard. Meeting the Rio Vista flow standards without closing the Delta Cross Channel gate results in releasing more water from upstream reservoirs than would otherwise be necessary. This occurs because a certain amount of the water released to meet the Rio Vista flow standards would flow into the Central Delta at location of the Delta Cross Channel gate. This water would not make it to Rio Vista and therefore would not be counted towards meeting the Rio Vista flow standards. However, due to the BDCP model's assumed restrictions on exports at this time, this water could not be pumped from the South Delta facilities and thus ends up as "extra" Delta outflow. By closing the Delta Cross Channel gate, the operators would assure that all of the water released to meet the Rio Vista flow standards would be counted towards those standards. The BDCP model's assumptions that the Delta Cross Channel gate would not be closed are not practical or a sensible operation as the operators confirmed they would close the gate during these conditions to avoid the unnecessary loss of water supplies (as was done in October and November 2013). The assumption in the BDCP model to maintain the gate in the open position causes it to overstate the amount of Delta outflow.	BDCP Effects Analysis, please see Master Response 5. The Delta Cross Channel assumptions in the CALSIM II model are consistent between the No Action Alternative and action alternatives in the EIR/EIS. As discussed in this comment, the criteria for Sacramento River flows at Rio Vista in October would become more critical with action alternatives that include north Delta intakes. Under the future operations, there would be a balance between operations of Delta Cross Channel closure to minimize effects on upstream reservoir storage and water quality criteria. Operations under proposed project (Alternative 4A) would increase Delta outflow due to Old and Middle River criteria which will improve water quality as compared to the No Action Alternative. It is recognized that assumptions were used for the impact analysis in the EIR/EIS based upon modeling analyses; and that the real-time operations would provide more flexibility than the CALSIM II monthly-model time step. However, the incremental differences that could occur under the No Action Alternative conditions and Alternative 4A would be similar with different CALSIM II model assumptions in the No Action Alternative conditions and Alternative 4A. For additional information regarding modeling, please see Master Response 30.
1633	84	[ATT 2: att26 -- Figure 24. Delta Outflow Change (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents changes in Delta outflow for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	85	[From ATT 2:] CVP/SWP Reservoir Carryover Storage: CVP/SWP reservoir operating criteria in the Alt4-ELT (Early Long Term) scenario differs from the NAA-ELT (No Action Alternative-Early Long Term) scenario. This difference is primarily driven by changes in both CVP and SWP San Luis Reservoir target storage. CalSim II balances upstream Sacramento Basin CVP and SWP reservoirs with storage in San Luis Reservoir by setting target storage levels in San Luis Reservoir. CalSim II will release water from upstream reservoirs to meet target levels in San Luis Reservoir and the target storage will be met as long as there is capacity to convey water and water is available in upstream reservoirs. In Alt 4 the San Luis Reservoir target storage is set very high in the spring and early summer months, and then reduced in August and set to San Luis Reservoir dead pool from September through December. This change in San Luis target storage relative to the NAA (No Action Alternative) causes upstream reservoirs to be drawn down from June through August and then recuperate storage relative to the NAA by cutting releases in September; Alt 4 upstream storage then remains close to the NAA during fall months. These operational criteria cause changes in upstream cold water pool management and affect several resource areas. Figure 25 (see ATT 2: att27), Figure 26 (see ATT 2: att28), Figure 27 (see ATT 2: att29), and Figure 28 (see ATT 2: att30) contain exceedance charts for carryover storage and average monthly changes in storage by Sacramento Valley Water Year Type for North of Delta CVP and SWP reservoirs.	One of the goals for the action alternatives modeling is to maintain similar end-of-May and end-of-September carryover storage conditions as simulated under the No Action Alternative. In the action alternatives with the north Delta diversion facility, the availability of the additional export capacity in the winter and spring months compared to the No Action Alternative allows capturing winter and spring excess flows and filling of the San Luis Reservoir to a greater extent than the NAA. This also changes the release patterns from the upstream reservoirs. However, the end-of-May and end-of-September storage conditions are similar to the No Action Alternative under Alternative 4. The effects of modified release patterns and changes in the storage conditions on the river temperatures are evaluated in Chapter 11, Fish and Aquatic Resources, in the EIR/EIS. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.

DEIRS Ltr#	Cmt#	Comment	Response
1633	86	[From ATT 2:] San Luis Reservoir Operations: In addition to changes in upstream storage conditions, changes in San Luis Reservoir target storage cause San Luis Reservoir storage to reach dead pool in many years with subsequent SOD (South of Delta) delivery shortages. Although some delivery shortages are due to California Aqueduct capacity constraints, the largest annual delivery shortages are a result of inappropriately low target storage levels. Average annual Table A shortages due to artificially low San Luis reservoir storage levels increased from 3 TAF in the NAA-ELT (No Action Alternative-Early Long Term) scenario to 35 TAF in the Alt4-ELT (Early Long Term) scenario. (Shortages due only to a lack of South of Delta conveyance capacity were not included in these averages.) Such shortages occurred in 2% of simulated years in the NAA-ELT scenario and 23% of years in the Alt4-ELT scenario. In addition to the inability to satisfy Table A allocations, low storage levels cause loss of SWP contractors' Article 56 water stored in San Luis Reservoir. Average annual Article 56 shortages were 43 TAF in the Alt4-ELT scenario because of low San Luis storage and 5 TAF in the NAA-ELT scenario. Low San Luis storage causes Article 56 shortages in 27% of simulated years in the Alt4-ELT scenario as compared to 5% of simulated years in the NAA-ELT. Another consequence of low storage levels in San Luis Reservoir is a shift in water supply benefits from Article 21 to Table A. As seen in Figure 29 (see ATT 2: att31) and Figure 30 (see ATT 2: att32) San Luis Reservoir storage fills more regularly in the Alt 4-ELT scenario, but is exercised to a lower point more often.	The San Luis Reservoir rule curve is an input to CALSIM II which provides a target storage each month that is dependent on the South-of-Delta allocation and upstream reservoir storage. The rule curve allows CALSIM II to emulate judgement of the operators in balancing the north-of-Delta and south-of-Delta storage conditions. In the absence of any other operating criteria controlling the upstream reservoir releases or the Delta exports, different San Luis Reservoir rule curves can result in differences in upstream reservoir release patterns, and Delta exports. Assumed San Luis Reservoir rule curve could differ depending on the available export capacity during winter and spring months, and the need to protect upstream carryover storage in the fall months. For the No Action Alternative simulation, the San Luis Reservoir rule curve is managed to maximize filling during summer and fall months when the Delta export pumping is less constrained to minimize situations in which south-of-Delta shortages may occur due to lack of storage or exports. Under the action alternatives with the north Delta diversion, the CALSIM II San Luis Reservoir rule curve was modified in expectation that the new north Delta diversion facility would allow capturing winter and spring excess flows and filling of the San Luis Reservoir to a greater extent than the No Action Alternative. Additional modifications to the rule curve were included to preserve upstream carryover storage conditions while minimizing south-of-Delta shortages in the fall months. Under Alternative 4, the San Luis Reservoir storage conditions are also affected by the restrictive south Delta export operations in October.
1633	87	[ATT 2: att27 -- Figure 25. Trinity Reservoir Carryover Storage and Average Monthly Changes (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)) in Storage by Water Year Type]	This figure presents changes in Trinity Reservoir Storage for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	88	[ATT 2: att28 -- Figure 26. Shasta Reservoir Carryover Storage and Average Monthly Changes (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)) in Storage by Water Year Type]	This figure presents changes in Shasta Reservoir carryover storage for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	89	[ATT 2: att29 -- Figure 27. Oroville Reservoir Carryover Storage and Average Monthly Changes (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)) in Storage by Water Year Type]	This figure presents changes in Oroville Reservoir carryover storage for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	90	[ATT 2: att30 -- Figure 28. Folsom Reservoir Carryover Storage and Average Monthly Changes (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)) in Storage by Water Year Type]	This figure presents changes in Folsom Reservoir storage for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	91	[ATT 2: att31 -- Figure 29. Federal Share of San Luis Reservoir (Alt 4-ELT (Early Long Term) and NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents San Luis Reservoir results for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	92	[ATT 2: att32 -- Figure 30. State Share of San Luis Reservoir (Alt 4-ELT (Early Long Term) and NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents San Luis Reservoir results for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	93	[From ATT 2:] CVP Water Supply: The changes in water supply to CVP customers, based on customer type and water year type is shown in Table 3 (see ATT 2: att33). Alt 4-ELT (Early Long Term) shows an average	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis.Alternative 4 remains a viable alternative. However, 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.

DEIRS Ltr#	Cmt#	Comment	Response
		increase of approximately 109,000 AF of delivery accruing to CVP customers with CVP SOD (South of Delta) agricultural contractors receiving most of the benefit. Changes in Sacramento River Settlement contract deliveries are not an anticipated benefit of the BDCP, increases in these deliveries in Alt 4-ELT relative to the NAA-ELT (No Action Alternative-Early Long Term) are due to the shortages in the NAA-ELT from climate change that are reduced in Alt 4-ELT. Although the BDCP modeling demonstrates minor benefits to NOD (North of Delta) CVP service contractors, this increase is not an anticipated benefit of the BDCP. Consistent with modeling for the NAA-ELT Scenario, San Joaquin River Exchange Contractors receive full deliveries in accordance with contract provisions. Figure 31 (see ATT 2: att34) compares CVP Service Contract delivery of Alt 4-ELT to the NAA-ELT Scenario. Increases in delivery generally occur in below and above normal years.	The assumptions in all of the action alternatives were to not effect operations to north of Delta SWP and CVP water users as compared to the No Action Alternative. However, for the north of Delta agricultural water users, the CALSIM II model modifies SWP and CVP water deliveries based upon annual precipitation and other factors; therefore, the results, as shown in this comment, can vary between different CALSIM II model runs. The water deliveries to south of Delta agricultural water users in the CALSIM II model are not calculated in the same manner. Therefore, there are no differences in water deliveries to San Joaquin River Exchange Contractors between model runs. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.
1633	94	[ATT 2: att33 -- Table 3. CVP Delivery Summary (Alt 4-ELT (Early Long Term) and NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents CVP delivery results for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	95	[ATT 2: att34 -- Figure 31. CVP Service Contract Deliveries (Alt 4-ELT (Early Long Term) and NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents CVP service contract delivery results for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	96	[From ATT 2:] SWP Water Supply: Similar in nature, but larger in magnitude are changes in SWP deliveries. Figure 32 (see ATT 2: att36) and Table 4 (see ATT 2: att35) illustrate the benefits of Alt 4-ELT (Early Long Term) in comparison to the NAA-ELT (No Action Alternative-Early Long Term) Scenario. These studies show an increase in average annual SWP SOD (South of Delta) deliveries of approximately 408,000 AF, but a reduction in critical year deliveries of approximately 177,000 AF. There is an overall reduction in Article 56 deliveries. Typically in modeling and in actual SWP operations, increases in Table A correspond with increases in Article 56. The reason that Article 56 deliveries decrease overall is that insufficient quantities of water are carried over in San Luis and Article 56 contractors are subsequently shorted. SWP delivery increase is slightly less than increases in Banks export because there is increased wheeling for the Cross Valley Canal contractors with BDCP.	The comment is consistent with model assumptions and results presented in the Draft EIR/EIS. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.
1633	97	[ATT 2: att35 -- Table 4. SWP Delivery Summary (Alt 4-ELT (Early Long Term) and NAA-ELT (No Action Alternative-Early Long Term))]	This table presents a summary of SWP deliveries for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	98	[ATT 2: att36 -- Figure 32. SWP Contract Deliveries (Alt 4-ELT (Early Long Term) and NAA-ELT (No Action Alternative-Early Long Term))]	This figure presents a summary of SWP contract deliveries for Alternative 4 compared to NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	99	[From ATT 2:] Freemont Weir Modifications and Yolo Bypass Inundation: A component of the BDCP Alternative 4 is a modification to the Freemont Weir to allow water to flow into the Yolo Bypass when the Sacramento River is at lower flow than is currently needed. Currently, the Sacramento River does not flow over the Freemont Weir until flow reaches about 56,000 cfs. With the proposed modification Sacramento River flow may enter the Yolo Bypass at much lower flow levels. Figure 33 (see ATT 2: att37) and Figure 34 (see ATT 2: att38) contains charts that compare Freemont Weir flow into	The comment is consistent with model assumptions and results presented in the Draft EIR/EIS. It should be noted that Alternative 4A is compared to a No Action Alternative at ELT which includes implementation of an operable gate along the Sacramento River at Yolo Bypass to increase frequency and extent of Yolo Bypass flows. For additional information regarding modeling, please see Master Response 30. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered. Alternative 4A and the associated No Action

DEIRS Ltr#	Cmt#	Comment	Response
		the Yolo Bypass to Sacramento River flow at the weir, Figure 33 show this relationship for the NAA-ELT (No Action Alternative-Early Long Term) and Figure 34 shows this same relationship for Alt 4-ELT (Early Long Term). Although CalSim II is a monthly time-step model, it contains an algorithm that estimates daily flow. Therefore, average monthly flows displayed in Figure 33 shows Sacramento River entering the Yolo Bypass at flow levels less than 56,000 cfs, when this occurs water is flowing over the Freemont Weir for a portion of the month. There is a 100 cfs minimum flow diversion from the Sacramento River diversion to the Yolo Bypass from September through June in Alt 4-ELT. Figure 35 (see ATT 2: att39) and Figure 36 (see ATT 2: att40) contains average monthly flow from the Sacramento River over the Freemont Weir to the Yolo Bypass for the NAA-ELT (Figure 35), average monthly difference between Alt 4-ELT and NAA-ELT (Figure 36), and the annual average difference between Alt 4-ELT and NAA-ELT (Figure 37, see ATT 2: att41). In the NAA-ELT scenario flow over the Freemont Weir generally occurs in wet years, this flow is extended to all year types and all months except July and August in Alt 4-ELT. The average annual increase in flow is about 430 TAF.	Alternative include habitat restoration and increased extent and frequency of habitat inundation in the Yolo Bypass. 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.
1633	100	[ATT 2: att37 -- Figure 33. Fremont Weir vs. Sacramento River NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents results of the Fremont Weir vs. Sacramento river for the NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	101	[ATT 2: att38 -- Figure 34. Fremont Weir vs. Sacramento River Alt 4-ELT (Early Long Term)]	This figure presents results of the Fremont Weir vs. Sacramento River for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	102	[ATT 2: att39 -- Figure 35. Average Fremont Weir Flow to Bypass by Water Year Type NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents average Fremont Weir flow for the NAA ELT and does not contain a comment on the Draft EIR/EIS.
1633	103	[ATT 2: att40 -- Figure 36. Average Fremont Weir Flow to Bypass by Water Year Alt 4 ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents results of the Fremont Weir flow for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	104	[ATT 2: att41 -- Figure 37. Annual Change in Fremont Weir Flow to Bypass Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)]	This figure presents in Fremont Weir flow for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	105	[From ATT 2:] Sacramento River Temperature: Figure 38 (see ATT 2: att42) contains exceedance probability plots of Sacramento River temperature at Bend Bridge for the NAA-ELT (No Action Alternative-Early Long Term) and Alt 4-ELT (Early Long Term). For the months of April through July modeling shows few changes in upper Sacramento River water temperature. The Alt 4-ELT scenario shows temperature increases in August relative to the NAA-ELT. In about 75% of years modeling shows about 0.5°F increase in Alt 4-ELT relative to the NAA-ELT. The temperature models will meet inputted target temperatures until Shasta Lake cold water is depleted, this typically occurs in September. This is the likely reason temperature increases in modeling tend to occur in September.	This comment is consistent with modeling results presented in the EIR/EIS for many of the action alternatives. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. For upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.
1633	106	[ATT 2: att42 -- Figure 38. Sacramento River Temperature at Bend Bridge NAA-ELT (No Action Alternative-Early Long Term) and Alt 4-ELT (Early Long Term)]	This figure presents Sacramento River temperature results for NAA ELT and Alternative 4 and does not contain a comment on the Draft EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1633	107	[From ATT 2:] BDCP's "High Outflow Scenario" is not sufficiently defined for analysis: The High Outflow Scenario (HOS) requires additional water (Delta outflow) during certain periods in the spring. The BDCP Model places most of the responsibility for meeting this new additional outflow requirement on the SWP. However, the SWP may not actually be responsible for meeting this new additional outflow requirement. This is because the COA (Coordinated Operations Agreement), as it is currently being implemented, would require a water allocation adjustment that would keep the SWP whole. Where one project (CVP or SWP) releases water to meet a regulatory requirement, the COA requires a water balancing to ensure the burden does not fall inappropriately among the projects. The BDCP Model is misleading because it fails to adjust project operations, as required by the COA, to "pay back" the water "debt" to the SWP due to these additional Delta outflow requirements. Unless there is a significant revision to COA, the BDCP Model overstates the impacts of increased Delta outflow on the SWP and understates the effects on the CVP. Furthermore, after consulting with DWR and [Bureau of] Reclamation project operators and managers, the Reviewers conclude that there is no apparent source of CVP or SWP water to satisfy both the increased Delta outflow requirements and pay back the COA "debt" to the SWP without substantially depleting upstream water storage. It appears, through recent public discussions regarding the HOS, that BDCP anticipates additional water to satisfy the increased Delta outflow requirement and to prevent the depletion of cold water pools will be acquired through water transfers from upstream water users. However, this approach is unrealistic because during most of the spring, when BDCP proposes that Delta outflow be increased, agricultural water users are not typically irrigating. This means that there is not sufficient transfer water available to meet the increased Delta outflow requirements without releasing stored water from the reservoirs. Releasing stored water to meet the increased Delta outflow requirements could potentially impact salmonids on the Sacramento and American River systems.	Under Alternative 4 H4, the SWP would provide the additional Delta outflow outside of COA (as described in Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions in the Draft EIR/EIS). This would result in reductions in SWP water contract deliveries as indicated in Appendix 5A, Section C, Modeling Results. For additional information regarding modeling, please see Master Response 30.
1633	108	[From ATT 2:] Simulated operation of BDCP's dual conveyance, coordinating proposed North Delta diversion facilities with existing south Delta diversion facilities, is inconsistent with the project description: The Draft BDCP and associated Draft EIR/EIS specify criteria for how much flow can be diverted by the new North Delta Diversion (NDD) facilities and specify when to preferentially use either the NDD facilities or the existing South Delta Diversion (SDD) facilities. However, the BDCP Model contains an artificial constraint that prevents the NDD facilities from taking water as described in the BDCP project description. In addition to affecting diversions from the NDD, this artificial constraint contains errors that affect the NAA (No Action Alternative) operation. This error has been fixed by DWR and Reclamation in more recent versions of the model; however, the error remains in the BDCP Model. Additionally, the BDCP Model does not reflect the Summer operations of the SDD that are described in the Draft EIR/EIS as a feature of the BDCP project intended to prevent water quality degradation in the south Delta. The net effect of these two errors is that the BDCP Model significantly underestimates the amount of water diverted from the NDD facilities and overestimates the amount of water diverted from the SDD.	Alternative 4 allows for the discretion and operations flexibility available for the Delta exports in the summer months. As noted in the Tables 5-7 through 5-9 of the EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the resulting north versus south Delta exports will be different under Alternative 4 compared to the No Action Alternative. The range of water quality effects under Alternative 4 as a result of these export changes are analyzed in Chapter 8 of the EIR/EIS. For additional information regarding water quality, please see Master Response 14. For additional information regarding modeling, please see Master Response 30. For additional information regarding decision tree, please see Master Response 44.

DEIRS Ltr#	Cmt#	Comment	Response
1633	109	[From ATT 2:] BDCP modeling contains numerous coding and data issues that skew the analysis and conflict with actual real-time operational objectives and constraints: Logic is coded into the CalSim II model to simulate how DWR and Reclamation would operate the system under circumstances for which there are no regulatory or other definitive rules. This attempt to specify (i.e., code) the logic sequence and relative weighting so that a computer can simulate "expert judgment" of the human operators is a critical element to the CalSim II model. In the BDCP Model, some of the operational criteria for water supply allocations and existing facilities such as the Delta Cross Channel and San Luis Reservoir are inconsistent with real-world conditions.	With respect to the specific reference in this comment to CALSIM II model assumptions related to the Delta Cross Channel operations, the Delta Cross Channel assumptions in the CALSIM II model are consistent between the No Action Alternative and action alternatives in the EIR/EIS. As discussed in this comment, the criteria for Sacramento River flows at Rio Vista in October would become more critical with action alternatives that include north Delta intakes. Under the future operations, there would be a balance between operations of Delta Cross Channel closure to minimize effects on upstream reservoir storage and water quality criteria. Operations under proposed project (Alternative 4A) would increase Delta outflow due to Old and Middle River criteria which will improve water quality as compared to the No Action Alternative. It is recognized that assumptions were used for the impact analysis in the EIR/EIS based upon modeling analyses; and that the real-time operations would provide more flexibility than the CALSIM II monthly-model time step. However, the incremental differences that could occur under the No Action Alternative conditions and Alternative 4A would be similar with different CALSIM II model assumptions in the No Action Alternative conditions and Alternative 4A. With respect to the specific reference in this comment to CALSIM II model assumptions related to the San Luis Reservoir operations, Alternative 4 and several other action alternatives (as included in the DEIR/DEIS and the RDEIR/SDEIS) included assumptions for this reservoir that resulted in end-of-September storage less than under the No Action Alternative. For Alternative 4A in the Final EIR/EIS, the San Luis Reservoir rule curve in CALSIM II was slightly modified to increase the end-of-September target level towards the No Action Alternative values to reflect historic operational range.
1633	110	[From ATT 2:] Revisions approved by DWR and Reclamation for the 2013 baseline: DWR and Reclamation provided CalSim II models used for the 2013 SWP Delivery Reliability Report (DRR) for use in this independent modeling effort. Changes to these models were made for this effort and provided to DWR and Reclamation, many of these changes have since been incorporated into DWR and Reclamation's model and others are under review. The CalSim II model used for the 2013 SWP DRR is located on DWR's web site at: http://baydeltaoffice.water.ca.gov/modeling/hydrology/CalSim/Downloads/CalSimDownloads/CalSim-IIStudies/SWPReliability2013/index.cfm. Documentation for this model is described in the report titled: "Draft Technical Addendum to the State Water Project Delivery Reliability Report 2013", also located on DWR's web site at: http://baydeltaoffice.water.ca.gov/swpreliability/. Key modeling assumptions used for this effort are consistent with the 2013 SWP DRR and are listed in Table 4 of the Technical Addendum. CalSim II is continuously being worked on and improved to better represent CVP and SWP operations and fix known problems. The Technical Addendum to the 2013 SWP DRR contains a description of updates and fixes that have occurred since modeling was performed for the BDCP Draft EIR/EIS. Among these changes and fixes are key items that directly affect operation of facilities proposed in BDCP Alternative 4, these items are described on page 4 of 2013 SWP DRR Technical Addendum. Key among these fixes is the correction of the Sacramento River flow requirement for Delta inflow that causes NDD (North Delta Diversion) bypass to exceed requirements. A key component of this independent modeling effort is the development of an	The modeling for the BDCP and the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models). In 2010, CALSIM II Existing Conditions and No Action Alternative models were updated in coordination with the fishery agencies to include the USFWS and NMFS biological opinions. This model formed the basis for Alternative 1 model development in 2010. All the action alternatives modeled since then, including Alternative 4, were continued to be based on the 2010 models allowing comparability with the baselines. The models always evolve as the understanding of the operations improves and the assumptions are better defined. In August 2011, several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS modelers. This update was performed to verify if the compiled model improvements have altered the incremental changes between Alternative 1 and the Existing Conditions and No Action Alternative, relative to the 2010 modeling. The findings from the 2011 update showed that the results remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability. Reclamation, DWR and others have continued to improve the 2011 Existing Conditions and No Action Alternative models for other analyses. Modeling is continuously evolving as the operational understanding improves. However, in a planning study such as the BDCP and EIR/EIS, models are generally frozen to allow consistency and comparability in the effects analysis. BDCP and EIR/EIS results were continuously verified using the most recent Existing Conditions and No Action Alternative models available (e.g. 2011 updates and 2013 updates which included many of the actions referenced in this comment). For additional information regarding modeling, please see Master Response 30. The EIR/EIS analyzes all alternatives, including Alternative 4A. Please see Master 5 for additional detail on the BDCP and the alternatives involving an HCP component.

DEIRS Ltr#	Cmt#	Comment	Response
		acceptable CalSim II Future No-Action (FNA) model scenario. The purpose for developing the FNA Scenario is to produce an operational scenario that is realistic enough to understand how changes proposed in the BDCP will affect operations. The process of developing the FNA involved research and development of CalSim II model updates and several meetings with Reclamation and DWR modeling and operations staff. In addition to changes in the FNA Scenario, CalSim II was updated to better reflect operation of the NDD, CVP and SWP reservoir balancing, DCC (Delta Cross Channel) gate operations, and CVP/SWP water supply allocations. Additional Revisions to CalSim II Assumptions: The following changes were made to the 2013 SWP DRR version of CalSim II for this effort: * San Joaquin River Basin - Turned off San Joaquin River Restoration Program (SJRRP) The SJRRP will cause a change to San Joaquin River inflow to the Delta not associated with the BDCP. To avoid adding complications to the identification of BDCP export benefits the SJRRP was not incorporated into the analysis. - Tuolumne: updated time-series, lookup tables, and WRESL code - Turned off releases for SJRA (VAMP) (San Joaquin River Agreement (Vernalis Adaptive Management Plan)) * Updated Folsom flood diagram * Rice decomposition demand diversions from Feather River * Dynamic EBMUD (East Bay Municipal Utility District) diversion at Freeport * SEP1933 correction to daily disaggregated minimum flow requirements at Wilkins Slough and Red Bluff * CVP M&I (municipal and industrial) demands are updated to reflect assumptions used by Reclamation * Yuba Accord Transfer * Los Vaqueros Reservoir capacity	
1633	111	[From ATT 2:] San Joaquin River Basin: BDCP modeling depicted San Joaquin River Basin operations generally consistent with the actions, programs and protocols in place at the time of NOI/NOP (Notice of Preparation/Notice of Intent) issuance. Some of those conditions are now not representative of current development or operations. With the exception of the assumption for the SJRRP (San Joaquin River Restoration Program), the independent modeling has revised San Joaquin River Basin operations to reflect more contemporary LOD assumptions. In future level analyses the independent modeling similarly assumes no	See Response to Comment 1633-110.

DEIRS Ltr#	Cmt#	Comment	Response
		SJRRP, but only for analysis simplicity concerning BDCP export benefits. Additional analyses may be useful in understanding effects of collectively implementing the BDCP and SJRRP. The San Joaquin River Basin (SJR) is depicted for current conditions, primarily affected by the operations of the Stanislaus, Tuolumne, Merced, and upper San Joaquin River tributaries. The upper San Joaquin River is currently modeled in a "pre-" SJRRP condition, consistent with the 2005 CalSim version. The FNA (Future No Action) Scenario also models the upper San Joaquin River without the SJRRP. The SJR depicts near-term operations including SWRCB D-1641 flow and water quality requirements at Vernalis met when hydrologically possible with New Melones operations. The Vernalis flow objective is set by SWRCB D-1641 February-June base flow requirements. There are no pulse flow requirements during April and May, and there is no acquired flow such as VAMP (Vernalis Adaptive Management Plan) or Merced water. D1641 Vernalis water quality requirements are set at 950/650 EC to provide an operational buffer for the requirement. New Melones is operated to provide RPA (Reasonable and Prudent Alternative) Appendix 2E flows as fishery releases and maintains the DO (dissolved oxygen) objective in the Stanislaus River through a flow surrogate. Stanislaus River water right holders (OID/SSJID - Oakdale Irrigation District/San Joaquin Irrigation District) are provided deliveries up to land use requirements as occasionally limited due to operation agreement (formula). CVP Stanislaus River contractors are provided allocations up to 155 TAF per year in accordance with proposed 3-level plan based on the New Melones Index (NMI). For modeling purposes during the worst drought sequence periods, CVP Stanislaus River contractors and OID/SSJID diversions are additionally cut to maintain New Melones Reservoir storage no lower than 80 TAF. Merced River is operated for Federal Energy Regulatory Commission (FERC) and Davis-Grunsky requirements, and provides October flows as a condition of Merced Irrigation District's water rights. The Tuolumne River is operated to its current FERC requirements and current water use needs and has been updated to recent conditions.	
1633	112	[From ATT 2:] Folsom Lake Flood Control Diagram: During wetter years, inflow to Folsom Lake is sufficient to keep the reservoir full while satisfying all demands downstream. When this condition occurs in actual operations, operators increase releases during summer months to maintain higher instream flows and prevent large releases in the fall to evacuate Folsom to satisfy flood control storage requirements. To prevent the model from keeping the reservoir full going into the fall months and then making large releases to comply with flood control storage requirements, the maximum allowable storage during summer months is ramped from full storage in June to flood control levels in the fall. Although this is a common modeling tool, Folsom storage level for the end of September was set too low in the SWP DRR (Delivery Reliability Report) model causing unnecessary releases and resulting in Folsom storage being lower than desired. An adjustment was made to achieve a more realistic summer drawdown for Folsom.	See Response to Comment 1633-110.
1633	113	[From ATT 2:]	See Response to Comment 1633-110.

DEIRS Ltr#	Cmt#	Comment	Response
		Feather River Rice Decomposition Demand: Demand for rice straw decomposition (decomp) water from Thermalito Afterbay was added to the model and updated to reflect historical diversion from Thermalito in the October through January period. There are approximately 110,000 acres of rice in the Feather River Service Area irrigated primarily with water diverted from Thermalito Afterbay. Although decomp water demand for the Sacramento River has been included in CalSim II since about 2006, this demand has been absent for the Feather River. Inclusion of decomp demand in the version of CalSim II used for this effort results in an increase in Feather River diversion in fall months of about 160,000 AF.	
1633	114	[From ATT 2:] Dynamic EBMUD (East Bay Municipal Utility District) Diversion at Freeport: Previously the EBMUD operation was pre-determined and input to CalSim II as a time-series. The below criteria was implemented in CalSim II model code to achieve a dynamic representation of EBMUD diversion from the Sacramento River at Freeport. The EBMUD water service contract is unique. EBMUD's total system storage must be forecast to be below 500 TAF on October 1 for CVP water to be available under the EBMUD contract. In years when this occurs, we assume EBMUD will take the minimum of 65 TAF of CVP water or their CVP allocation (133 TAF * CVP M&I (municipal and industrial) allocations) in the first and second years of any multi-year period when CVP water is available under their contract. In the third year, EBMUD would be limited to 35 TAF of CVP water (assuming diversion of 65 TAF in years one and two) because their contract limits cumulative CVP water over three consecutive years to 165 TAF. The 65, 65, 35 TAF annual diversion pattern then repeats if water is available for four or more consecutive years under the EBMUD contract.	See Response to Comment 1633-110.
1633	115	[From ATT 2:] Wilkins Slough Minimum Flow Requirement: Wilkins Slough minimum flow requirements, C129_MIF, includes an adjustment for daily operations based on work with the Sacramento River Daily Operations Model (SRDOM). The flow adjustment for daily flows for September 1933 in the state variable input file appeared unreasonable in the previous model. The flow adjustment in this month was approximately 1,860 cfs and was requiring release of approximately 100 TAF out of Shasta. Review of the entire time-series of daily adjustments showed the adjustment in this month was an order of magnitude greater than in any other September in the simulation period. The year 1933 is a critically dry year, and the third of four consecutive Shasta Critical years. Historical precipitation records from the consumptive use models for the Sacramento Valley, which serves as the basis of much of the CalSim hydrology, were reviewed to ensure there was no unusual precipitation in this month that may create variations in daily flows. It was determined that this daily adjustment is in error. The daily adjustment for this time-step was set to 10 cfs, the value for August 1933.	See Response to Comment 1633-110.
1633	116	[From ATT 2:] CVP M&I (Municipal and Industrial) Demands:	See Response to Comment 1633-110. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP

DEIRS Ltr#	Cmt#	Comment	Response
		[Bureau of] Reclamation M&I contractor demands upstream from the Delta have not been adequately represented in CalSim II until Reclamation updated the model in 2012. A more accurate representation of CVP M&I demands, developed in 2012, was incorporated into the model for this effort.	component.
1633	117	[From ATT 2:] Yuba Accord Water Transfer: In CalSim, Yuba Accord Water Transfers are limited to releases from New Bullards Bar Reservoir. The release is picked up at Banks Pumping Plant or stored in Oroville and Shasta for later release. The additional release from New Bullards Bar is represented in CalSim through an inflow arc. The subsequent refill of New Bullards Bar is represented in CalSim through a diversion arc. In CalSim II, refill is assumed to always occur in the winter following the transfer. However, in the SWP DRR model, there were a few years in which no transfers took place but refill still occurred in the following winter. This was fixed in the updated baseline by capping refill to the previous summer's total transfer.	See Response to Comment 1633-110. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.
1633	118	[From ATT 2:] Los Vaqueros Reservoir: Expansion of Los Vaqueros Reservoir was completed in 2012. Storage capacity was increased from 103 TAF to 160 TAF. In DWR's BDCP studies, Los Vaqueros capacity was set to 103 TAF. The independent modeling increases Los Vaqueros capacity to 160 TAF.	See Response to Comment 1633-110. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.
1633	119	[From ATT 2:] San Luis Reservoir Rule-Curve Logic Change: In the independent modeling, San Luis rule-curve logic was refined for both SWP and CVP operations. San Luis rule-curve is used to maintain an appropriate balance between San Luis Reservoir storage and North of Delta reservoirs. The key considerations in formulating rule-curve are as follows: * Ensure that sufficient water is available in San Luis Reservoir to meet contract allocations when exports alone are insufficient due to various operational constraints. * Minimize San Luis Reservoir carryover storage to low point criteria (both CVP and SWP) and Article 56 carryover (only SWP). The basic premise is to maintain Reservoir San Luis storage no higher than necessary to satisfy south of Delta obligations to avoid excessive drawdown of upstream storage. In DWR's BDCP studies, there were significant shortages in Table A and Article 56 deliveries because of an improper balance between upstream and San Luis Reservoir storage. The updated SWP rule-curve logic reduces these shortages but does not eliminate them. Also, the updated CVP rule-curve logic allows for higher CVP allocations without increasing risk of shorting SOD (South of Delta) contractors.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. The San Luis Reservoir rule curve is an input to CALSIM II which provides a target storage each month that is dependent on the South-of-Delta allocation and upstream reservoir storage. The rule curve allows CALSIM II to emulate judgement of the operators in balancing the north-of-Delta and south-of-Delta storage conditions. In the absence of any other operating criteria controlling the upstream reservoir releases or the Delta exports, different San Luis Reservoir rule curves can result in differences in upstream reservoir release patterns, and Delta exports. Assumed San Luis Reservoir rule curve could differ depending on the available export capacity during winter and spring months, and the need to protect upstream carryover storage in the fall months. For the No Action Alternative simulation, the San Luis Reservoir rule curve is managed to maximize filling during summer and fall months when the Delta export pumping is less constrained to minimize situations in which south-of-Delta shortages may occur due to lack of storage or exports. Under the EIR/EIS proposed project and other action alternatives with the north Delta diversion, the CALSIM II San Luis Reservoir rule curve was modified in expectation that the new north Delta diversion facility would allow capturing winter and spring excess flows and filling of the San Luis Reservoir to a greater extent than the No Action Alternative. Additional modifications to the rule curve were included to preserve upstream carryover storage conditions while minimizing south-of-Delta shortages in the fall months. Under Alternative 4A, the San Luis Reservoir storage conditions are also affected by the restrictive south Delta export operations in October. The project objectives and purpose and need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. It is recognized that future projects could change the San Luis Reservoir rule curve. However, these future actions would require engineering and environmental analyses that would consider the potential changes to the existing and planned infrastructure at the time of those studies. Changes in these assumptions would be speculative and are not included in the No Action

DEIRS Ltr#	Cmt#	Comment	Response
			Alternative in this EIR/EIS. Changes in these assumptions also are not necessarily consistent with the project objectives or purpose and need for the project proponents, and are not included in the action alternatives. It should be noted that the CALSIM II model results in the EIR/EIS are presented as "deliveries" to the SWP and CVP water users, and not "allocations" as referred to in this comment. The "deliveries" values were presented because deliveries are frequently less than "allocation" values due to factors other than water supplies; and therefore, the "deliveries" are do not overstate the amount of water available to water users (as could occur if the "allocation" values were used. For additional information regarding upstream reservoir effects please see Master Response 25. Please also see Master Response 30.
1633	120	[From ATT 2:] Upstream Storage Release to Fill San Luis Reservoir Above Needed Supply: In the BDCP NAA (No Action Alternative) and the independent modeling FNA (Future No Action), the model has a priority to release excess stored water that will likely be released for flood control purposes from Shasta and Folsom storage for export at Jones Pumping Plant to storage in San Luis Reservoir in the late summer and early fall months. The purpose was to get a head start on filling San Luis Reservoir for the coming water year if there is a high likelihood of Shasta or Folsom spilling. This was an assumed CVP/SWP adaptation to the export reductions in the winter and spring months due to the salmon and smelt Biological Opinions. However, with the NDD (North Delta Diversion) facility in Alt 4, winter and spring export restrictions impact CVP exports much less and there is no longer a reason to impose this risk on upstream storage. As such, the weights, or prioritizations, of storage in Shasta and Folsom were raised so that excess water would not be released specifically to increase CVP San Luis storage Reservoir above rule-curve. This was changed in Alt 4 and not the FNA to better reflect how the system may operate under these different conditions.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. In the EIR/EIS action alternatives, including Alternative 4A, upstream reservoir operational criteria were consistent with the criteria included in the No Action Alternative. The project objectives and purpose and need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.
1633	121	[From ATT 2:] Delivery allocation adjustment for CVP SOD (South of Delta) Ag service and M&I (municipal and industrial) contractors: CVP SOD Ag service and M&I allocations are limited by both systemwide water supply (storage plus inflow forecasts) and Delta export constraints; whereas similar CVP NOD (North of Delta) allocations are dependent solely on water supply. This frequently results in SOD water service contractors receiving a lower contract year allocation than NOD water service contractors, especially under the Biological Opinion export restrictions. However, with the NDD (North Delta Diversion) facility operations as proposed under Alt 4 H3, the CVP can largely bypass these Delta export restrictions, and the export capacity constraint on CVP SOD allocations was determine to be overly conservative. Therefore, the export capacity component of CVP SOD allocations was removed in the BDCP Alternative and both SOD and NOD CVP allocations are equal and based only on water supply.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. In the EIR/EIS action alternatives, including Alternative 4A, allocation criteria were consistent with the criteria included in the No Action Alternative. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.
1633	122	[From ATT 2:] Folsom/Shasta Balance:	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. In the EIR/EIS action alternatives, including Alternative 4A, upstream reservoir operational criteria were consistent with the criteria included in the No Action Alternative. The project objectives and purpose and

DEIRS Ltr#	Cmt#	Comment	Response
		CVP operations were refined in the BDCP Alternative to provide maximum water supply benefits to CVP contractors while protecting Trinity, Shasta, and Folsom carryover storage in the drier years. As a whole, this was accomplished with refinements to allocation logic and San Luis rule-curve. However, in initial study runs, an imbalance between Folsom and Shasta was created; while there was a total positive impact to upstream storage in dry years, there was a negative impact to Folsom storage. This was resolved by inserting Folsom protections in the Shasta-Folsom balancing logic. With these protections, the positive carryover impacts were distributed to Trinity, Shasta, and Folsom.	need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.
1633	123	[From ATT 2:] North Delta Diversion (NDD) Bypass Criteria: The daily disaggregation method for implementing NDD bypass criteria as implemented in DWR's BDCP model was left mostly intact for the updated BDCP studies. However, there were modifications to properly fit the bypass criteria implementation within the latest CalSim operations formulation. Modifications are as follows: 1. No NDD operations occur in cycles 6 through 9 so that Delta operations and constraints can be fully assessed without NDD interference. 2. Cycles 10 and 11 (Daily 1 and Daily 2 respectively) were added to determine NDD operations given various operational constraints including the NDD bypass criteria. 3. From July to October, bypass criteria are based on monthly average operations (no daily disaggregation). Given the controlled reservoir releases at this time and the constant bypass criteria (5,000 cfs from July to September and 7,000 cfs in October), this was determined to be a reasonable assumption. This also simplified coordination of DCC (Delta Cross Channel) gate operations with NDD in October which will be discussed later. 4. When warranted by conditions in cycle Daily 1 (cycle 10), the bypass criteria in May and June were allowed to be modeled on a monthly average basis in cycle Daily 2 (cycle 11). This allowed a reduction in the number of cycles necessary to determine the fully allowed diversion under the bypass criteria when the Delta was in balance and additional upstream releases were made to support diversions from the North Delta.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. In the EIR/EIS action alternatives, including Alternative 4A, north Delta bypass criteria were developed by the Lead Agencies in the DEIR/DEIS (including DWR, Reclamation, USFWS, and NMFS) to provide protection for aquatic resources and downstream water users. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component. Please see Master Response 30.
1633	124	[From ATT 2:] Delta Cross Channel (DCC) Gate Reoperation in October: The BDCP Alt 4 results in significantly more October surplus Delta outflow as compared to the baseline. The cause of this Delta surplus at a time when the Delta is frequently in balance is a combination of proposed through-Delta export constraints (OMR (Old & Middle River) flow criteria and no through-Delta exports during the San Joaquin River October pulse period), Rio Vista flow requirements, and DCC gate operations. In DWR's BDCP studies, it was assumed that the DCC gates would be open for the entire month of October thereby requiring much higher Sacramento River flows at Hood in order to meet the Rio Vista flow requirement than if the DCC gates were closed. Whereas in the independent BDCP modeling it was assumed that the DCC gates were closed for a number of days during the month such that the 7,000 cfs NDD (North Delta Diversion) bypass criteria would be sufficient to meet the weekly average Rio Vista flow requirements. The intent was to minimize surplus Delta outflow while meeting Delta salinity standards and	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. The project objectives and purpose and need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. In the EIR/EIS action alternatives, including Alternative 4A, the Delta Cross Channel assumptions in the CALSIM II model are consistent between the No Action Alternative and action alternatives in the EIR/EIS, as described in the response to 1633-28. As discussed in this comment, the criteria for Sacramento River flows at Rio Vista in October would become more critical with action alternatives that include north Delta intakes. Under the future operations, there would be a balance between operations of Delta Cross Channel closure to minimize effects on upstream reservoir storage and water quality criteria. Operations under proposed project (Alternative 4A) would increase Delta outflow due to Old and Middle River criteria which will improve water quality as compared to the No Action Alternative. It is recognized that assumptions were used for the impact analysis in the EIR/EIS based upon modeling analyses; and that the real-time operations would provide more flexibility than the CALSIM II monthly-model time step. However, the incremental

DEIRS Ltr#	Cmt#	Comment	Response
		maintaining enough bypass flow to use the NDD facility for SOD (South of Delta) exports. This is an approximation of what is likely to occur in real-time operations under similar circumstances. Further gate closures may be possible as salinity standards allow if operators decide to preserve upstream storage at the expense of NDD diversions. This type of operation would require additional model refinements.	differences that could occur under the No Action Alternative conditions and Alternative 4A would be similar with different CALSIM II model assumptions in the No Action Alternative conditions and Alternative 4A. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.
1633	125	[From ATT 2:] Wilkins Slough minimum flow requirement: Currently in CalSim II, relaxation of the Wilkins Slough minimum flow requirement is tied to CVP NOD (North of Delta) Ag Service Contractor allocations. This does not reflect actual operations criteria where relaxation of the flow requirement is dependent solely on storage conditions at Shasta. From the comparative analysis perspective of our CalSim planning studies, this introduces a potential problem: changes in CVP NOD Ag Service allocations can result in unrealistic changes in required flow at Wilkins Slough, and such changes in Wilkins Slough required flow can result in unrealistic impacts to Shasta storage. To bypass this problem, we assumed that the required flow at Wilkins Slough in the alternative was equal to the baseline.	Minimum flow requirement assumptions at Wilkins Slough in the BDCP EIR/EIS modeling of the Existing Conditions, No Action Alternative and all action alternatives are consistent, as noted in the EIR/EIS Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions. For additional information regarding modeling, please see Master Response 30.
1633	126	[ATT 2: att43 -- Figure 39. Alt 4 Features]	This figure presents Alternative 4 features and does not contain a comment on the Draft EIR/EIS.
1633	127	[From ATT 2:] CVP/SWP Delta Exports: Average annual exports at Jones pumping plant are about 170 TAF higher in the Alt 4 Scenario compared to the FNA (Future No Action) scenario, as seen in Figure 40 (see ATT 2: att44). Increases generally occur from January through June when Old & Middle River (OMR) criteria limit use of Jones Pumping Plant in the FNA Scenario. Decreases occur in July in drier year types because the increased ability to convey water in spring months reduces the need to convey water stored in upstream reservoirs in July. Reductions in Jones export in October are partially a function of increases in OMR flow requirements. Similar to export at Jones, Banks exports are generally higher from January through June because use of NDD (North Delta Diversions) allows pumping that is not possible in the FNA Scenario, as seen in Figure 41 (see ATT 2: att45). Banks exports are increased during summer months of wetter year types. This is due to earlier wheeling for CVP Cross Valley Canal contractors (without NDD Banks capacity is not typically available until fall in wet years) and wheeling of CVP water through Joint Point of Diversion (JPOD). CVP export at Banks is displayed in Figure 42 (see ATT 2: att46). In wetter years, upstream CVP reservoirs hold more water than can be exported at Jones pumping plant, this water is typically spilled in the FNA scenario. CVP water stored in upstream reservoirs can be released in July, August, and September to support south of Delta beneficial use of water through use of JPOD in Alt 4. Changes in total, South Delta, and North Delta exports are displayed in Figure 43 (see ATT 2: att47). Average annual increase in total Delta exports is about 750 TAF, the increases primarily occur in wetter year types with lesser increases in dryer years. South Delta	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. However, the ratios between exports from north of Delta and south of Delta intakes are similar in Alternative 4A presented in the Final EIR/EIS and the MBK model. It should be noted that the project objectives and purpose and need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.

DEIRS Ltr#	Cmt#	Comment	Response
		export decreases about 2.53 MAF in Alt 4 relative to the FNA. Export through the NDD is 3.28 MAF in Alt 4, about 58% of total exports are diverted from the North Delta. Figure 44 (see ATT 2: att48) contains modeling results from Alt 4 for July, August, and September that plot NDD against SDD (South Delta Diversions) (Through Delta Export). There are many occasions when SDD are 3,000 cfs, which is due to criteria specifying that SDD during this time period need to be at least 3,000 cfs prior to diverting at the NDD facility. Although there are about six occurrences in July and three in August where the model did not satisfy this criterion, this issue has not yet been addressed for this modeling effort.	
1633	128	[ATT 2: att44 -- Figure 40. Change in Delta Exports at Jones Alt 4 minus FNA (Future No Action)]	This figure presents changes in Delta exports at Jones Pumping Plant for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	129	[ATT 2: att45 -- Figure 41. Change in Delta Exports at Banks Alt 4 minus FNA (Future No Action)]	This figure presents changes in Delta exports at Banks Pumping Plant for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	130	[ATT 2: att46 -- Figure 42. Change in CVP Delta Exports at Banks Alt 4 minus FNA (Future No Action)]	This figure presents changes in CVP Delta exports at Banks Pumping Plant for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	131	[ATT 2: att47 -- Figure 43. Change in Conveyance Source of Exports (Alt 4 minus FNA (Future No Action))]	This figure changes in conveyance sources of exports for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	132	[ATT 2: att48 -- Figure 44. Alt 4 North Delta Diversion versus South Delta Diversion for July, August, and September]	This figure presents a comparison of North Delta diversions and south Delta diversions for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	133	[From ATT 2:] Delta Outflow: Figure 45 (see ATT 2: att49) contains annual and monthly average changes in Delta outflow by water year type, average annual Delta outflow decreases about 760 TAF in the Alt 4 Scenario relative to the FNA (Future No Action) Scenario. The decrease is primarily due to increases in Delta exports, which are about 750 TAF on average. Larger decreases generally occur in January through May when exports are constrained in the FNA Scenario and in the Alt 4 Scenario the NDD (North Delta Diversion) can be used to export water. Delta outflow increases in October due to the combination of additional OMR (Old & Middle River) flow requirements that restrict exports and Sacramento River flow requirements at Rio Vista. The additional surplus Delta outflow in Alt 4 was minimized through coordination of the Delta Cross Channel Gate operations with the Rio Vista flow requirements and North Delta Diversion bypass requirements.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. Please see responses to 1633-119 through 1633-127 and Master Response 30. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. However, 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.
1633	134	[ATT 2: att49 -- Figure 45. Changes in Delta Outflow (Alt 4 minus FNA (Future No Action))]	This figure presents changes in Delta outflow for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	135	[From ATT 2:] Carryover Storage: Figure 46 (see ATT 2: att50), Figure 47 (see ATT 2: att51), Figure 48 (see ATT 2: att52), and Figure 49 (see ATT 2: att53) contain exceedance charts for carryover storage and average monthly changes in storage by Sacramento Valley Water Year Type for CVP and SWP	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. The project objectives and purpose and need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, a modified proposed project

DEIRS Ltr#	Cmt#	Comment	Response
		upstream reservoirs. CVP/SWP reservoirs tend to be higher in the Alt 4 Scenario relative to the FNA (Future No Action) on an average basis. Generally, CVP/SWP reservoirs are higher in storage in dryer year types and can be lower in wetter year types. Ability to convey stored water from upstream CVP/SWP reservoirs to south of Delta water users is increased in Alt 4 relative to the FNA. Therefore, when upstream reservoirs are at higher storage levels more water is released to satisfy south of Delta water demands. This is the primary reason Shasta, Oroville, and Folsom tend to be lower during summer months of wetter years. Currently, and in the FNA Scenario, the CVP and SWP ability to export natural flow, or unstored water, is constrained due to SWRCB D-1641 and requirements in the salmon and smelt Biological Opinions. With the greater ability to export unstored water during winter and spring months in the Alt 4 Scenario, compared to FNA, there is generally a reduced reliance on stored water to satisfy south of Delta demands. The increased ability to export unstored water allows the CVP and SWP to maintain higher storage levels in upstream reservoirs during dryer year types while still maintaining south of Delta deliveries. Carryover storage in the Alt 4 Scenario tends to be higher than the FNA Scenario at lower storage levels, and Alt 4 storage is lower in wetter years when storage levels are higher. In the wettest of years there is enough water in the system that both scenarios have similar carryover storage conditions.	(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. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30.
1633	136	[ATT 2: att50 -- Figure 46. Trinity Reservoir Carryover Storage and Average Monthly Changes in Storage by Water Year Type]	This figure presents Trinity Reservoir carryover storage and average monthly storage changes for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	137	[ATT 2: att51 -- Figure 47. Shasta Reservoir Carryover Storage and Average Monthly Changes in Storage by Water Year Type]	This figure presents Shasta Reservoir carryover storage and average monthly storage changes for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	138	[ATT 2: att52 -- Figure 48. Oroville Reservoir Carryover Storage and Average Monthly Changes in Storage by Water Year Type]	This figure presents Oroville Reservoir carryover storage and average monthly storage changes for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	139	[ATT 2: att53 -- Figure 49. Folsom Reservoir Carryover Storage and Average Monthly Changes in Storage by Water Year Type]	This figure presents Folsom Reservoir carryover storage and average monthly storage changes for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	140	[From ATT 2:] San Luis Reservoir Operations: As seen in Figure 50 (see ATT 2: att54) and Figure 51 (see ATT 2: att55) below, both CVP and SWP portions of San Luis Reservoir storage fills more regularly in the Alt 4 Scenario. As described earlier in this document, low point in both CVP and SWP San Luis Reservoir is managed to satisfy water supply obligations the model makes during the spring of each year. This is a complex balance involving available upstream storage, available conveyance capacity, delivery allocations, and south of Delta demand patterns. Considering this myriad of variables, there are times when low point in San Luis Reservoir is higher in the Alt 4 Scenario than the FNA (Future No Action) Scenario and times when the opposite is true.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. The San Luis Reservoir rule curve is an input to CALSIM II which provides a target storage each month that is dependent on the South-of-Delta allocation and upstream reservoir storage. The rule curve allows CALSIM II to emulate judgement of the operators in balancing the north-of-Delta and south-of-Delta storage conditions. In the absence of any other operating criteria controlling the upstream reservoir releases or the Delta exports, different San Luis Reservoir rule curves can result in differences in upstream reservoir release patterns, and Delta exports. Assumed San Luis Reservoir rule curve could differ depending on the available export capacity during winter and spring months, and the need to protect upstream carryover storage in the fall months. For the No Action Alternative simulation, the San Luis Reservoir rule curve is managed to maximize filling during summer and fall months when the Delta export pumping is less constrained to minimize situations in which south-of-Delta shortages may occur due to lack of storage or exports. Under the EIR/EIS proposed project and other action alternatives with the north Delta diversion, the CALSIM II San Luis Reservoir rule curve was modified in expectation that the new north Delta diversion facility would allow capturing winter and spring excess flows and filling of the San Luis Reservoir to a greater extent than the No Action Alternative. Additional modifications to the rule curve were included to preserve upstream carryover storage conditions while minimizing south-of-Delta shortages in the fall months. Under Alternative 4A, the

DEIRS Ltr#	Cmt#	Comment	Response
			San Luis Reservoir storage conditions are also affected by the restrictive south Delta export operations in October. The project objectives and purpose and need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. It is recognized that future projects could change the San Luis Reservoir rule curve. However, these future actions would require engineering and environmental analyses that would consider the potential changes to the existing and planned infrastructure at the time of those studies. Changes in these assumptions would be speculative and are not included in the No Action Alternative in this EIR/EIS. Changes in these assumptions also are not necessarily consistent with the project objectives or purpose and need for the project proponents, and are not included in the action alternatives. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.
1633	141	[ATT 2: att54 -- Figure 50. SWP San Luis]	This figure presents SWP San Luis storage for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	142	[ATT 2: att55 -- Figure 51. CVP San Luis]	This figure presents CVP San Luis storage for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	143	[From ATT 2:] CVP Water Supply: As can be seen in Table 5 (see ATT 2: att56), the independent modeling analysis shows an average increase of approximately 262 TAF of delivery accruing to CVP customers in the Alt 4 Scenario relative to the FNA (Future No Action) Scenario, mostly occurring to CVP SOD (South of Delta) agricultural customers. Delivery increases are greater in wetter year types with lower increases in dryer years. Figure 52 (see ATT 2: att57) contains exceedance probability plots for CVP water service contractor deliveries and allocations. Changes in Sacramento River Settlement and San Joaquin River Exchange Contractor deliveries do not occur in the modeling analysis and are not an anticipated benefit of the BDCP. Although modeling demonstrates minor changes to NOD (North of Delta) CVP service contractors, this increase is not an anticipated benefit of the BDCP.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. Please see responses to 1633-119 through 1633-127. The project objectives and purpose and need statement for this project specifically do not include changes to north of Delta SWP and CVP water users. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding modeling, please see Master Response 30. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.
1633	144	[ATT 2: att56 -- Table 5. CVP Delivery Summary]	This table presents MBK results for CVP deliveries for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	145	[ATT 2: att57 -- Figure 52. CVP Water Supply Delivery and Allocation]	This figure presents MBK results for CVP water supply delivery and allocation for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	146	[From ATT 2:] SWP Water Supply:	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. Overall, the results of the MBK independent modeling referenced in this comment are similar to results of

DEIRS Ltr#	Cmt#	Comment	Response
		The independent analysis shows an increase in average annual SWP SOD (South of Delta) deliveries of approximately 450 TAF, but a reduction in critical year deliveries of approximately 116 TAF. Annual average Article 21 deliveries increase by about 100 TAF and Article 56 increases by about 18 TAF. Figure 53 (see ATT 2: att59) contains exceedance probability plots for SWP SOD deliveries for the FNA (Future No Action) and Alt 4 Scenarios, each of these plots show increases in higher delivery years. Although Table A deliveries increase in 65% of years, there are decreases in 35% of the dryer years (see Table 6, ATT 2: att58).	the CALSIM II modeling presented in the Final EIR/EIS. For additional information regarding modeling, please see Master Response 30. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.
1633	147	[ATT 2: att58 -- Table 6. SWP Delivery Summary]	This table presents MBK results for SWP deliveries for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	148	[ATT 2: att59 -- Figure 53. SWP Delivery for Alt 4 and FNA (Future No Action)]	This figure presents MBK results for SWP deliveries for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	149	[From ATT 2:] Delta Exports: Figure 54 (see ATT 2: att60) displays changes in the Delta exports for the BDCP modeling (Alt 4-ELT (Early Long Term) minus NAA-ELT (No Action Alternative-Early Long Term)) and for the independent modeling (Alt 4 minus FNA (Future No Action)). Independent modeling analysis shows about 200 TAF greater increases in exports than the BDCP modeling. A large component of this difference is due to fixes of known modeling issues, as described in the 2013 SWP DRR (Delivery Reliability Report). This difference is also attributable to more realistic reservoir operations, more efficient DCC (Delta Cross Channel) gate operations, changes in water supply allocation logic, and more efficient operation of the NDD (North Delta Diversion). Average annual SDD (South Delta Diversions) are decreased by about 460 TAF in the independent analysis compared to the BDCP modeling. A large component of this difference is due to fixes of known modeling issues, as described in the 2013 SWP DRR. These fixes prevent "artificial" bypass criteria from limiting use of the NDD beyond what is intended in the BDCP project description. This difference is also attributable to more efficient DCC gate operations and more efficient operation of the NDD. Figure 55 (see ATT 2: att61) demonstrates the difference between the BDCP and independent analysis, where SDD decrease by 2.07 MAF in the BDCP analysis and by 2.53 MAF in the independent analysis. Use of the NDD is 680 TAF greater in the independent analysis relative to the BDCP analysis. A large component of this difference is due to fixes of known modeling issues, as described in the 2013 SWP DRR. These fixes prevent "artificial" bypass criteria from limiting use of the NDD beyond what is described in the BDCP project description. Figure 56 (see ATT 2: att62) compares average annual NDD in the BDCP to the independent analysis.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. Modeling for the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models), which were the state-of-the-art at the time, and formed the basis for universal assumptions in the other action alternatives in the EIR/EIS. However, in August 2011 several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS. This update was performed to verify if the compiled model improvements altered the incremental changes between the BDCP Alternative 1 and the Existing Conditions and the No Action Alternative relative to the 2010 models. The findings from the 2011 update showed that the incremental differences between Alternative 1 and the Existing Conditions and the No Action Alternative remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability throughout the BDCP EIR/EIS. Similarly, when Alternative 4A was modeled using the 2013 baseline, the incremental changes in the operational results for Alternative 4A as compared to the No Action Alternative were similar to the prior incremental results between the 2010 modeling for the No Action Alternative and Alternative 4A. For additional information regarding baseline, please see Master Response 1. For additional information regarding modeling, please see Master Response 30.
1633	150	[ATT 2: att60 -- Figure 54. Result Difference: Delta Exports]	This figure presents a comparison of Draft EIR/EIS Delta export results and MBK Delta export results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	151	[ATT 2: att61 -- Figure 55. Result Difference: South Delta Diversion]	This figure presents a comparison of Draft EIR/EIS south Delta diversion results and MBK south Delta

DEIRS Ltr#	Cmt#	Comment	Response
			diversion results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	152	[ATT 2: att62 -- Figure 56. Result Difference: North Delta Diversion]	This figure presents a comparison of Draft EIR/EIS North Delta diversion results and MBK North Delta diversion results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	153	[From ATT 2:] Delta Outflow: Total Delta exports in the independent analysis are about 200 TAF greater than the BDCP modeling analysis with a corresponding decrease in Delta outflow in the independent analysis of about 200 TAF. Figure 57 (see ATT 2: att63) compares average annual changes in Delta outflow between the independent analysis and BDCP modeling, BDCP modeling shows a decrease of about 567 TAF and the independent analysis shows a decrease of about 759 TAF.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. Modeling for the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models), which were the state-of-the-art at the time, and formed the basis for universal assumptions in the other action alternatives in the EIR/EIS. However, in August 2011 several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS. This update was performed to verify if the compiled model improvements altered the incremental changes between the BDCP Alternative 1 and the Existing Conditions and the No Action Alternative relative to the 2010 models. The findings from the 2011 update showed that the incremental differences between Alternative 1 and the Existing Conditions and the No Action Alternative remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability throughout the BDCP EIR/EIS. Similarly, when Alternative 4A was modeled using the 2013 baseline, the incremental changes in the operational results for Alternative 4A as compared to the No Action Alternative were similar to the prior incremental results between the 2010 modeling for the No Action Alternative and Alternative 4A. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. Please also see Master Response 30.
1633	154	[ATT 2: att63 -- Figure 57. Result Difference: Net Delta Outflow]	This figure presents a comparison of Draft EIR/EIS net Delta outflow results and MBK Delta Delta outflow results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	155	[From ATT 2:] Reservoir Storage: Reservoir operating rules for Alt4 in the BDCP EIR/EIS modeling are changed relative to the NAA (No Action Alternative). In the BDCP EIR/EIS modeling of Alt 4 rules are set to releases more water from upstream reservoirs to San Luis Reservoir from late winter through July, reduce releases in August, and then minimize releases to drive San Luis Reservoir to dead pool from September through December. This operation is inconsistent with actual operations and causes reductions in upstream storage from May through August. Figure 58 (see ATT 2: att64) and Figure 59 (see ATT 2: att65) contain exceedance probability plots of carryover storage and average monthly changes in storage by water year type for Shasta and Folsom for the BDCP and independent modeling. Although carryover storage for Alt 4 and the NAA is similar in the BDCP EIR/EIS modeling, there is drawdown from June through August that may cause impacts to cold water pool management. In the independent modeling upstream reservoirs are drawn down more in years when storage is available while dryer year storage is maintained at higher levels,	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. The project objectives and purpose and need statement for this project did not include changes to upstream reservoirs or San Luis Reservoir operations. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the BDCP EIR/EIS Alternative 4 H1 through H4. Some of the differences in Alternative 4 assumptions include changes to upstream CVP reservoir balancing, May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the BDCP EIR/EIS. Modeling for the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models), which were the state-of-the-art at the time, and formed the basis for universal assumptions in the other action alternatives in the EIR/EIS. However, in August 2011 several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action

DEIRS Ltr#	Cmt#	Comment	Response
		this is illustrated in the carryover plots for Shasta and Folsom in Figure 58 and Figure 59.	Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS. This update was performed to verify if the compiled model improvements altered the incremental changes between the BDCP Alternative 1 and the Existing Conditions and the No Action Alternative relative to the 2010 models. The findings from the 2011 update showed that the incremental differences between Alternative 1 and the Existing Conditions and the No Action Alternative remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability throughout the BDCP EIR/EIS. Similarly, when Alternative 4A was modeled using the 2013 baseline, the incremental changes in the operational results for Alternative 4A as compared to the No Action Alternative were similar to the prior incremental results between the 2010 modeling for the No Action Alternative and Alternative 4A. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding upstream reservoir effects, please see Master Response 25. For additional information regarding modeling, please see Master Response 30. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.
1633	156	[ATT 2: att64 -- Figure 58. Result Difference: Shasta Storage]	This figure presents a comparison of Draft EIR/EIS Shasta Reservoir storage results and MBK storage results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	157	[ATT 2: att65 -- Figure 59. Result Difference: Folsom Storage]	This figure presents a comparison of Draft EIR/EIS Folsom Reservoir results and MBK storage results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	158	[From ATT 2:] North Delta Diversions (NDD): Independent modeling shows greater NDD during July and other months because the BDCP EIR/EIS modeling includes artificially high Sacramento River bypass flow requirements. Figure 60 (see ATT 2: att66) contains exceedance probability plots of Sacramento River required bypass, Sacramento River bypass flow, NDD, and excess Sacramento River flow to the Delta. As can be seen in Figure 60, bypass flow is always above the bypass requirement. The BDCP version of CalSim sets a requirement for Sacramento River inflow to the Delta that the independent modeling does not need in order to satisfy Delta requirements, therefore the NDD is higher in the independent modeling.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the EIR/EIS. The action alternatives, as presented in the DEIR/DEIS and the RDEIR/SDEIS, assume use of a portion of Sacramento River inflow to maintain south Delta water quality in summer months, as described in this comment. In the Final EIR/EIS, the CALSIM II model was modified to simulate Alternative 4A to explicitly provide a preference for use of the south Delta intakes for up to 3,000 cfs in the summer months. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. Please also see Master Response 30.
1633	159	[ATT 2: att66 -- Figure 60. NDD (North Delta Diversion), and Sacramento River Flow]	This figure presents a comparison of Draft EIR/EIS North Delta diversion results and MBK Delta diversion results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	160	[From ATT 2:] Delta flows below the NDD (North Delta Diversion) facility: Figure 61 (see ATT 2: att67) contains monthly exceedance probability plots for Sacramento River below the NDD for the following scenarios: 1) BDCP NAA-ELT (No Action	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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.

DEIRS Ltr#	Cmt#	Comment	Response
		Alternative-Early Long Term), 2) BDCP Alt 4-ELT (Early Long Term), 3) independent modeling FNA (Future No Action), and 4) independent modeling Alt 4. The most significant differences in flow changes occur in October, July, August, and September. Changes in Sacramento River flow entering the Delta are a key indicator of changes in interior Delta flows, water levels, and water quality. For the month of October the independent modeling shows flow below the NDD to be about 2,000 cfs lower than the BDCP modeling. The difference in this month is largely due to reoperation (closure) of the cross channel gate to lessen the amount of Sacramento River flow at Hood necessary to maintain Rio Vista flow requirements downstream of the cross channel gates. The most substantial difference between the BDCP and independent modeling occurs in July and August. The differences in these two months are primarily attributable to model fixes that have occurred since the BDCP modeling was performed. In the independent modeling, July flows are reduced on average about 7,500 cfs while BDCP shows a reduction of about 3,300 cfs. In the independent modeling August flows are reduced on average about 5,900 cfs while BDCP shows a reduction of about 3,900 cfs. In the independent modeling September flows are reduced by about 6,100 cfs while BDCP modeling shows a reduction of about 5,300 cfs. The independent modeling shows Sacramento River flow entering the Delta to be about 7,000 cfs 50% of the time, BDCP modeling show Sacramento River flow is about 8,000 cfs 50% of the time.	This comment was based on the MBK independent modeling of the No Action Alternative and alternatives which included different assumptions than the CALSIM II model runs used in preparation of the draft EIR/EIS. The Delta Cross Channel assumptions in the CALSIM II model are consistent between the No Action Alternative and action alternatives in the EIR/EIS. As discussed in this comment, the criteria for Sacramento River flows at Rio Vista in October would become more critical with action alternatives that include north Delta intakes. Under the future operations, there would be a balance between operations of Delta Cross Channel closure to minimize effects on upstream reservoir storage and water quality criteria. Operations under Proposed Project (Alternative 4A) would increase Delta outflow due to Old and Middle River criteria which will improve water quality as compared to the No Action Alternative. It is recognized that assumptions were used for the impact analysis in the EIR/EIS based upon modeling analyses; and that the real-time operations would provide more flexibility than the CALSIM II monthly-model time step. However, the incremental differences that could occur under the No Action Alternative conditions and Alternative 4A would be similar with different CALSIM II model assumptions in the No Action Alternative conditions and Alternative 4A. For additional information regarding purpose and need, please see Master Response 3. For additional information regarding modeling, please see Master Response 30.
1633	161	[ATT 2: att67 -- Figure 61. Sacramento River below Hood]	This figure presents a comparison of Draft EIR/EIS Delta Sacramento River flow results and MBK flow results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	162	[From ATT 2:] Sacramento River water entering the Central Delta: In CalSim, flow through the DCC (Delta Cross Channel) gate and Georgianna Slough from the Sacramento River into the Central Delta is assumed to be linearly dependent on flow at Hood. There are two linear relationships; one is used when the DCC gates are closed, and the other is used when the DCC gates are open. The 2013 SWP Delivery Reliability Report (DRR) CalSim II modeling, and therefore our independent modeling, used different linear flow relationships than BDCP. The BDCP and 2013 DRR (and independent) flow relationships for both the open and closed gate conditions are compared in Figure 62 (see ATT 2: att68). When Sacramento River flow at Hood is in the range from 5,000 cfs to 10,000 cfs the balance between Hood flow, required flow at Rio Vista, and DCC gate operation can affect upstream reservoir operations, SOD (South of Delta) exports, and Delta outflow. As shown in Figure 62, given the same flow at Hood and DCC gates closed, the independent analysis will show slightly higher flow into the Central Delta (12% to 17% difference for the Hood flows in the 5,000 cfs to 10,000 cfs range). With DCC gates open the same flow at Hood, the independent analysis will show lower flow into the Central Delta (-15% to -25% difference for the Hood 5,000 cfs to 10,000 cfs range). Figure 63 (see ATT 2: att69) and Figure 64 (see ATT 2: att70) show the differences through the DCC and combined flow through the DCC and Georgiana Slough. In addition to the differences in flow equations for portion of Sacramento River entering the interior Delta through the DCC and Georgiana Slough, the DCC gate operations were modified for the month of October. In the independent modeling, the DCC gate is	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. 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. This comment references one of the differences between the 2010 CALSIM II model and the 2013 updated CALSIM II model update. Modeling for the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models), which were the state-of-the-art at the time, and formed the basis for universal assumptions in the other action alternatives in the EIR/EIS. However, in August 2011 several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS. This update was performed to verify if the compiled model improvements altered the incremental changes between the BDCP Alternative 1 and the Existing Conditions and the No Action Alternative relative to the 2010 models. The findings from the 2011 update showed that the incremental differences between Alternative 1 and the Existing Conditions and the No Action Alternative remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability throughout the BDCP EIR/EIS. Similarly, when Alternative 4A was modeled using the 2013 baseline, the incremental changes in the operational results for Alternative 4A as compared to the No Action Alternative were similar to the prior incremental results between the 2010 modeling for the No Action Alternative and Alternative 4A. For additional information regarding modeling, please see Master Response 30.

DEIRS Ltr#	Cmt#	Comment	Response
		operated to balance the amount of Sacramento River flow needed to meet flow standards at Rio Vista on the Sacramento River and flow needed to meet western Delta water quality. This changed operation often results in DCC gate closures for about 15 days during the month of October. The reduction in flow through the DCC during October can be seen in Figure 64.	
1633	163	[ATT 2: att68 -- Figure 62. Flow through Delta Cross Channel and Georgiana Slough versus Sacramento River Flow at Hood]	This figure presents a comparison of Draft EIR/EIS Delta Cross Channel and Georgianna Slough flow results and MBK flow results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	164	[ATT 2: att69 -- Figure 63. Cross Channel Flow]	This figure presents a comparison of Draft EIR/EIS Delta Cross channel flow results by month and MBK Delta Cross channel flow results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	165	[ATT 2: att70 -- Figure 64. Flow through Delta Cross Channel and Georgiana Slough]	This figure presents a comparison of Draft EIR/EIS Delta Cross Channel and Georgiana Slough flow results and MBK flow results for Alternative 4 and does not contain a comment on the Draft EIR/EIS.
1633	166	[From ATT 2:] Based on the Independent Modeling, the amount of water exported (diverted from the Delta) may be approximately 200 thousand acre-feet (TAF) per year higher than the amount disclosed in the Draft EIR/EIS. This total represents - approximately 40 TAF/yr more water diverted and delivered to the SWP south of Delta contractors, and - approximately 160 TAF/yr more water diverted and delivered to the CVP south of Delta contractors. The BDCP Model estimates that, under the NAA-ELT (No Action Alternative-Early Long Term) (without the BDCP), total average annual exports for CVP and SWP combined are estimated to be 4.73 million acre feet (MAF) and in the Independent Modeling FNA (Future No Action) combined exports are 5.61 MAF. The BDCP Model indicates an increase in exports of approximately 540 TAF and the Independent Modeling shows an increase of approximately 750 TAF in Alt 4. The Independent Modeling suggests that Delta outflow would decrease by approximately 200 TAF/yr compared to the amount indicated in the Draft EIR/EIS. - This lesser amount of Delta outflow has the potential to cause greater water quality and supply impacts for in-Delta beneficial uses and additional adverse effects on species. To determine the potential effects of the reduced amount of outflow, additional modeling is needed using tools such as DSM2. The BDCP Model does not accurately reflect the location of the diversions that the SWP and CVP will make from the Delta. - When the errors in the model are corrected, it reveals that the North Delta intakes could divert approximately 680 TAF/yr more than what was disclosed in the BDCP Draft EIR/EIS, and - the amount of water diverted at the existing South Delta facilities would be approximately 460 TAF/yr less than what is projected in the BDCP Draft EIR/EIS. Hydrologic modeling of BDCP alternatives using CalSim II has not been refined enough to	It appears that this comment was based on the MBK January 2014 review of BDCP modeling. The EIR/EIS modeling of Alternative 4 H1 through H4 was based on a No Action Alternative model developed in 2010. Models always evolve as the understanding of the system and operations improves and the assumptions are better defined. MBK's independent modeling of the No Action Alternative included different assumptions than the EIR/EIS No Action Alternative, which was the basis for their independent modeling of Alternative 4. Furthermore, MBK's independent modeling of the Alternative 4 included different assumptions than the EIR/EIS Alternative 4 H1 through H4. Some of the differences in Alternative 4 assumptions include May – Oct north Delta diversion bypass flow operations, Delta Cross Channel gate operations, Old and Middle River flow and south Delta export operations, and discretionary summer export operations. Different assumptions in the MBK's modeling of the No Action Alternative and Alternative 4 result in different results from the EIR/EIS. The aggregate effect of the changed assumptions under MBK's modeling of Alternative 4 is resulting in increased Delta exports and a corresponding reduction in Delta outflow compared to the EIR/EIS. As noted in the Tables 5-7 through 5-9 of the EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the long-term average Delta exports under Alternative 4 remain similar or increase compared to the No Action Alternative. With respect to the reference to the impact designation in the EIR/EIS for WS-2, it was determined that no impact designations would be developed for Water Supply changes because the true impacts occur under other environmental resources. For example, increased surface water deliveries under Water Supply is assumed to result in less groundwater pumping and less effects on groundwater conditions. MBK's modeling compares the projected Delta exports under the No Action Alternative included in the EIR/EIS, which considers the effects of climate change and sea level rise, to a model run of No Action Alternative that does not include climate change and sea level rise effects, and includes different operational assumptions than the EIR/EIS. MBK's modeling of Alternative 4 does not allow for the discretion and operations flexibility available for the Delta exports in the summer months, which results in a different split in the exports from the north Delta versus the south (through) Delta compared to EIR/EIS modeling. As noted in the Tables 5-7 through 5-9 of the EIR/EIS, depending on the decision tree outcome of H1 through H4 scenarios, the resulting north versus south Delta exports will be different under Alternative 4 compared to the No Action Alternative. For additional information regarding greenhouse gas emissions and climate change, please see Master Response 19. For additional information regarding modeling, please see Master Response 30.

DEIRS Ltr#	Cmt#	Comment	Response
		understand how BDCP may affect CVP and SWP operations and changes in Delta flow dynamics. Better defined operating criteria for project alternatives is needed along with adequate modeling rules to analyze how BDCP may affect water operations. Without a clear understanding of how BDCP may change operations, affects analysis based on this modeling may not produce reliable results and should be revised as improved modeling is developed.	
1633	167	[ATT 3: Attachment 2 -- Mokelumne Fisheries technical recommendations and comments.]	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 comment referencing the attachment or the Final EIR/EIS.
1633	168	[From ATT 3:] The Mokelumne is uniquely situated and classified. The 2009 "Central Valley Salmon and Steelhead Recovery Plan" developed by NOAA (National Oceanic and Atmospheric Administration) provides a thorough background of the various "diversity group" classifications within the Central Valley. It is important to understand that while the Mokelumne River is technically a tributary to the San Joaquin River, it is actually classified within the "northern Sierra Nevada diversity group," which is composed of streams tributary to the Sacramento River from the east as opposed to San Joaquin tributaries. The north and south forks that feed into the San Joaquin River are entirely within the Delta and serve as the primary conveyance channels for Sacramento River water destined for the State and Federal projects. In addition to the Mokelumne's unique classification, the outmigrating Mokelumne juvenile fish face unique challenges as the result of being a "between" system. The Mokelumne migration pathways are complex and very different than the migration pathways of other Delta tributaries. Although the Mokelumne River provides a relatively small volumetric inflow to the Delta, it supports a disproportionately large fish population. EBMUD (East Bay Municipal Utility District) has invested heavily in ecosystem restoration projects and fish studies to ensure a healthy Mokelumne fish population. A key reason for the success is the Lower Mokelumne River Partnership (Partnership), comprised of representatives from EBMUD, CDFW, and USFWS. Working cooperatively with the many stakeholders involved within the Mokelumne watershed, the Partnership has implemented many projects related to habitat improvement, research, and monitoring. One of the most successful projects has been the ongoing spawning habitat improvement project, which has resulted in over 55,000 cubic yards of gravel being placed within the river. In 2013, more than 1,000, or about 2/3 of all the redds (spawning nests) built in the Mokelumne River, were built within the project area. Additionally, since 2000 the Mokelumne River Fish Hatchery has transitioned from a facility dependent on egg imports to meet its production goals to one that can meet its goals using only Mokelumne origin broodstock. Despite the ecological importance of the river and comments provided in June 2013, the draft BDCP inadequately assesses its impacts on the Mokelumne fishery. Although the Effects Analysis presented in Chapter 5 of the draft BDCP recognizes the Mokelumne as a tributary (central Delta versus San Joaquin) the analyses primarily lump it as "part of" either the San Joaquin or Sacramento Rivers. It inappropriately either extrapolates results from studies conducted on those river systems to the Mokelumne River, or it combines data from different systems to determine "overall" impacts on a species but fails to identify specific impacts on Mokelumne populations. The Mokelumne is a distinct river system and the Mokelumne fish face conditions that are significantly different from those	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. Unlike the Draft BDCP, EIR/EIS explicitly evaluates Mokelumne River steelhead separately in numerous ways. Upstream, there are several assessments of flows with respect to spawning and egg incubation (Impact AQUA-94), rearing habitat (Impact AQUA-95), and juvenile and kelt emigration and adult immigration (Impact AQUA-96). Regardless, none of the alternatives would affect Mokelumne River fish upstream of the Delta because Camanche and Pardee reservoirs are not part of the SWP/CVP operations. In the Delta, effects of the alternatives on immigrating adult steelhead were evaluated using DSM2-QUAL fingerprinting to assess potential changes in olfactory cues as part of Impact AQUA-96.

DEIRS Ltr#	Cmt#	Comment	Response
		in the San Joaquin and Sacramento Rivers. It is essential that the BDCP assess impacts specifically on the Mokelumne fishery.	
1633	169	[From ATT 3:] DCC (Delta Cross Channel) Operations: Within Chapter 3 there is still a lack of clarity regarding operations of the DCC. In 3.4.1.3.3 it states that there will be less than a 10% change in volume and frequency of flow diverted through the DCC. Yet, on 3.4-38 it states that reduced reliance on through-Delta conveyance via DCC will substantially reduce effects of existing flow anomalies such as weak and reduced flows. With an estimated volumetric change of less than 10% it does not appear there will be significant changes to the anomalies within the central Delta. Moreover, any substantial changes in operations are geared towards wetter years. In dry years there will be no changes to DCC operations. Without specific DCC operating criteria and associated impact analysis, the conclusions regarding fisheries impacts are less than certain. As in our June 6, 2013 letter, [East Bay Municipal Utilities District] recommend[s] adding the following: - Improve description of DCC operations under the project scenarios. Specifically, focusing on modeling the movement of water from the DCC through the Mokelumne forks and to its ultimate destination (pumps or Delta outflow). What portion of the water conveyed through DCC will be exported? How will the percentage of water exported via the Mokelumne forks change seasonally or based on water year-type? - Conduct studies focusing on survival and migratory pathways of young-of-year (YOY) Chinook salmon entering interior Delta via the Mokelumne and Cosumnes rivers under differing DCC operations.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. 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. The Delta Cross Channel assumptions in the CALSIM II model are consistent between the No Action Alternative and action alternatives in the EIR/EIS. As discussed in this comment, the criteria for Sacramento River flows at Rio Vista in October would become more critical with action alternatives that include north Delta intakes. Under the future operations, there would be a balance between operations of Delta Cross Channel closure to minimize effects on upstream reservoir storage and water quality criteria. Operations under Proposed Project (Alternative 4A) would increase Delta outflow due to Old and Middle River criteria which will improve water quality as compared to the No Action Alternative. It is recognized that assumptions were used for the impact analysis in the EIR/EIS based upon modeling analyses; and that the real-time operations would provide more flexibility than the CALSIM II monthly-model time step. However, the incremental differences that could occur under the No Action Alternative conditions and Alternative 4A would be similar with different CALSIM II model assumptions in the No Action Alternative conditions and Alternative 4A.
1633	170	[From ATT 3:] Effects Analysis (Chapter 5): While the plan now recognizes that the description of Mokelumne River in regards to its status (central Delta tributary versus San Joaquin tributary) differs amongst various existing State and Federal documents, there is limited or no analysis focusing on Mokelumne origin salmonids. As an example, on page 5.5.5-40 it states that operations under the BDCP have considerable potential to reduce straying into the Sacramento River region. This conclusion is based, in part, on studies involving Merced River hatchery fish and reduced south Delta exports. The only data related to the Mokelumne River involves minor to no increases of Mokelumne water reaching Collinsville based on DSM2 fingerprinting.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. 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

DEIRS Ltr#	Cmt#	Comment	Response
		However, the document fails to identify that one of the leading factors driving straying of Mokelumne origin Chinook salmon is the operation of the DCC (Delta Cross Channel). Both USFWS (U.S.Fish and Wildlife Service) and CDFW (California Dept. of Fish and Wildlife) recognize that DCC operations have the potential to affect pathway selection and ultimately straying rates of Mokelumne salmon to the Sacramento River basin, primarily the American River. The bulk of the existing straying data for the San Joaquin system is in fact made up of Mokelumne origin fish straying to the Sacramento River system. Since uncertain limited changes are proposed for DCC operations, it is very unlikely that significant reductions in stray rates of Mokelumne origin salmonids (included as San Joaquin origin salmon) would be achieved. To a large degree the BDCP Effects Analysis fails to properly assess the potential impacts to salmonids originating from central Delta tributaries, including the Mokelumne River. The reliance on study results from other systems to reach conclusions regarding Mokelumne issues results in inaccurate assumptions and conclusions. Conversely, the Effects Analysis identifies the need for specific studies focusing on interior Delta passage issues, but no timelines are presented. We recommend working with the Lower Mokelumne River Partnership to develop and execute studies focusing on Mokelumne origin juvenile and adult salmonids passage and survival through the interior Delta. The results of site specific research studies will allow for more rigorous analysis of effects of any proposed BDCP alternative.	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. Please see comment 168 regarding the analysis of Mokelumne River origin salmonids in the EIR/EIS.
1633	171	[From ATT 3:] Conservation Measure (CM) 15 (Localized Reduction of Predatory Fishes): Aside from the 1,500 acres of potential habitat under the Cosumnes-Mokelumne Restoration Opportunity Area, CM-15 is one of the few other actions in the BDCP that could directly improve survival of juvenile salmonids within the central Delta. Predation, along with entrainment, has been identified as one of the key factors leading to reduced survival of salmonids using the migratory pathway. Currently the measure is being implemented as a pilot project and the funding provided may not be sufficient to keep the program going. Moreover, the sampling locations do not directly identify any locations within the central Delta. With limited options to improve conditions within the central Delta the control of predator populations, particularly hotspots, needs to be elevated to an ongoing effort with the appropriate funding allocated. Limiting study locations to those listed will not help improve conditions for covered and non-covered species in the central Delta.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. Master Response 5 provides and overview of the funding process for the BDCP conservation measures in the event a BDCP alternative was selected as the proposed project. Master Response 5 also provides additional information regarding CM 15 and recognizes that an analogous predator removal program would be implemented as part of Alternative 4A. Please see Impact AQUA-50 in Chapter 11, Fish and Aquatic Species. For fall-/late fall-run Chinook salmon for the evaluation of CM15 on winter-run Chinook salmon, which is representative of other salmonid species. The analysis concludes that, due to uncertainty associated with effectiveness of the CM, there would be no demonstrable impact, positive or negative, to salmonid species, consistent with the comment. An applicant is under no obligation to provide beneficial effects to species when seeking an ESA Section 7 permit.
1633	172	[From ATT 3:] Conservation Measures and Monitoring Action Costs: A key component of adaptive management is having well thought out monitoring programs in place in order to provide the feedback data required to make the appropriate management changes. Equally important to a successful project is adequate funding to complete the required monitoring. Larger projects involving greater levels of uncertainty need to insure that the known components are addressed appropriately, and that contingency planning (operational and financial) is incorporated into the monitoring feedback loop. Within the BDCP documentation there are numerous examples where the uncertainties involved have led to inadequate proposed monitoring and funding.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. Master Response 33 provides and overview of the adaptive management and monitoring program that would be implemented regardless of the project alternative that is ultimately selected. The adaptive management program would help address the performance of the CMs proposed as part of the BDCP alternatives. The estimated costs to implement the BDCP, including the conservation measures were based on the best available data at the time the BDCP was prepared. The cost of implementing the BDCP would be reevaluated if and of the BDCP were selected as the proposed project. Master Response 5 provides a discussion as to why the implementation costs disclosed in the BDCP were estimated at the appropriate level of detail.

DEIRS Ltr#	Cmt#	Comment	Response
		Overall, the budget estimates for the Monitoring Actions (MA) under the Conservation Measures (CM) appear to be significantly lower than the likely actual costs. Two examples are the estimated costs for CM 15 (Localized Reduction of Predatory Fish) and CM 16 (Nonphysical Barriers). Under CM 15 and MA15-2 there appear to be two different estimates for annual monitoring costs. In 8.2.3.15 of Chapter 8 it has an approximate cost for reducing predators of approximately $1.84 million a year (excluding abandoned vessel and structure removal) (approximately $460,000 per crew). However, the plan calls for no more than a pilot program that could be used to develop a larger program. Under the required MA15-2 (Appendix 8A-121) it states an annual monitoring cost of $300,000. No cost breakdowns are given for MA15-2 and it is unclear where the equipment will come from or what the sampling frequency will be. Considering the level of effort required to monitor distribution of predators throughout the Delta and at hotspots, the estimated budget for MA15-2 is significantly below actual costs. CM 16 calls for the installation of up to 7 nonphysical barriers within the Delta. Under MA16-2 (Appendix 8A-122) it states that the annual monitoring cost for one nonphysical barrier will be $250,000. The monitoring program will be similar to a previous study and involve the release of 1,000 acoustically tagged juvenile salmon. The cost per tag is approximately $350 and the total cost for tags for 1,000 salmon would be $350,000. Using the criteria laid out in the assumptions the cost in tags alone (no cameras, staff, analysis, etc.) in years 1-5 would be about $4.9 million. Table 8.A-47 states monitoring cost for CM16 in years 1-5 will be $3.5 million. Either the monitoring program assumptions are not accurate or the costs are significantly underestimated by at least $1.5 million, or 40%. The cost differences above are significant and made more so by the fact that some contingency percentage has been added to each component. Carrying these inconsistencies through the other BDCP monitoring programs could result in a significant funding gap for the monitoring portion of the BDCP, with potentially serious ramifications for the adaptive management program as a whole.	
1633	173	[From ATT 3:] Effectiveness monitoring for restored habitats under CM4-CM6 should include a measure of non-native predatory fish populations/densities. One success criterion is presence of covered fish species in the area, but other criteria should include survival rates and impacts from predators. One of the primary uncertainties regarding the creation of seasonal floodplain habitats is how they may be used by non-native fish, particularly in years when they may not drain due to high flow events.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. Master Response 33 provides and overview of the adaptive management and monitoring program that would be implemented regardless of the project alternative that is ultimately selected. The adaptive management program would help address the performance of the CMs proposed as part of the BDCP alternatives.
1633	174	[From ATT 3:] 5.5.6.1 states that out of basin steelhead stock are used as broodstock for the Mokelumne Hatchery. This practice was discontinued in 2008.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. DWR acknowledges the statement regarding the Mokelumne Hatchery steelhead broodstock.
1633	175	[ATT 4: Attachment 3 -- Existing and Future East Bay Municipal Utility District Facilities, BDCP Impacts and Proposed Mitigations]	This comment describes the title of an attachment to the comment letter. Comments were prepared by EBMUD on the BDCP Draft EIR/EIS related to how Alternative 4 would impact the faciltiies and operations of the existing Mokelumne Aqueduct System as well as EBMUD future plans to replace the existing Mokelumne Aqueducts through the Delta. Substantive comments contained within this attachment have been coded and responded to below.

DEIRS Ltr#	Cmt#	Comment	Response
1633	176	[From ATT 4:] Existing Mokelumne Aqueducts: The existing Mokelumne Aqueduct system consists of three large diameter pipelines as follows: * Aqueduct No. 1: 65-inch diameter * Aqueduct No. 2: 67-inch diameter * Aqueduct No. 3: 87-inch diameter These steel pipelines have a combination of riveted and welded joints, and operate at internal pressures of several hundred psi that vary with location and operational condition. The aqueducts have several burial and support configurations depending on the aqueduct and the location including: 1) buried, 2) buried on piles, 3) elevated on piles, and 4) dredged river crossings including simple burial, on piles, and with armoring mats. The western reach of the aqueducts cross the Delta from approximately Holt to Bixler (approximately 10.5 miles) and are primarily elevated on pile supported bents at intervals of 20 to 42 feet. The piles are a combination of timber and precast concrete with depths typically ranging from 30 to 50 feet and as deep as 60 feet, with a minimum elevation of -65 feet msl. Within this reach at river and slough crossings, the aqueducts are buried in dredged trenches with a variety of foundation systems as detailed above. The BDCP Conveyance Tunnels are shown in the DEIR/EIS to cross the EBMUD (East Bay Municipal Utility District) Aqueducts in the middle of Woodward Island, which is within the Delta area, and is shown on Figure 1 - Mokelumne Aqueducts and Proposed Delta Tunnel Plan (see ATT 4: att1). Within the crossing location, all three Aqueducts are elevated and on piles, with pile tips ranging from approximately 30 to 50 feet deep, corresponding to elevations of -40 to -60 feet msl. Proposed Delta Tunnel: EBMUD has been evaluating risks to the Existing Mokelumne Aqueducts and potential structural alternatives through both short-term and long-term measures since at least 2007 when the EBMUD Board of Directors approved Motion Number 185-07 to accept the staff report "Strategy for Protecting the Mokelumne Aqueducts in the Delta" (EBMUD, 2007). The Board directed staff to use the report's findings and recommendations in planning future water conveyance capital improvement programs and in participating in state-wide Delta initiatives. The staff report evaluated various long-term measures and concluded that a deep tunnel across the Delta would be the most cost-effective solution to mitigate the hazards and risks associated with seismic, scour, flooding, liquefaction and lateral spreading. The proposed Delta Tunnel has been developed to the conceptual design level. The conceptual design identifies the proposed horizontal alignment and vertical profile for the proposed Delta Tunnel. However, refinements to the Delta Tunnel alignment and profile may occur in the future and would be fixed at the completion of the preliminary design phase. Based on work to date, the tunnel is envisioned to follow the existing EBMUD Aqueducts beginning near Interstate 5 in Stockton at the east, to Bixler at the west, a distance of 16.6 miles. Seven shafts, at approximate three mile intervals, are planned for	These pipelines cross principally above ground on saddle pipe supports through the Upper and Lower Jones Tract, Woodward Island, Orwood Tract, and Bixler Tract. The proposed conveyance tunnels will be constructed well below the aqueduct at the north end of Woodward Island, and no conflicts are anticipated. These crossings will be evaluated at the preliminary design level in conjunction with EBMUD.

DEIRS Ltr#	Cmt#	Comment	Response
		the Delta Tunnel Project for construction and future access to the carrier pipes. Based on the conceptual design, the proposed Delta Tunnel is expected to have an excavated diameter of approximately 21 feet and will be constructed using pressurized face tunnel boring machines (TBMs) and supported with precast concrete segments. The tunnel would house twin 87 inch (inside diameter) pressurized steel carrier pipes secured with cellular concrete backfill. The proposed Delta Tunnel profile has been selected to be within vertical envelope or band typically 42 to 52 feet high. This band represents the tunnel diameter plus allowances for a range of likely profiles to be determined during the preliminary design phase. The band is a profile that varies in vertical position (elevation) and thickness (height) along the proposed tunnel alignment. At the highest point the crown is at an elevation of -48 feet, and at the lowest point the invert is at an elevation of -141 feet msl. At the location of the proposed BDCP Conveyance Tunnels, the proposed Delta Tunnel would be constructed within an elevation band between elevation -89 feet msl at the tunnel crown to -141 feet msl at the tunnel invert as shown in Figure 2 - Proposed Tunnel Profile (see ATT 4: att2).	
1633	177	[From ATT 4:] Tunnels and Shafts: As stated in Chapter 3 "Description of Alternatives" of the BDCP DEIR/EIS, Alternative 4-Dual Conveyance Tunnels would consist of twin 40-foot-inside-diameter tunnels to convey water 30.2 miles from a new intermediate forebay on Glanville Tract to an expanded Clifton Court Forebay. The tunnel would be designed as a gravity-fed system, and would not, therefore, be pressurized. The tunnel would cross the Existing Mokelumne Aqueducts right-of-way on Woodward Island. The proposed tunnels would be constructed with large-diameter TBMs (tunnel boring machines) through launch/retrieval shafts at approximately 3-mile intervals. Figure 3-21 of the EIR/EIS shows the tunnels with a "Typical depth of 100 ft. mean sea level". The DWR's Conceptual Engineering Report (CER) (2010), referenced within the DEIR/EIS, states: "the tunnel invert is assumed to be at 100 feet below mean sea level primarily to avoid peat deposits" and goes on to state that it would be lowered down to 160 feet below msl at the San Joaquin River and the Stockton Deep Water Ship Channel. Figure 11-6 of this report shows the tunnels with an invert depth of approximately 150 feet below msl. Moreover, in a recent update to the CER dated October 2013, for the Modified Pipeline Tunnel Option, the preliminary tunnel inverts range from 122 feet below msl at the north end of the North Tunnel at Intake No. 2 to 163 feet below msl at the North Clifton Court Forebay. Based on a review of the DEIR/EIS and the CER (2010, 2013), the inverts of the 40-foot-diameter BDCP conveyance tunnels could range between elevations -100 to -163. Figure 3-9 of the DEIR/EIS (alignment of alternative 4 tunnels) shows shafts approximately 1.5 miles to the north and to the south of the EBMUD (East Bay Municipal Utility District) Mokelumne Aqueduct. However, EBMUD notes that the shaft locations could change in subsequent design phases, and include shafts near the EBMUD Mokelumne Aqueducts and proposed Delta Tunnel. If shafts are located near EBMUD facilities there would be	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations.

DEIRS Ltr#	Cmt#	Comment	Response
		substantial impacts from construction and operation that are not included in these review comments. As noted in the CER and in conjunction with experience on other projects, the horizontal alignment and vertical profile for tunnels are typically fixed at the end of preliminary design. Therefore, changes in the final depth and profile of the BDCP conveyance tunnels could occur during the preliminary design phase.	
1633	178	[From ATT 4:] Transmission Facilities and Other Requirements: Chapter 3 "Description of Alternatives" of the BDCP DEIR/EIS states that Alternative 4 - Dual Conveyance would require new transmission lines running from the existing electrical power grid to project substations. To deliver power to construct and operate the water conveyance facilities, it is assumed that the system would be split to connect to the existing grid in two different locations, one in the northern section of the alignment and one in the southern section. In the latest available version of the CER (Conceptual Engineering Report), multiple transmission line routes are shown. The two new primary transmission line corridors are routed in a north-south direction. A number of the alternatives follow the general north-south alignment of the BDCP conveyance tunnels, crossing the Existing Mokelumne Aqueducts as well as the proposed Delta Tunnel alignment at Woodward Island (CER, 2013; Figure 3-25). , Chapter 3 of the DEIR/EIS "Description of Alternatives" also states that there would be borrow areas and areas identified for the storage and/or disposal of spoil, reusable tunnel material (RTM), and dredged material.	Please note that the preferred alternative is now Alternative 4A .Please see Mapbook Volume Figure 3-4 for updated map of RTM Areas. Mitigation Measure UT-6a: Verify Locations of Utility Infrastructure states that before beginning construction, the BDCP proponents will confirm utility/infrastructure locations through consultation with utility service providers, preconstruction field surveys, and services such as Underground Service Alert. Please see 4.3.16 Section 4 in the RDEIR/SDEIS for more information.
1633	179	[From ATT 4:] Operations: The DEIR/EIS (Pg. 3-27, line 27 and 28), states: "... to facilitate the gravity-fed system proposed under Alternative 4 (instead of being pressurized and pumped through an intermediate pumping plant)". Based on this statement, it is not known if the tunnels would be operated in an open channel condition, as a full pipe condition, or a combination depending on the operational requirements.	During operation, water will completely fill the tunnels (i.e., pipe flow).
1633	180	[From ATT 4:] Lead Agencies Preferred Project: The CEQA/NEPA Lead Agencies are DWR for CEQA and the Bureau of Reclamation, the USFWS (U.S. Fish and Wildlife Service), and the NMFS (National Marine Fisheries Service), acting as lead agencies for compliance with NEPA. DWR has selected Alternative 4 - Dual Conveyance Tunnels with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 as the CEQA Preferred Alternative. This alternative is also the subject of a separate document, the "Bay Delta Conservation Plan" which is intended as the draft HCP (Habitat Conservation Plan) and NCCP (Natural Community Conservation Plan), consistent with the FESA (Federal Endangered Species Act) and NCCPA.	Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP or NCCP. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A. The RDEIR/SDEIS Executive Summary, ES.1, identifies and updates from the 2013 Draft EIR the lead and cooperating agencies that will use the EIR/EIS as part of their decision-making process. Reclamation will act as the sole federal Lead Agency of the proposed project (under NEPA) while DWR will continue to act as the state Lead Agency (under CEQA). The USFWS and NMFS will act as NEPA Cooperating Agencies. The regulatory agencies – USFWS, NMFS, CDFW, USACE, and the State Water Board – are participating to provide technical input and guidance in support of planning efforts to complete the proposed project.

DEIRS Ltr#	Cmt#	Comment	Response
		The Federal Lead Agencies have not selected a preferred NEPA alternative, leaving some doubt as to the actual project that will be jointly selected for implementation and approved as the HCP/NCCP.	
1633	181	[From ATT 4:] Sections of the BDCP DEIR/EIS has been reviewed and several issues of concern have been identified that may potentially impact EBMUD's (East Bay Municipal Utility District's) existing Mokelumne Aqueducts and its future plans for replacing the Aqueducts with a single deep tunnel, the Delta Tunnel. All Chapters were scanned for references to EBMUD and the Mokelumne Aqueduct. Chapter 20 "Public Services and Utilities" addresses potential impacts and proposed mitigation measures concerning effects to water service providers. In Section 20.3.1 "Methods for Analysis", the DEIR states that construction activities were reviewed to assess the potential for effects on water service providers and infrastructure. As stated in Section 20.3.2 "Determination of Effects" alternatives were also considered to have an effect on public services and utilities if construction would result in disruption substantial enough to require temporary or permanent relocation of existing utility systems. In these sections of the DEIR/EIS, the potential impacts are discussed in a general nature with few specifics. Because the EIR/EIS will be used to support the implementation of the major conveyance facilities, and is intended to be at a project specific level, considerably more detail concerning specific impacts on individual utilities and development of specific mitigation measures is appropriate for the FEIR/EIS. This document provides the specific information on substantive issues related to EBMUD facilities that would be expected to be included in the FEIR/EIS.	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. As far as we know, the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.
1633	182	[From ATT 4:] Section 20.3.3.9 "Alternative 4 - Dual Conveyance Tunnels with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H)" Impact UT-6: "Effects on Regional or Local Utilities as a Result of Constructing the Proposed Water Conveyance Facilities" states that the water conveyance alignment and associated physical structures could interfere with the Mokelumne Aqueduct. This is the first reference to EBMUD's (East Bay Municipal Utility District's) Mokelumne Aqueduct System. No further specific information on how the Mokelumne Aqueduct would be affected is given in this Chapter. A commitment is made to coordinate with utilities on relocations and modifications so that utility providers and local agencies can integrate potential other construction projects with the construction of the Conveyance Tunnels. The DEIR/EIS states that "Because relocation and disruption of existing utility infrastructure would be required under this alternative and would have the potential to create effects through the relocation of facilities, this would be an adverse effect." Mitigation Measures UT-6a, UT-6b, and UT-6c are stated to be available to reduce the severity of this effect, but the conclusion is that with coordination with all utility providers and local agencies to integrate with other construction projects, the impact would not be adverse. Mitigation Measure UT-6a "Verify Locations of Utility Infrastructure", Mitigation Measures UT-6b "Relocate Utility Infrastructure in a Way That Avoids or Minimizes Any Effect on Operational Reliability" and Mitigation Measure UT-6c "Relocate Utility Infrastructure in a Way That Avoids or Minimizes Any Effect on Worker and Public Health and Safety" do not contain adequate information or detail for EBMUD to determine what all the impacts may be and whether there will be substantial unmitigated effects to the	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. As far as we know, the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.

DEIRS Ltr#	Cmt#	Comment	Response
		existing Mokelumne Aqueducts and its future plan to construct the Delta Tunnel.	
1633	183	[From ATT 4:] During the preparation of the DEIR/EIS, DWR representatives Mr. Gordon Enas and Mr. Alan Davis corresponded with Garth Hall from EBMUD (East Bay Municipal Utility District) concerning Right of Way (ROW) issues at the Mokelumne Aqueducts crossing. These email conversations occurred during April and May of 2012. During those email exchanges, the BDCP representatives were made aware of the need for a tunnel easement to be negotiated for construction of the Dual Tunnel below the Mokelumne Aqueducts and furthermore, that EBMUD was in the process of initial project planning for a cross-Delta Tunnel beneath the existing Mokelumne Aqueduct. Mr. Hall suggested that engineering staff meet soon after the CEQA documentation is published so that design implications could be considered. Design of the BDCP tunnels presented in the DEIR/EIS is at a very conceptual level and does not contain sufficient detail to perform a thorough review. There are many aspects of the design which are either undetermined or could change with subsequent engineering development which could impact the existing Mokelumne Aqueducts and the proposed Delta Tunnel. These items include but are not limited to tunnel profile and depth, shaft locations, tunnelling method(s), tunnel operation as open channel or pressurized, the use of a secondary lining, and the location of construction support facilities. Due to these uncertainties, the present review of potential impacts and appropriate mitigation measures is incomplete and will need to be revisited in the future upon further design refinement of the BDCP tunnels.	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. As far as we know, the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.
1633	184	[From ATT 4:] BDCP Tunnels Cross East Bay Municipal Utility District Right-of-Way: At the location where the proposed BDCP Conveyance tunnels cross the Mokelumne Aqueducts, EBMUD (East Bay Municipal Utility District) owns the ROW (Right-of-Way) within which the Aqueducts are situated. Impact: Disruption of EBMUD water service operations. The concerns of EBMUD are to: 1) Protect EBMUD water service customers from outages due to damage to the Mokelumne Aqueducts from construction and/or operation of the BDCP Conveyance Tunnels, 2) Avoid costly repairs to EBMUD facilities, and 3) Avoid potential consequential third party damages from aqueduct failure such as from flooding and scour. Proposed Mitigation Measures: Fully comply with a ROW agreement addressing all potential impacts on EBMUD facilities: The BDCP implementing agencies will need to secure a tunnel ROW agreement with EBMUD in order to construct the BDCP Conveyance Tunnel in the ROW beneath the existing Mokelumne Aqueduct. EBMUD suggests that this process begin immediately in	Construction of the proposed conveyance facilities would include consultation with EBMUD related to potential effects on Mokelumne Aqueduct facilities if any were to occur. Mitigation Measures UT-6a, UT-6b, and UT-6c are available to reduce potential disruption of utility infrastructure.

DEIRS Ltr#	Cmt#	Comment	Response
		order for the BDCP Conveyance Tunnels design work to include appropriate safeguards as outlined in the impacts and mitigation measures below. EBMUD's ROW procedures are appended to this attachment (Appendix A) (see ATT 4: att3).	
1633	185	[From ATT 4:] Impact: Direct interference with the [existing East Bay Municipal Utility District's Mokelumne] Aqueducts' deep foundations. Piles supporting the aqueducts extend to a depth of approximately 60 feet and an elevation of -65 feet msl in some areas. If the two BDCP Conveyance Tunnels are relatively shallow, the tunnels would intersect the piles. Encountering the piles during tunnel construction would result in major complications and would cause settlement of the Mokelumne Aqueduct piles and pipeline with associated risk for damage and failure. Proposed Mitigation Measures for direct interference Locate the BDCP Conveyance Tunnels at a depth, or low enough elevation, to avoid direct interference.	Once the vertical alignment of the tunnels is finalized, in pre-design, potential impacts on the Mokelumne Aqueduct pile supports will be determined. The lead agencies will coordinate with aqueduct authority to ensure tunneling without adverse impacts to the aqueduct.
1633	186	[From ATT 4:] Impact: Undermining and adversely impacting deep foundations. The BDCP Conveyance Tunnels would likely be constructed within the zone of influence for the Mokelumne Aqueduct piles and could reduce the ground support for the piles and/or cause settlement of the piles. This could occur even if the tunnels do not directly encounter the piles. The effects due to the occurrence of the impacts described below would be settlement and differential settlement of the aqueducts. Depending on the magnitude of the settlement the aqueducts would be damaged or there could be failure of the aqueducts. Impact: Settlement due to lost ground or vibrations associated with normal tunnel activities. Common tunnelling methods result in lost ground especially from stress redistribution in the ground, face losses, overcut of the shield, and uncompensated losses around the segmental lining. Additionally, tunnelling and other construction activities can cause vibrations resulting in pile support system settlement and potential rupture of the existing Mokelumne Aqueducts. The effects of the lost ground migrates upward resulting in loose soils and causing settlement within a zone of influence. Although tunnelling equipment and methods may be employed to control the ground (e.g., utilization of a pressurized face TBM (tunnel boring machine)), unexpected situations may arise resulting in a major ground loss (ground run or inflow). Such a ground loss could result in major settlements extending above the tunnels possibly to the ground surface. Even if loosened ground associated with tunnel construction did not directly cause settlement of the aqueducts, the loosened ground would be more susceptible to liquefaction with associated ground movements during seismic events. Any settlement or vibration can cause a rupture in the existing Mokelumne Aqueducts causing loss of water supply to EBMUD (East Bay Municipal Utility District) customers, flooding and scour of the area surrounding the rupture site causing further structural damage, and damage to adjacent	Please see response to comments 185 and 196. As indicated in the CER at Section 13.2.5, DWR will work with EBMUD during the design phase to address the undercrossing of the Mokelumne Aqueducts by the tunnels.

DEIRS Ltr#	Cmt#	Comment	Response
		landowners and levees. Proposed Mitigation Measures for Undermining and Settlement: To mitigate adverse undermining and settlement impacts during construction of the dual underground openings, the ground must be controlled while tunnelling in order to avoid ground loss at the face. The primary means for achieving this are: 1) Completion of a thorough exploration program of subsurface conditions in the vicinity of the intersection alignments, and zone of influence, 2) Obtain construction records of piles supporting the Mokelumne Aqueducts and position the tunnel at suitable depth to avoid adverse impacts, 3) Placement of the tunnel in soils that reduce construction impacts, 4) Placement of the tunnel with suitable cover to attenuate settlement, 5) Selection of appropriate tunnelling equipment and methods for the ground conditions, 6) Engaging qualified and experienced contractors, 7) Implement construction controls to reduce, detect, and address complications. Monitor muck volumes relative to the theoretical volume of the ground being excavated. To determine the magnitude of settlement there should be a ground monitoring program during construction such as with surface points, extensometers, and inclinometers. If potential damaging ground movements are detected compensation grouting can sometimes be used to reduce settlements, 8) Ground treatment with a zone of influence at and/or above the tunnels prior to tunnelling to form a more stable ground mass. Ground treatment can include jet grouting, permeation grouting, ground freezing, and potentially other methods prior to tunnelling through this area, 9) In the event that voids occur due to ground loss from tunnelling, compensation grouting can be used to fill voids and/or densify the ground to mitigate potential ground settlement to the existing Mokelumne Aqueducts and/or impacts to the integrity of the deep tunnels.	
1633	187	[From ATT 4:] Effects on existing Mokelumne Aqueducts due to groundwater issues: Although the current approach to tunnelling and shaft construction does not involve dewatering, complications during construction could result in lowering of the groundwater table, or the groundwater table may be lowered to address a construction complication. Impact: Settlement due to lowered groundwater level. If the groundwater table is lowered for any reason, such as tunnelling, it would likely result in consolidation from an increase in effective stress on soft soils. This settlement would impart an increase risk on the existing Mokelumne Aqueducts.	Potential impacts on groundwater as a result of constructing and operating the project alternatives are described in FEIR/EIS Chapter 7 Groundwater at Impact GW-1. Due to the commitment to install slurry cutoff walls, construction activities associated with installing the conveyance facilities are not anticipated to result in adverse effects on surrounding groundwater levels. Any additional dewatering not anticipated in the EIR/EIS would be addressed during the time of construction, however unanticipated dewatering would not be expected to occur the rate that would lead to settlement.

DEIRS Ltr#	Cmt#	Comment	Response
		Proposed Mitigation Measures: Use project construction methods that avoid dewatering near the existing Mokelumne Aqueducts. Earth pressure balance tunnel machines, if not operated correctly, can create significant ground disturbance including potential "frac-out" disturbing soils to the ground surface.	
1633	188	[From ATT 4:] Impact: Seepage and associated piping into BDCP Conveyance Tunnels during the Tunnels' lifespan. Although the segmental lining would be bolted and gasketed, long-term degradation of the joints or lining may result in water seeping into the tunnels. This water inflow could carry soil particles resulting in piping, ground loss, settlement, and, potentially, sinkholes. Depending on the magnitude of the ground loss, the existing Mokelumne Aqueducts could be damaged or there could be failure of the aqueducts due to settlement. Proposed Mitigation Measures: Mitigation measures to address the potential for infiltration are based on avoidance, detection, and remediation including: design of the segmental lining for long term performance, tight quality controls during construction, inspection during and upon completion of construction, and routine inspections during the tunnel operational life. Another mitigation strategy is the use of a higher level of design and longer design life for the segments which may include additional reinforcement, stronger or more durable concrete, a more robust gasket system, and stronger joints. The likelihood of this event can be reduced with the use of a secondary lining or carrier pipe surrounded with backfill grout inside the segmental concrete lining. In the event that seepage or water inflow is detected during construction or during the operational life of the tunnels, the situation can be addressed with permeation (cement or chemical) grouting immediately outside the lining to cut off groundwater flow. Additionally, compensation grouting can be used to restore lost ground and/or to densify the ground to prevent the upward migration of settlement.	As discussed in Conceptual Engineering Report Section 11.2.6 Tunnel Support, the water conveyance tunnels will be constructed to avoid seepage. DWR would address tunnel seepage issues as part of the maintenance actions outlined in Conceptual Engineering Report Section 11.5 Maintenance Considerations.
1633	189	[From ATT 4:] Impact: Tunnel lining failure of BDCP Conveyance Tunnels. Long-term degradation of the segmental concrete lining may result in failure of the lining. In the event that the tunnel lining fails or there is a collapse of the tunnel, it would result in major ground movement extending to the ground surface and potentially a sinkhole. With such an event, the resulting settlement would likely result in failure of the existing Mokelumne Aqueducts. Proposed Mitigation Measures: Mitigation measures to address the collapse or failure of a BDCP Conveyance Tunnel are based on avoidance, detection, and remediation including:	DWR would address tunnel lining issues as part of the maintenance actions outlined in Conceptual Engineering Report Section 11.5 Maintenance Considerations.

DEIRS Ltr#	Cmt#	Comment	Response
		1) Design of the segmental lining for long-term performance, 2) Inspection during and upon completion of construction, and routine inspections during the operational life of the tunnels, 3) Geotechnical instrumentation monitoring program around the tunnels beneath the aqueducts, 4) Use of a higher level of design and longer design life for the segments which may include the need for a more robust lining system, 5) Additional reinforcement, stronger or more durable concrete, multiple gaskets, and stronger joints, 6) Use of a carrier pipe surrounded with backfill grout inside the segmental concrete lining. Settlement within the crossing zone should be measured for the long-term life of the tunnel. In the event that structural deficiencies of the segmental concrete lining are detected, the situation can be addressed with one or more of the following actions: 1) The lining can be improved with localized structural patches, 2) Permeation (cement or chemical) grouting can be used immediately outside the lining, 3) New secondary lining can be placed for full 360 degrees inside the segmental concrete lining, 4) Additionally, compensation grouting can be used to restore lost ground and/or densify the ground to prevent the upward migration of settlement.	
1633	190	[From ATT 4:] BDCP Project Shaft Location Conflicts: Shafts for the Dual Conveyance Tunnels are shown in the DEIR/EIS to be located over a mile to the north and to the south of the existing Mokelumne Aqueducts. At these locations and distances, the shafts would not be expected to have direct impacts on the existing Mokelumne Aqueducts. However, shaft locations near the existing Mokelumne Aqueducts are possible during future design development, if a different tunnel alternative is implemented such as shown on Figure 3-2 of the DEIR/EIS, or if a rescue or maintenance shaft were deemed necessary during construction due to problems with the TBM (tunnel boring machine).	At this time the shafts are not expected to have direct impacts on the existing Mokelumne Aqueducts. In the event a different tunnel alternative is implemented which creates impacts to the Mokelumne Aqueducts the impact will be mitigated to the extent possible. The construction and relocation of utilities during construction of the proposed project will include every effort to reduce potential damage to existing infrastructure. Mitigation Measures UT-6a and UT-6b are available to reduce these impacts.
1633	191	[From ATT 4:] Impact: BDCP Conveyance Tunnel construction shafts cause lateral earth movement and additional loads on Existing Mokelumne Aqueduct. Construction of the Dual Conveyance Tunnels Shafts could result in ground movements, especially lateral displacements, in the vicinity of the shafts. These ground movements could result in detrimental impacts on the existing Mokelumne Aqueducts and its pile	The effect of the settlement on surface streams, rivers, agricultural land, is considered to be negligible. Therefore there would be no need to purchase additional right-of-way to prevent encroachment or likelihood that additional flooding would be expected or consequent need to change land use. For mitigation of settlements, the design methodology laid out by the International Tunneling Association will be followed (ITA/AITES (2006). Report on settlements induced by tunneling in soft ground. Tunnelling and Underground Space Technology 22 (2007) 119–149). DWR will perform a series of geotechnical investigations along both the selected water conveyance

DEIRS Ltr#	Cmt#	Comment	Response
		foundations. Proposed Mitigation Measures: To mitigate adverse ground movement impacts, construction must control lost ground during shaft construction. The impacts resulting from ground movements can be reduced, although not eliminated, by controlling ground loss and providing ground support during shaft construction. The primary means for achieving this are: 1) Thorough exploration of subsurface conditions, including obtaining construction records of piles supporting the Mokelumne Aqueducts and positioning the tunnels at suitable depth, 2) Careful selection of shaft construction methods to provide stable lateral support for excavations, 3) Engaging qualified and experienced contractors, 4) Construction controls to reduce, detect, and address complications. To determine the magnitude of ground movement there should be a ground monitoring program during construction such as with surface points, extensometers, and inclinometers, 5) Treat the ground (ground treatment) in the vicinity of the shafts, Aqueducts, and Aqueduct foundations prior to construction to form a more stable ground mass, such as with jet grouting.	alignment and at locations proposed for facilities or material borrow areas. Geotechnical investigations will be conducted to identify surface and subsurface conditions necessary to complete design of the water conveyance facilities. DWR has developed a Draft Geotechnical Exploration Plan (Phase 2) for the Alternative 4 conveyance alignment (MPTO). The geotechnical investigation plan provides additional details regarding the rationale, investigation methods and locations, and criteria for obtaining subsurface soil information and laboratory test data. Should geotechnical reports indicate high settlement risk in certain areas, pre-excavation ground stabilization treatment will be performed ahead of the TBM. Utilization of an Earth Pressure Balanced TBM and implementation of a well planned and executed ground stabilization program will mitigate potential for ground settlement due to tunnel construction. Ground stabilization methods and settlement monitoring programs will be evaluated during design, with requirements for ground stabilization and settlement monitoring specified during construction. Construction contracts will include prescriptive specification requirements for settlement monitoring at sensitive features, such as levees—to ensure that tunneling, dewatering, and traffic-induced settlement remains within specified limits. These requirements will be consistent with common industry standards such as those found in Chapter 9, Geology and Seismicity.
1633	192	[From ATT 4:] Impact: Settlement due to lowered groundwater level. If the groundwater table is lowered for any reason, it would likely result in consolidation from an increase in effective stress on soft soils, especially the peat. This settlement would impart an increase risk on the existing Mokelumne Aqueducts. Proposed Mitigation Measures: Use project construction methods that avoid dewatering near the existing Mokelumne Aqueducts.	Construction of the proposed conveyance facilities would include consultation with EBMUD related to potential effects on Mokelumne Aqueduct facilities if any were to occur. If site-specific geotechnical conditions result in localized groundwater elevation reductions, mitigation measure GW-1 is available to help reduce this effect.
1633	193	[From ATT 4:] Impact: Damage to existing Mokelumne Aqueducts due to roads crossing or parallel to Mokelumne Aqueducts. Access roads to support construction activities may cross over (or under) the existing Mokelumne Aqueducts. These roads may result in adverse loadings, ground settlement, vibrations, direct impacts, and other unforeseen damages to the Mokelumne Aqueducts. Proposed Mitigation Measures: To reduce the potential for damage, layout and design of BDCP Conveyance Tunnels support or access roads need to include consideration of the existing Mokelumne Aqueducts. These evaluations need to include review of the Mokelumne Aqueduct design	Construction of the proposed conveyance facilities would include consultation with EBMUD related to potential effects on Mokelumne Aqueduct facilities if any were to occur. No additional mitigation measures are included for this impact because the likelihood of effects is remote.

DEIRS Ltr#	Cmt#	Comment	Response
		and conditions at the proposed interface locations.	
1633	194	[From ATT 4:] Impact: Damage to existing Mokelumne Aqueducts due to utilities crossing or parallel to Mokelumne Aqueducts Utilities such as water and gas lines to support construction activities may cross over (or under) the existing Mokelumne Aqueducts. Construction of these utilities may result in ground settlement, direct impacts, and other unforeseen damages to the Mokelumne Aqueducts. Proposed Mitigation Measures: To reduce the potential for damage to the existing Mokelumne Aqueducts, layout and design of BDCP Conveyance Tunnels and support utilities need to include consideration of the location of the existing Mokelumne Aqueducts. These evaluations need to include review of the Mokelumne Aqueduct design and ground conditions at the proposed interface locations and development of appropriate protection methods.	At this time the shafts are not expected to have direct impacts on the existing Mokelumne Aqueducts. In the event a different tunnel alternative is implemented which creates impacts to the Mokelumne Aqueducts the impact will be mitigated to the extent possible. The construction and relocation of utilities during construction of the proposed project will include every effort to reduce potential damage to existing infrastructure. Mitigation Measures UT-6a and UT-6b are available to reduce these impacts.
1633	195	[From ATT 4:] New Transmission Lines: The DEIR/EIS provides limited details of likely electrical transmission line corridors being considered for supplying construction power for the BDCP Conveyance Tunnels (BDCP, 2013; Figure 3-25). The current proposed transmission corridor has a north-south alignment which parallels the BDCP Conveyance Tunnel on Woodward Island. The new transmission lines may have adverse impacts on the existing Mokelumne Aqueducts.	The new transmission line alignment has not been finalized as it will depend upon the service provider selected. New transmission line corridors will attempt to utilize existing corridors whenever possible and minimize adverse impacts to existing utilities by crossing over or under the existing facilities. Avoidance measures and/or possible relocation will be determined during preliminary design.
1633	196	[From ATT 4:] Impact: Tower foundations affect existing Mokelumne Aqueducts. Transmission line foundations located near the existing Mokelumne Aqueducts may adversely impact the Aqueducts from lateral ground movements and settlements. Proposed Mitigation Measures: Locate transmission towers far enough from the existing Mokelumne Aqueducts to influence the pile foundations and thus avoid adverse impacts. Design and construct the tower foundations using methods to avoid adverse impacts. During construction use a monitoring program to detect and address ground movement before damages occur.	Settlement calculations are typically carried out assuming the ground movement arising from tunnel construction can be calculated using a Gaussian methodology. This is described by ITA/AITES in their "Report on Settlements Induced by Tunneling in Soft Ground," Tunneling and Underground Space Technology 22 (2007) 119-149. For assessing ground movements at the surface perpendicular to the tunnel alignment, the methodology proposed by O'Reilly and New in their 1982 article "Settlements Above Tunnels in the UK – Their Magnitude and Prediction" is commonly adopted. The methodology proposed by Attewell & Woodman in "Predicting the Dynamics of Ground Settlement and Its Derivatives Caused by Tunnelling in Soil" (1982) is commonly used to describe the three-dimensional form of movement around an advancing tunnel. For calculating subsurface movements, the approach adopted by New & Bowers in "Ground Movement Validation at the Heathrow Express Trial Tunnel" (1994) is commonly used. In addition to the diameter and depth of the proposed tunnels, the trough width parameter, K, and volume loss are input parameters used for these analysis. The volume loss and trough width are controlled by a number of factors including the ground/groundwater conditions and tunneling method. Previous tunneling projects adopting the same tunneling method in similar ground/groundwater conditions are used to understand the likely volume loss and trough width that are possible. Typically, a conservative estimate for the volume loss is adopted such that the calculations carried out using a Gaussian method

DEIRS Ltr#	Cmt#	Comment	Response
			represent a conservative evaluation of the likely movements. In a case study ("EPB Tunnelling in Deltaic Deposits: Observations of Ground Movements" by Gens, Di Mariano and Yubero) of excavating a 31-foot diameter tunnel using an earth pressure balance machine in soft deltaic deposits in Barcelona comprising interbedded layers of sand, silt and clay. Generally, the tunnels were constructed with around 16-meter soil cover from surface to the crown of the tunnel. Volume losses were generally in the range of 0.0-0.6 percent, although higher values were observed on occasion. Most of the larger volume losses were associated with the entrance to or exit from shafts used for maintenance purposes. The trough width parameter, K, that defines the width of the surface settlement trough was observed to have a value of about 0.5. The MPTO/CCO proposed tunnels are slightly larger in diameter than the case study described above and are slightly deeper. The tunneling was carried out using an earth pressure balance machine and ground conditions are similar in being recently deposited interbedded layers of sand, silts and clay derived from a deltaic environment. On this basis, volume losses and trough widths similar to those observed from the case study can be expected. Section 13.1 of the Conceptual Engineering report identifies the following locations that the MPTO/CCO alignment crosses or that potentially interferes with features that may be sensitive to settlement: • Overhead power/electrical transmission lines • Natural gas pipelines • Inactive and active natural gas and oil wells • EBMUD Mokelumne Aqueducts • Various structures • Agricultural delivery canals and drainage ditches • Local electrical distribution lines • Local telephone and communication lines In addition, a telecommunications mast and satellite dishes have been identified along the alignment. Satellite dishes in particular can be sensitive to movement, as they are directed towards geostationary satellites in orbit. Charles and Skinner (2004) provides permissible slope criteria for assessing movement; these are given as 1:6000 imposed gradient. GEO-3 has been revised to include a discussion of the professional publications and other literature that would be used to estimate the expected site-specific surface settlement. As now discussed in GEO-3, preliminary settlement calculations have been carried out for critical cross sections along the tunnel alignment, and all show impacts within an acceptable range (a maximum settlement between 0 and 2.9 inches).
1633	197	[From ATT 4:] Impact: Stray electrical currents effecting Mokelumne Aqueducts. Overhead electrical power transmission lines can induce voltages on pipelines that may cause AC induced corrosion (for buried pipeline sections) and create an electrical shock	As indicated in the CER, DWR will work with EBMUD to avoid impacts on the Mokelumne Aqueducts during the design phase for the proposed projects. The mitigation measures proposed in the comment will be considered during the preliminary design phase.

DEIRS Ltr#	Cmt#	Comment	Response
		hazard for people, depending on the location of the transmission lines. AC induced corrosion is a significant issue resulting in metal loss on existing buried pipelines. Voltages can also be induced onto both buried pipelines and elevated pipelines similar to existing Mokelumne Aqueducts (containing a grounding system) located in close proximity to electrical power transmission grounding systems. Loss of structural integrity of the overhead transmission line could result in transmission line falling and coming into direct contact with the existing Mokelumne Aqueducts. Proposed Mitigation Measures: Mitigation measures can include modelling the steady state induced voltages caused by the electrical power transmission lines to determine the extent of any interference and installation of appropriate protection or correction action if the induced voltages are determined to be above applicable industry standards. Placement of a guard structure, directly located over the existing Mokelumne Aqueducts would prevent falling wires from direct contact with existing aqueducts.	
1633	198	[From ATT 4:] Effects on Proposed Delta Tunnel and Proposed Mitigation Measures The impacts of construction of the BDCP Conveyance Tunnels on the proposed EBMUD (East Bay Municipal Utility District) Delta Tunnel are similar to the impacts identified for the existing Mokelumne Aqueducts. However, in most instances the impacts are more severe do to the closer proximity of the proposed BDCP Conveyance Tunnels to the proposed Delta Tunnel. These impacts result from ground loss, settlement, vibrations, direct interference, and settlement from a lowered groundwater table. The results of these impacts are damage and potentially failure of the pipelines (e.g., carrier pipes) within the proposed EBMUD Delta Tunnel. However, it is likely that these impacts will be more acute due to a close proximity of the tunnels (small vertical separation), sensitivity of the pipelines within the tunnel, and the difficult access to repair damages to the integrity of the pipelines.	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. It is DWR's understanding that the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.
1633	199	[From ATT 4:] BDCP Tunnels Cross East Bay Municipal Utility District Right-of-Way: At the location where the proposed BDCP Dual Conveyance Tunnels cross the existing Mokelumne Aqueducts, EBMUD (East Bay Municipal Utility District) owns the ROW (Right-of-Way), surface and subsurface rights. Impact: Disruption of EBMUD water service operations. The primary concern of EBMUD is to avoid damage and service disruption to the EBMUD Delta Tunnel after it is constructed, which would endanger water service to its customers and result in costly repairs. The second concern of EBMUD is to avoid costly measures by EBMUD to prevent direct interference or construction impacts in the event that the BDCP Conveyance Tunnels are constructed first. Proposed Mitigation Measures: Negotiate ROW agreement The BDCP Conveyance Tunnels implementing agencies will need to obtain a tunnel ROW agreement with EBMUD in order to gain access to excavate tunnels through the ROW that	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. As far as we know, the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.

DEIRS Ltr#	Cmt#	Comment	Response
		is proposed to contain the EBMUD Delta Tunnel. EBMUD suggests that this process begin immediately in order for the BDCP Conveyance Tunnels design to include appropriate safeguards as outlined in the impacts and mitigation measures in the sections above and below.	
1633	200	[From ATT 4:] BDCP Conveyance Tunnels and Delta Tunnel Vertical Alignment Interference: The alignments of the BDCP Conveyance Tunnels and the EBMUD (East Bay Municipal Utility District) Delta Tunnel cross on Woodward Island. Due to each projects design requirements, the vertical depths or alignments of each may impact whether a gravity or pressurized flow operating system is required, the need for a more robust lining system and/or requirements for ground improvement, higher construction cost of a deeper vertical alignment, and/or higher operating costs over the project life cycle. Overall, there are potential impacts to operation and operational costs for each project. Regardless of which tunnel project is constructed first, the BDCP Conveyance Tunnels will need to avoid impacting the design and construction of the EBMUD Delta Tunnel as well as potential long term operational impacts.	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. As far as we know, the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.
1633	201	[From ATT 4:] Impact: Vertical Position (Elevation) of BDCP Conveyance Tunnels interferes with the [East Bay Municipal Utility District] Delta Tunnel. The two tunnel systems cannot be located at the same elevation. Additionally, vertical separation and buffer zones will be necessary between the tunnels to avoid adverse impacts on both tunnel systems. A summary of the main concerns follows: 1) The first tunnel project constructed will result in a zone of loosened soil above the tunnel and likely extending to the ground surface. With the second tunnel positioned above the first, this zone of loosened soil will likely make construction of the second tunnel more difficult due to necessary ground control and mitigation of lost ground. 2) With the second tunnel positioned below the first, ground loss and settlement from construction of the second tunnel would adversely impact and endanger the first tunnel from settlement and potential construction irregularities. Proposed Mitigation Measures: Require tunnel sequencing, vertical placement, and construction methods to eliminate direct conflict and reduce adverse impacts: 1) The vertical alignment of the BDCP Conveyance Tunnels will need to avoid interference with the vertical alignment of the Delta Tunnel. 2) Coordinate design of both projects such that the deeper tunnel is constructed first. This approach would greatly reduce construction impacts for the second tunnel(s) on the first tunnel(s). Depending on schedules for both projects, it may be beneficial to accelerate construction of the deeper tunnel prior to construction of the shallower tunnel(s) to avoid the most serious adverse impacts. 3) Provide appropriate separation between the two tunnel projects to reduce adverse	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. As far as we know, the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.

DEIRS Ltr#	Cmt#	Comment	Response
		impacts. The separation distance needs to be addressed during design development of each project with consideration of ground conditions, construction methods, ground improvement, lining types and designs, and other factors. 4) Use ground improvement such as jet grouting, ground freezing, or alternative methods to stabilize the ground, reducing interference or impacts during construction, and facilitating construction. 5) Use very strict construction controls to reduce ground movements during tunnelling. Measures may include pressurized face tunnelling methods (EPB (earth pressure balance) or slurry), monitoring the rate and volume of ground/muck removal during tunnelling, use of thick pressurized slurry in the TBM (tunnel boring machine) annulus/overcut, rapid grouting outside the lining segments after placement, and compensation grouting. 6) Implement ground surface monitoring during construction. 7) Have in place contingency plans in place to address irregularities that may arise during tunnel construction.	
1633	202	[From ATT 4:] Impact: Additional costs for [East Bay Municipal Utility District] Delta Tunnel construction and operation due to BDCP Conveyance Tunnels. The presence, or future presence, of the BDCP Conveyance Tunnels may result in higher construction costs to EBMUD (East Bay Municipal Utility District) to avoid interference and/or to use construction methods to avoid adverse impacts and higher operation costs. The measures which may be necessary for EBMUD to implement include but are not limited to the following: 1) Deeper profile position for the Delta Tunnel: This would increase the costs of the shafts, and would make tunnelling less efficient due to higher tunnelling pressures, and transporting muck and supplies through the deeper shafts. 2) Higher profile position for the Delta Tunnel: This would result in higher risk of damage to the tunnel and pipelines from seismic liquefaction and long term settlements. 3) Ground improvement: It may be necessary to use ground improvement such as grouting or ground freezing to avoid detrimental impacts to the BDCP Conveyance Tunnels. 4) Special tunnelling methods: To tunnel below or in the vicinity of the BDCP Conveyance Tunnels it may be necessary to use higher face pressure when tunnelling, advance more slowly, controls contact grouting behind the segments, use a more robust segmental lining system, and use additional instrumentation and ground monitoring. 5) Pipeline operations: A deeper tunnel or different tunnel configuration may result in additional operational costs such as higher friction losses, higher pumping costs, and sediment accumulation in the pipelines. Proposed Mitigation Measures: Measures to mitigate these costs include the mitigation measures presented above for	DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between BDCP proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel or approved the referenced project.

DEIRS Ltr#	Cmt#	Comment	Response
		interference. Mitigation would likely be more efficient if some of the measures were implemented prior to or during construction of the BDCP Conveyance Tunnels, rather than later with construction of the Delta Tunnel. Mitigation also would include compensation to EBMUD for the extra costs incurred to accommodate the Conveyance Tunnels through the EBMUD ROW (Right-of-Way).	
1633	203	[From ATT 4:] Impact: Stray electrical currents effecting Delta Tunnel. If the BDCP Conveyance Tunnels pipelines have an impressed current cathodic protection system on the steel pipe, the EBMUD (East Bay Municipal Utility District) Delta Tunnel may be impacted by stray currents flowing onto the pipeline and becoming part of the return path to the source instead of just the surrounding soil. This phenomenon could create anodic metal dissolution (electrolysis) where the stray current leaves the pipeline. The localized corrosion rate can be a significant issue resulting in pipeline failure. Proposed Mitigation Measures: Mitigation measures will include determining the potential for electrical current based on the existing soil conditions, utility separation, and tunnel construction materials. Mitigation may consist of electrical isolation between tunnel systems and draining of the collected current by installing appropriate electrical grounding of the EBMUD Delta Tunnel, or addition of active cathodic protection systems on the EBMUD Delta Tunnel.	Please refer to Master Response 46 for more information on financial mitigations that will be provided for socioeconomic impacts. DWR has met with EBMUD staff and will continue to coordinate the tunnel alignment and shaft locations. However, any potential conflict between proposed conveyance facilities is not addressed in the EIR/EIS because EBMUD has not released any final documents describing their proposal for a cross-Delta tunnel. As far as we know, the 2007 report, Strategy for Protecting the Aqueducts in the Delta (SPAD), which recommended a tunnel across the Delta as the preferred long-term mitigation for earthquake and flood risks to the aqueducts within the Delta, is still in draft form.
1633	204	[ATT 4: att1 -- Figure 1. Map of Mokelumne Aqueducts and Proposed East Bay Municipal Utility District Delta Tunnel Plan.]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this figure is located in Comment 1663-176.
1633	205	[ATT 4: att2 -- Figure 2. Map of Proposed Delta Tunnel Profile.]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this figure is located in Comment 1663-176.
1633	206	[ATT 4: att3 -- Appendix A: East Bay Municipal Utility District's Right-of-Way (ROW) Procedures.]	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 comment referencing the attachment or the Final EIR/EIS. This memo establishes procedures and criteria for review and authorization of surface and sub-surface use of District-owned property. Response to the comment associated with this attachment is located in Comment 1663-184.
1633	207	[ATT 4: att3:att1 -- Procedure 718: Raw Water Aqueduct Right-of-Way, Non-Aqueduct Uses, East Bay Municipal Utility District.]	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 comment referencing the attachment or the Final EIR/EIS. This memo establishes procedures and criteria for review and authorization of surface and sub-surface use of District-owned property. Response to the comment associated with this attachment is located in Comment 1663-184.
1633	208	[ATT 4: att3:att2 -- Supplement No. 1 to Procedure 718: Requirements for Entry or Use of Mokelumne, Lafayette, and Moraga Aqueducts and Raw Water Pipeline Rights-of-Way, East Bay Municipal Utility District.]	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 comment referencing the attachment or the Final EIR/EIS. This memo establishes procedures and criteria for review and authorization of surface and sub-surface use of District-owned

DEIRS Ltr#	Cmt#	Comment	Response
			property. Response to the comment associated with this attachment is located in Comment 1663-184.
1633	209	[ATT 4: att3:att3 -- Supplement No. 2 to Procedure 718: Fees and Documentation Charges, Use of East Bay Municipal Utility District Aqueduct Rights-of-Way by Others.]	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 comment referencing the attachment or the Final EIR/EIS. This memo establishes procedures and criteria for review and authorization of surface and sub-surface use of District-owned property. Response to the comment associated with this attachment is located in Comment 1663-184.
1633	210	[ATT 5: Attachment 4 -- BDCP Impacts on Freeport Regional Water Project]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this attachment is located in Comment 1663-14 and 1663-110.
1633	211	[From ATT 5:] Existing condition scenarios [Footnote 6: Simulation EX_ROA0_SPR0_CC0 and EX_No_FallX2_ROA0_SPR0_CC0.] are assumed to be 2005 level-of-development and do not include Freeport diversions. This is a documented assumption in file Public Draft BDCP EIR/EIS Chapter 5 Appendix 5A - BDCP EIR/EIS Modeling Technical Appendix - Parts A & B.pdf page 5A-B134. [Footnote 7: Excerpt, line 18 of the page cited: Freeport Regional Water Project (FRWP) is not included]	This information is consistent with information in the EIR/EIS. No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/DEIS were raised.
1633	212	[From ATT 5:] In all No Action and Project simulations [Footnote 8], the Freeport diversion schedule is generally consistent (in magnitude and frequency) with the 2020 Freeport diversion schedule [Footnote 9] from the Freeport EIR/EIS [Footnote 10]. This is also a documented assumption in Public Draft BDCP EIR/EIS Chapter 5 Appendix 5A - BDCP EIR/EIS Modeling Technical Appendix - Parts A & B.pdf page 5A-B134 [Footnote 11]. [Footnote 8: Simulations NAA_ELT_ROA0_SLR15_CC5, NAA_LLT_ROA0_SLR45_CC5, NAA_ROA0_SLR0_CC0, ALT4_ELT_ROA25_SLR15_CC5, and ALT4_LLT_ROA65_SLR45_CC5.] [Footnote 9: EBMUDSIM model archive reference study ID #6336.] [Footnote 10: Results are generally within round-off tolerance +0.2% accounted for by conversion of 100MGD to 154.7cfs that is rounded to 155cfs in the CalSim2 work.] [Footnote 11: Excerpt of lines 28-30 of the page cited: Freeport Regional Water Project (FRWP) is included at full demand (EBMUD CVP contracts and SCWA CVP contract and new appropriative water rights and water acquisitions as modeled in the FRWP EIS/R)]	This information is consistent with information in the EIR/EIS. No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/DEIS were raised.
1633	213	[From ATT 5:] For a given scenario i.e. No Action or Alternative 4 Project cases, Freeport diversions are reduced in the LLT (Late Long Term) scenario relative to the ELT (Early Long Term) scenario in a subset of the years that show a diversion (5 years [Footnote 12] out of 23 active years or 22% in the No Action scenarios, and 4 years [Footnote 13] out of 23 active years or 17% in the Alternative 4 scenarios). An examination of the CVPNoDM&I (Central Valley Project North of Delta Municipal and Industrial contractors) percent allocations does not explain the reductions in the diversions [Footnote 14].	Alternative 4A was analyzed at the Early Long-Term (ELT) period, or approximately Year 2025 conditions, for the RDEIR/SDEIS and the Final EIR/EIS. 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 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. As indicated in Appendix 5A, Section C of the Final EIR/EIS, CVP water deliveries to EBMUD at the Freeport intake are identical between the No Action Alternative and Alternative 4A at ELT.

DEIRS Ltr#	Cmt#	Comment	Response
		Furthermore, in one of the cases identified, the reductions that occur in selected contract years under the LLT condition relative to the ELT are not accounted for over the multi-year diversion sequence when the contract limitation constraining the consecutive three-year diversion sum to 165 TAF is in effect [Footnote 15]. Note in the case of the 1990-1992 sequence, the 165 TAF 3-year contractual constraint is controlling in the ELT allocations leading to a relatively low diversion in year 3 [Footnote 16], but the LLT case reduces the diversion in the second year (1991) [Footnote 17] and diversions in the third year (1992) are not increased by the amount the second year is reduced [Footnote 18] such that this contract limitation is still controlling as it should be consistent with the contract provisions as documented [Footnote 19]. [Footnote 12: Contract years that are reduced in LLT relative to ELT under the No Action scenarios are 1933, 1934, 1977, 1990, and 1991.] [Footnote 13: Contract years that are reduced in LLT relative to ELT under the Alt 4 Project scenarios are 1933, 1934, 1977, and 1991.] [Footnote 14: For example, consider the ELT and LLT diversions for contract year 1933 under the No Action scenario, the]EBMUD diversion at Freeport is 71,958AF in the ELT case and 65,664AF in the LLT case with CVPNoDM&I percent allocations equal to 53% in both the ELT and LLT studies which would allow for an allocation of 133,000AF*0.53=70,490AF. Note that the ELT diversion is approximately 0.2% higher than that computed from the percentage allocation which is explained by the round-off error in the conversion of 100MGD diversion in a month to the cfs equivalent of 154.7cfs rounded to 155cfs. What is unclear, however, is why the diversion is reduced to less than that of the calculated value based on the 53% allocation under the LLT condition i.e. why is the diversion reduced to a 49% allocation for the LLT simulation when the CVPNoDM&I allocation is 53%?] [Footnote 15: Where BDCP documentation clearly lists this contract provision as a modeled constraint of the CalSim2 study, see file Public Draft BDCP EIR/EIS Chapter 5 Appendix 5A - BDCP EIR/EIS Modeling Technical Appendix - Parts A & B.pdf page 5A-B137, where the last five lines of the table are referencing footnote "\5" of the table that presents the contractual limitations governing this specific CVP contractor where listed item (2) is excerpted as: (2) 165 TAF maximum diversion amount over any 3 year period] [Footnote 16: i.e. roughly 20TAF in 1992.] [Footnote 17: i.e. from 78,192AF to 75,177AF for the respective ELT and LLT simulations under the No Action scenario and from 78,192AF to 68,679AF for the respective ELT and LLT simulations under the ALT4 Project scenario.] [Footnote 18: i.e. roughly 4TAF in the no action case and about 10TAF in the action case] [Footnote 19: See footnote 15.]	
1633	214	[From ATT 5:] While the Freeport diversions schedule is consistent with the Freeport EIR/EIS, the diversion assignments in many years are incompatible with the CVPNoDM&I (Central Valley Project North of Delta Municipal and Industrial) output from CalSim2. This indicates updates or changes to the CalSim2 operating rules from the time of the	CALSIM II demand assumptions for EBMUD and the use of the Freeport Regional Water Authority intake were identical under the action alternatives and the No Action Alternative in the EIR/EIS. 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 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.

DEIRS Ltr#	Cmt#	Comment	Response
		completion of the Freeport EIR/EIS to the BDCP project. Table 2 (see ATT 5: att2) shows the breakdown for each simulation. Recall that there are no diversion assignments in the existing conditions. Under the No Action scenario roughly 43% of the diversions exceed the CVPNoDM&I percentage allocation. Similarly, in the Alt4 Project scenarios 43% and 39% of the diversions exceed the CVPNoDM&I percentage allocations for the ELT and LLT model studies, respectively.	Deliveries at the Freeport Regional Water Authority intake corresponding to any non-project demands are consistent between Alternative 4A and No Action Alternative while deliveries corresponding to CVP contract demands may change depending on the changes to the CVP allocations. Alternative 4A was analyzed at the Early Long-Term period, or approximately Year 2025 conditions, in the RDEIR/SDEIS and the Final EIR/EIS. Based on the results from Alternative 4A included in the Final EIR/EIS, the deliveries to EBMUD at the Freeport Regional Water Authority intake are identical between the No Action Alternative and Alternative 4A.
1633	215	[From ATT 5:] EBMUD's (East Bay Municipal Utility District's) CVP contract conditions are summarized as footnote 5 in Table B-19: American River Diversions Assumed in the Existing Conditions and No Action Alternative [Footnote 20]. The third item listed, "(3) Diversions allowed only when EBMUD total storage drops below 500 TAF" is not fully accurate as stated and needs to be revised as follows, "(3) Diversions allowed only when projected October 1 EBMUD total storage drops below 500 TAF". The key revision to the listed item is the word "projected" to indicate that this is a projected or simulated storage without supplemental supplies that is used to trigger both supplemental supplies as well as the District's drought management program [Footnote 21]. Also, the storage threshold applies to a specific date of the year, October 1 [Footnote 22]. As written, the criteria could be misinterpreted to apply in any month of the year in which total storage drops below the 500 TAF threshold, and that is clearly inconsistent with the contract [Footnote 23]. [Footnote 20: Ibid.] [Footnote 21: For more information on the District's drought management program, the reader is referred to Chapter 3 of the UWMP 2010 available online at: http://www.ebmud.com/water-and-wastewater/water-supply/urban-water-management-plan, last accessed April 24th 2014.] [Footnote 22: In practice where a monthly model is utilized, the end-of-September storage is used to represent the October 1 storage criteria.] [Footnote 23: For precise language of the contract, see [Section] 3(a)(1) page 12, lines 253-254 of Longterm Renewal Contract Between the United States and East Bay Municipal Utility District Providing for Project Water Service from the American River Division Contract No. 14-06-200-5183A-LTR1 abbreviated throughout this report as the Longterm Renewal Contract or LTRC.]	CALSIM II demand assumptions for EBMUD and the use of the Freeport Regional Water Authority intake were identical under the action alternatives and the No Action Alternative in the EIR/EIS. It should be noted that modeling for the EIR/EIS has been based on the Existing Conditions, No Action Alternative, and Alternative 1 models developed in April – May of 2010 (2010 models), which were the state-of-the-art at the time, and formed the basis for universal assumptions in the other action alternatives in the EIR/EIS. However, in August 2011 several model improvements were identified by the water agencies, fishery agencies, and the modeling community. The identified improvements were compiled, and the Existing Conditions, No Action Alternative, and Alternative 1 models were updated in coordination with DWR, Reclamation and USFWS. This update was performed to verify if the compiled model improvements altered the incremental changes between the Action Alternative 1 and the Existing Conditions and the No Action Alternative relative to the 2010 models. The findings from the 2011 update showed that the incremental differences between Alternative 1 and the Existing Conditions and the No Action Alternative remained consistent with the 2010 modeling. Therefore, the action alternatives modeled since 2011 continued to rely on the 2010 modeling, allowing consistency and comparability throughout the Draft EIR/EIS. Similarly, when Alternative 4A was modeled using the 2013 baseline, the incremental changes in the operational results for Alternative 4A as compared to the No Action Alternative were similar to the prior incremental results between the 2010 modeling for the No Action Alternative and Alternative 4A. It should be noted that the modeling used in the EIR/EIS must be used in a comparative manner and not to define absolute values.
1633	216	[From ATT 5:] As EBMUD (East Bay Municipal Utility District) demand increases at future levels-of-development, more years become eligible under the criteria defined by the District's LTRC (Long Term Renewal Contract) as more years have projected end-of-September total system storage projected to be less than 500 TAF. The frequency of contract years with active diversions increases from roughly 22% to 34% from 2005 to 2040 level-of-development. Approximately 10 additional years show active diversions in 2040 compared to 2005 for the 1921 through 2003 hydrology [Footnote 24]. Furthermore, the frequency is expected to increase beyond 2040 with growing customer demand. The Freeport diversion schedule utilized in both No Action and Alternative 4 Project scenarios is consistent with the 2020 Freeport diversion schedule and is,	The study period in the Final EIR/EIS extends to approximately the years 2025/2030. The assumptions for the municipal and industrial water users for the No Action Alternative were established for information that was available as of 2009 when the Notice of Preparation and Notice of Intent were published, including Urban Water Management Plans submitted to DWR in 2005. The No Action Alternative includes an additional 177,000 acre-feet/year of water rights diversions upstream of Folsom Lake for senior water rights holders, as presented in Table 5A B.19 in Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions. These future water demands in the American River watershed are also consistent with water demand projections in the Urban Water Management Plans submitted to DWR by 2012 which include approaches to meet the 20 percent per capita urban water use by 2020. The EIR/EIS modeling also assumed the same climate change and sea level rise assumptions as part of the No Action Alternative and the action alternatives. As discussed in the response to Comment 214, Alternative 4A is not expected to create any

DEIRS Ltr#	Cmt#	Comment	Response
		therefore, appropriate for use in the ELT (Early Long Term) studies; however, this diversion schedule is not accurate in terms of frequency and magnitude of diversions in the LLT (Late Long Term) studies. The increased frequency of diversions and the magnitude of the contract year diversions is non-negligible and could have a significant effect on CalSim2 results that is cascading to the other model studies that tier off of the CalSim2 results which could potentially affect the impacts assessment. [Footnote 24: For example, under 2005LOD with customer demand set to 214MGD, projected end-of-September total system storage (EOSTSS) is >500TAF in 1947. However, under 2040LOD with customer demand set to 230MGD, the projected EOSTSS drops below the 500TAF threshold and, therefore, becomes an eligible year for supplemental supplies under the CVP contract via the FRWP facilities. Note also that 1947 is generally a high allocation year where the CVPNoDM&I allocation is on the order of 70% (varying from 66% to 75% depending on the model study). A 70% allocation of 133TAF would result in a potential diversion of 93TAF which is clearly a non-negligible diversion that could potentially affect the modeling results and, therefore, the impacts assessment.]	additional effects to EBMUD deliveries as compared to the No Action Alternative.
1633	217	[From ATT 5:] DWR DSM2 model output was provided for each of the seven simulations listed in Table 1 (see ATT 5: att1). Model results provided spanned October 1, 1974 through September 20 1991 on 15-minute intervals. Table 3 (see ATT 5: att3) presents the number of reverse flow events with advective transport exceeding 0.9 miles that would cause a shutdown of FRWP (Freeport Regional Water Project) for each of the seven DWR model simulations. Figure 1 (see ATT 5: att5) shows the number of reverse flow events per year over the hydrologic period simulated. Based on the results, reverse flow events generally increased over the planning horizon from the existing case without restoration (30) to the no action ELT (Early Long Term) case (70) increasing further still for the no action LLT (Late Long Term) (178). Among these three runs, the main factor changing is the anticipated effects of climate change represented by changes to the hydrology and sea level rise that clearly increases the frequency of impactful reverse flow events. The Alternative 4 Project scenario, which includes the new facilities and the restoration action, significantly reduces the instances of the reverse flow events. For example, comparing the No Action ELT and Alternative 4 ELT simulations, the number of reverse flow instances impacting the Freeport operation are reduced from 70 instances to 14 instances and for the LLT scenarios the No Action cases shows 178 instances which are reduced to 21 instances under the Alternative 4 Project simulation. However, for the simulations provided by DWR, the project runs include both the new infrastructure and the restoration and, therefore, these two components of the project cannot be analyzed in isolation to determine their relative effect of either component on the reverse flow metric.	The analysis of Alternative 4 in the Draft EIR/EIS included an integrated operation of the conveyance facilities under Conservation Measure 1 and wetlands restoration under other conservation measures. The analysis of Alternative 4A in the Final EIR/EIS provides the analysis of implementation of the proposed project, California WaterFix, conveyance facilities, only, because Alternative 4A does not include other conservation measures.
1633	218	[From ATT 5:] Additional modeling performed by CCWD (Contra Costa Water District) simulated the full hydrologic period that was simulated with CalSim2 [Footnote 25: i.e. January 31, 1921 2400hrs to September 30, 2003 2400hrs.]. This modeling provided additional clarifying information regarding the effect of the two components of the project isolating the effect of restoration. Four DSM2 model simulations were analyzed as described in Table 1 (see	The Draft EIR/EIS Alternative 4 H3 modeling assumptions included operations of the NDD and tidal habitat restoration (CM2). It appears that the comment references separate DSM2 modeling of Alternative 4 H3 without habitat restoration without climate change or sea level rise compared to a No Action Alternative without climate change or sea level rise which is not consistent with the analysis presented in the EIR/EIS. The model results referenced in this comment could not be verified for accuracy, to provide a response on their summary of the results. Alternative 4 remains a viable alternative. However, a modified proposed

DEIRS Ltr#	Cmt#	Comment	Response
		ATT 5: att1). The number of reverse flow events for the full 83-year period of record and shorter 19-year period that would result in a shutdown of FRWA (Freeport Regional Water Authority) are presented in Table 4 (see ATT 5: att4). The distribution of the number of reverse flow events per year is plotted in Figure 2 (see ATT 5: att6). When comparing the Base Case without restoration, essentially representing a No Action Scenario without climate change, to the Action Case, which includes the new facilities and the restoration, a significant reduction from 203 to 55 reverse flows instances is obtained for the hydrologic period of 1921 through 2003 and 55 to 12 instances when limited to the 19 years of hydrology [Footnote 26: i.e. 1972 through 1991.] (see Table 4, ATT5: att4). Note however that the effect of the 25,000-acre restoration -- consistent with the ELT (Early Long Term) scenario from the DWR modeling -- is isolated by performing a Base Case and Action Case simulation with and without the restoration. With respect to the Base Case, the restoration reduces the number of reverse flow instances that would shut down the FRWP (Freeport Regional Water Project) intake from 203 to 49 for 1921 through 2003 hydrology and from 55 to 11 cases for the shorter period spanning 1972 through 1991. With respect to the Action Case, 237 reverse flow instances that would shut down the FRWP intake are identified for the 1921 through 2003 hydrology which drops to 55 instances when the 25,000 acres of restoration are included. For the shorter period of hydrology from 1972 through 1991, the number of reverse flow instances that would shut down the FRWP intake drops from 64 without restoration included to 12 instances when the restoration is included. Thus, if restoration is not included in the Base Case, there are 203 reverse flow instances that would shut down the FRWP intake, increasing to 237 instances under the Action Case without restoration for 1921 through 2003 hydrology. For the shorter 19-year period of hydrology from 1972 through 1991, the Base Case shows 55 instances of reverse flows that would shut down the FRWP intake, increasing to 64 instances under the Action Case when the restoration is not included. In conclusion, the results show a potential impact of the BDCP intakes on the FRWP, and the impact is mitigated by the proposed restoration. However, until the restoration projects are effectively implemented, the BDCP intakes would have an adverse impact on the FRWP.	project (Alternative 4A/California WaterFix) is being considered without habitat restoration (CM2). The Final EIR/EIS includes model results specifically for Alternative 4A as compared to Existing Conditions and No Action Alternative. As described in the Final EIR/EIS, Alternative 4A would be required to operate to a positive downstream sweeping velocity and meet north Delta diversion bypass flows downstream of the intakes. The DSM2 results for Alternative 4A upstream of the North Delta Diversion were analyzed to evaluate the potential for increased frequency of reverse flows. The results indicated that the advective distance 0.9 miles associated with tidal reversals would not increase under Alternative 4A compared to the No Action Alternative. Therefore, the modeling results indicate that the north Delta diversion are not exacerbating the tidal reversals upstream of the proposed intakes.
1633	219	[From ATT 5:] Table B-9 DSM2 Inputs page 5A-B73 reports that the period simulated is a 16-year period 1976 through 1991. This represents a shortened hydrologic period simulated relative to the CalSim2 model that simulates an 83-year period from 1921 through 2003. The shortened 16-year period covers the two main drought periods [Footnote 27: The 1976-1977 drought and five years of the six-year 1987-1992 drought]; however, this shorter 16-year period is skewed towards drier year types (see Figure 3, ATT 5: att7). On the basis of the Sacramento Valley Water Year Hydrologic Classification, the Dry and Critical year types are the most frequent (at 56%) relative to Wet, Above Normal, and Below Normal year types (44%) in the 1976 through 1992 period. For the longer period of hydrology simulated with CalSim2, the wetter year types (i.e. Wet, Above Normal, and Below Normal) account for 66% of the 83-year period whereas the Dry and Critical year types account for 37%. While reverse flow events are expected to occur in the drier year types which are over-represented in the shorter 16-year period, the purpose of the impacts analysis is to discern the impact of the proposed project as compared to the no project or no action. Considering that the project effects are greatest in the wetter year types when regulatory constraints on the system are less restrictive to project operations,	The EIR/EIS used the best available tools that are used by state and federal agencies. The full set of inputs needed for these tools are limited to 82-year (Water Years 1922 – 2003) at the time the analysis for the EIR/EIS was performed. The DSM2 analysis was limited to a 16-year analysis. Section D.12 of the Appendix 5A in the draft EIR/EIS discloses potential differences between the 16-year versus 82-year DSM2 simulations. As noted in this comment, given the 16-year simulation period used for the DSM2 modeling is drier than the 82-year period, the water quality impact analyses would be more conservative, and represents conditions similar to those found over the full 82-year period. The CALSIM II assumptions include compliance with Delta water quality over the long-term operations, and do not reflect changes that could occur during emergency situations such as the recent drought when long-term water quality criteria were modified for the drought conditions. For additional information regarding modeling, please see Master Response 30.

DEIRS Ltr#	Cmt#	Comment	Response
		the approach of simulating a shorter period that is relatively dry means that the impacts analysis is based on a period in which the project operation is more constrained. Furthermore, since DSM2 boundary conditions are available for the full 83-year period of record, the reason to limit the DSM2 model to a shorter and drier hydrologic period seems arbitrary. Simulating a longer hydrologic period with more variation in hydrologic conditions seems more appropriate to base the analysis of potential impacts of the proposed project.	
1633	220	[From ATT 5:] Bypass Flow Criteria: Bypass rules are presented and described in Appendix 5A [Footnote 28: See file Public Draft BDCP EIR/EIS Chapter 5 Appendix 5A - BDCP EIR/EIS Modeling Technical Appendix - Parts A & B.pdf pages 5A-A21 and 5A-A22; also 5A-B26 and 5A-B27.]. The bypass rules are described as proposed rules, "which govern the amount of water required to remain in the river before any diversion can occur. Bypass rules are designed with the intent to avoid increased upstream tidal transport from downstream channels, ...". These bypass rules are a key basis of the operating rules governing the project operations particularly in the context of the reverse flow issue on the Sacramento River. It is unclear whether these operating rules are intended to govern the actual operation of the proposed project once constructed. Are the proposed rules considered guidelines for the operation of the project or are they considered strict operating constraints that will be implemented as part of the project? Will the proposed bypass rules be incorporated into the operating permit(s) for the project? What is the process or procedure for changes to the proposed rules and what regulatory agencies if any are involved with monitoring and enforcement of the bypass rules? In order to have confidence that the project will not have additional impacts on FRWP (Freeport Regional Water Project), the bypass flow criteria need to be adopted as strict operating rules.	The initial operations criteria for the north Delta diversion under Alternative 4A were outlined in the Chapter 4 of the Recirculated DEIR/SDEIS and Chapter 3 of the Final EIR/EIS. The North Delta Bypass Flow Criteria and any other north Delta diversion operations criteria will be considered by the USFWS and NMFS in development of the biological opinions, the State Water Resources Control Board in the development of the modified water rights issued to DWR and Reclamation, and the USACE in their 404 and 408 permits. If the North Delta Bypass Flow Criteria and any other north Delta diversion operations criteria are modified through these permit and approval processes, DWR and Reclamation will determine if additional engineering or environmental analyses are required.
1633	221	[ATT 5: att1 -- Table 1: BDCP DSM2 Model Scenarios with Description.]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this table is located in Comment 1663-217 and 1663-218.
1633	222	[ATT 5: att2 -- Table 2: Cross Comparison of Central Valley Project North of Delta Municipal & Industrial Percentage Allocations with Assigned EBMUD (East Bay Municipal Utility District) Contract Year Diversion.]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this table is located in Comment 1663-214.
1633	223	[ATT 5: att3 -- Table 3: Reverse Flow Events with Advective Transport Exceeding 0.9 Miles for DWR Modeling Studies, 1974-1991 Hydrology.]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this table is located in Comment 1663-217.
1633	224	[ATT 5: att4 -- Table 4: Reverse Flow Events with Advective Transport Exceeding 0.9 Miles for MBK Modeling Studies, 1921-2003 Hydrology and 1974-1991 Hydrology.]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this table is located in Comment 1663-218.
1633	225	[ATT 5: att5 -- Figure 1: Reverse Flow Events per Year with Advective Transport Exceeding	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

DEIRS Ltr#	Cmt#	Comment	Response
		0.9 Miles for DWR Modeling Studies, 1974-1991 Hydrology.]	already addressed in the comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this figure is located in Comment 1663-217.
1633	226	[ATT 5: att6 -- Figure 2: Reverse Flow Incidents per Year with Advective Transport Exceeding 0.9 Miles for MBK Modeling Studies, 1921-2003 Hydrology.]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this figure is located in Comment 1663-218.
1633	227	[ATT 5: att7 -- Figure 3: Sacramento Valley Water Year Hydrologic Classification Frequency for CalSim2 Hydrologic Period (1921-2003, 83 years) with DSM2 Hydrologic Period (1976-1991, 16 years).]	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 comment referencing the attachment or the Final EIR/EIS. Response to the comment associated with this figure is located in Comment 1663-219.
1634	1	Marin Conservation League is concerned that any measures taken in the Draft BDCP to modify flow through the Delta will also affect the health of the San Francisco Estuary, its water quality and aquatic species. In the Plan it is acknowledged that "the effects of implementing the BDCP may extend to aquatic systems beyond the Delta, both upstream and downstream." Impacts downstream in San Francisco Bay have been identified as potentially significant. The Plan's downstream boundary, however, ends in Suisun Bay near Benicia, when in fact the downstream impacts of altered flow extend all along the west shoreline of San Pablo Bay and the Central San Francisco Bay to the Golden Gate Bridge. This area includes not only the shallow water habitats of San Pablo Bay but also many sensitive wetlands along the shores of Solano, Napa, Sonoma, and Marin Counties. As you are aware, this area includes thousands of acres of existing wetlands as well as diked former tidelands that are undergoing extensive restoration at great public expense. Potentially affected habitats lie both within and outside the San Pablo Bay National Wildlife Refuge and support species such as the threatened green sturgeon and endangered Chinook salmon. Impacts on these areas and their fish and wildlife inhabitants are not addressed in the EIR/EIS!	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. DWR's fundamental purpose of the proposed project is to make physical and operational improvements to the SWP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. By establishing a point of water diversion in the north Delta and new operating criteria the proposed project is designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. Please see Master Response 3 for additional information regarding the purpose and need behind the proposed project. The Final EIR/EIS includes analysis of water quality and aquatic habitat impacts downstream of the proposed project; see Chapter 8 (Water Quality) and Chapter 11 (Aquatic Resources). See Master Response 14 regarding water quality detailed effects analysis. See also Master Response 17 for more discussion regarding fish and other aquatic resources.
1634	2	A major concern, one voiced by county officials and many other agencies, organizations and individuals, is that the Plan should provide for sufficient freshwater flow to insure the health of the San Francisco Bay complex and the fish and wildlife it supports. Our bay is a blend of fresh and saline waters that nourishes a vast array of aquatic species adapted to this mixture, and reduced freshwater flow threatens this important resource.	Model results show that long-term average Delta outflow under Alternative 4 (scenarios H1 - H4 at LLT) would be similar to that under Existing Conditions and No Action Alternative, with a minor increase in flows during the winter months and a minor reduction in flows during the spring months relative to Existing Conditions due to the shift in system inflows caused by climate change, as well as increased water demand expected in the LLT. In wet water year types, this trend is more evident, while in other water year types, Delta outflow under Existing Conditions and the No Action Alternative is generally within the range of Alternative 4 H1 - H4 scenarios. For more information and specific modeling results for all Alternatives, please refer to Chapter 5, Water Supply, and Appendix 5A, BDCP/California WaterFix EIR/S Modeling Technical Appendix.

DEIRS Ltr#	Cmt#	Comment	Response
			In response to comments received, impact discussions for San Francisco Bay have been added to Chapter 8, Water Quality in the Final EIR/EIS (See Impact WQ-34: Effects on San Francisco Bay Water Quality Resulting from Facilities Operations and Maintenance and Environmental Commitments). No impacts were found to be significant or adverse.
1634	3	We ask that the impacts on the San Francisco Bay estuary, including San Pablo Bay and the shoreline waters of Solano, Napa, Sonoma, and Marin Counties be fully considered in the Plan and its environmental review documents. Downstream impacts of any flow regimen considered for the Delta must be fully analyzed and, when impacts are identified, the Plan must be changed or acceptable mitigation measures included.	See responses to comments 1634-1 and 1634-2.
1635	1	I believe the tunnels project will be like many other infrastructure projects in California. I have heard estimated costs for the tunnels project from a low of 8 billion dollars to 33 billion dollars. I am not sure how these estimates were arrived at, but I am sure they are not accurate. The high speed train between San Francisco and Los Angeles was originally estimated to be about 750 million dollars. Those estimates have been revised to more than 3 billion dollars and the first rail has not even been laid yet. The San Francisco Bay Bridge project was estimated to be 1.2 billion dollars when it was sold to the public. The actual cost is approaching 6 billion dollars and this doesn't even cover the huge cost overruns for demolishing the old structure. By using the extrapolation method, that means the actual cost of this project will cost taxpayers an estimated 36.8 billion dollars to 151.8 billion dollars for a water project that will not produce one drop of water. Let's address the more important issue of how to collect, produce and hold water before we spend billions and billions of dollars to create a system to move water we don't have!	Please see Master Response 5 regarding the adequacy of the cost estimate and the risk of cost overruns.
1636	1	Earth Law Center (ELC) incorporates by reference the June 2014 comment letter and July 2014 supplemental comment letter submitted on the BDCP by the Environmental Water Caucus (EWC), as well as the July 2014 BDCP comments of California Water Impact Network/California Sportfishing Protection Alliance/AquAlliance. ELC also incorporates by reference the attached March 28, 2013, comments by ELC to the State Water Resources Control Board (SWRCB) on the Bay-Delta Water Quality Control Plan Draft SED (Bay-Delta Plan).	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. 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 HC/NCCP alternatives in the 2013 Draft EIR/EIS were potential 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), response 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 (e.g., request of specific revisions to the BDCP related to mapping or references All comments received during the 2013-14 and 2015 public comment periods are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.
1636	2	Earth Law Center believes that the BDCP must be revised and recirculated for public review. It should be noted, however, that on an overarching basis, ELC continues to have serious concerns as to whether even significant reworkings of the currently flawed BDCP Project could ensure the well-being of the Delta. In particular:	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.The EIR/EIS was recirculated to provide the public with an opportunity to review three new alternatives, including the new proposed project. Please

DEIRS Ltr#	Cmt#	Comment	Response
		The BDCP preferred alternative creates a flow regime that fails to meet the BDCP's own mission and purpose of restoring the Delta ecosystem. Rather than increasing already-inadequate Delta flow, which scientists consider the biggest stressor on the Delta (along with diminished habitat), the BCDP chooses to prioritize exports, thus failing to take the steps necessary to recover Delta species and ecosystems.	also see Master Response 17 regarding the biological impacts of the proposed project.
1636	3	The BDCP fails to meet fundamental Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) mandates to protect Delta fish and habitats by declining to establish meaningful increases in Delta flow. Current Delta flow is inadequate to support fish and fish habitat, as recognized by the State Water Resources Control Board and other government actors as well as the scientific community. Yet, the BDCP proposes to increase exports and decrease outflow under many scenarios. The BDCP in fact would result in survival rate reductions in several listed fish species, including winter-run and spring-run Chinook. The BDCP also fails to meet the requirement for an NCCP to ensure adequate funding to carry out identified conservation actions.	Please see the response to comment 1, above, and Master Response 5, BDCP.
1636	4	The BDCP fails to meet California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements, particularly with respect to its evaluation of flow alternatives. The BDCP EIR/EIS violates CEQA by failing to consider a reasonable range of alternatives, including most notably alternatives that demonstrably increase flows sufficient to ensure Delta well-being. Instead, every alternative falls short of the flows identified in, for example, the August 2010 flow criteria report from the SWRCB, which uses science to identify the flows fish need to survive. [footnote 3: SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," pp. 2, 5 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.] Similarly, the BDCP EIR/EIS falls short of NEPA by failing to identify reasonable alternatives that would minimize adverse impacts of the BDCP. At minimum, the BDCP must analyze alternatives that will achieve the science-based flows described in the SWRCB's August 2010 flow criteria report. The BDCP will not meet the requirements of the Delta Reform Act, as it fails to identify the amount of flow necessary to recover the Delta ecosystem and restore fish populations and only then identify the remaining amount of water for export and other beneficial uses. The BDCP must be revised to include alternatives that identify such flows (e.g., such as the minimum flows identified in the August 2010 flow criteria report) and only then determine the remaining amount for export and other beneficial uses. The BDCP will result in actions that will violate the Clean Water Act (CWA). In particular, implementation of the BDCP will require a CWA Section 401 certification for the expected CWA Section 404 permit(s). This certification in turn can be granted only for projects that comply with water quality standards, which the BDCP will not do as proposed, given its notably inadequate flow (and other) protections. More generally, if the flow regime in the proposed BDCP is integrated into the state's upcoming revisions to its Bay-Delta Plan, the resultant flow objective(s) will fail to protect the most sensitive beneficial uses, as required by the CWA. Under the CWA, the state must adopt science-based flow criteria that protect (not "reasonably" protect) the most sensitive beneficial use. However, the BDCP is based on levels of instream flow that are widely considered to be inadequate to protect Delta fish and habitats. Additional efforts to ostensibly enhance flow (e.g. the BDCP's north Delta diversion bypass flow) fall	As described in Section 3A.9.4.2 of Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, the alternatives evaluated in detail in the Draft BDCP EIR/EIS did not fully incorporate the recommendations of the State Water Resources Control Board 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem report 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 these water rights users. Results from this report were considered in the development of Alternative 8, which is evaluated in the Draft EIR/EIS, in accordance with the 2009 Delta Reform Act, as described in Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Draft BDCP EIR/EIS. Please also see Master Response 31 for more information on compliance with the Delta Reform Act. As discussed in Section 6.3.4 of Chapter 6, Surface Water, of the Draft BDCP EIR/EIS, it is recognized that the State Water Resources Control Board is preparing an updated to the Bay-Delta Water Quality Control Plan, which is considering reasonable protection of beneficial uses, including municipal and industrial uses, agricultural uses, and environmental uses. It is assumed that the results presented in the Final EIR/EIS would be considered by the State Water Resources Control Board; however, the final Water Quality Control Plan may include additional actions. 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 updated plan.

DEIRS Ltr#	Cmt#	Comment	Response
		significantly short of what is needed to prevent violations of beneficial uses necessary to protect Delta systems and species.	
1636	5	The state should include in this process the development of an instream water rights program that recognizes in law the inherent rights of waterways to the flows they need to survive and flourish. Instream water rights systems of other states, such as Oregon, can provide guidance in this effort. A state legal system that guides water management practices pursuant to an overarching acceptance of "water rights for waterways" is key to ensuring the Delta's long-term health. The BDCP Lead Agencies should abandon the preferred alternative and work with stakeholders to apply science and law to the development of flow regimes that adequately protect the most sensitive beneficial uses of affected water systems.	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. For more information regarding alternatives to the proposed project please see Master Response 4. 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.
1636	6	Restoring the quality of the Sacramento-San Joaquin Delta ("Delta") is a critical task. The Delta -- once home to ecosystems such as rich, biodiverse tidal marshes and a vibrant estuary -- has seen the majority of its natural wonder decline due to years of misguided water and species use and management. Iconic Delta species have dwindled in population. Local communities, tribes and fishermen, who rely on a healthy Delta ecosystem for clean water, food and their way of life, are also suffering. The BDCP fundamentally fails to achieve its core purpose of restoring the Delta system. Instead, it chooses to prioritize water exports -- largely responsible for much of the Delta's poor health in the first place -- over critically needed conservation gains. Thus, the BDCP fails to achieve its own goal of being a "comprehensive conservation strategy" for the Delta. [footnote 4: Public Draft Plan Executive Summary, p. 1, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Executive_Summary.sflb.ashx.] Rather than continuing the same brand of 20th century water projects that failed us to begin with, we must act quickly and boldly with 21st century strategies to protect and restore the Delta to health.	The proposed project was developed to meet the standards of the federal and state Endangered Species Acts. Please refer to Master Response 3 for the Purpose and Need and Master Response 28 for a discussion of the proposed project's Operational Criteria.
1636	7	Earth Law Center is also concerned that the BDCP establishes flow regimes that, if implemented, will contravene the Clean Water Act [CWA]. The CWA seeks to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. [footnote 5: 33 U.S.C. [Section] 1251(a).] As described below, implementation of necessary BDCP activities will require CWA Section 401 certification, which calls on the state to certify that the proposal will meet certain CWA mandates. One such mandate is meeting water quality standards under CWA Section 303, which the BDCP will fail to do, in light of its continued negative impacts on beneficial uses due to inadequate flow proposals. A better approach is for the state to establish science-based flow criteria that will expeditiously restore the Delta ecosystem to health, implemented through instream water rights that provide legal protection for waterways' and species' flow needs. This would ensure that long-term Delta health is protected from competing short-term interests. Other western states, such as Oregon, have seen positive results after implementing instream flow programs, and California's waterways would likewise benefit. To create a conservation plan that restores the Delta ecosystem and protects the health of aquatic species, Earth Law Center urges the state to revise and recirculate the BDCP.	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 authority to issue water rights to others. Please refer also to Master Response 4 regarding alternatives and Master Response 32 regarding water rights.

DEIRS Ltr#	Cmt#	Comment	Response
1636	8	The BDCP'S preferred alternative creates a flow regime that fails to meet the BDCP's own mission and purpose. The Delta, once a thriving ecosystem, has been critically altered from its natural state. Reviewing the history of the Delta provides context to help understand the fundamental inability of the proposed BDCP alternatives to achieve the original BDCP purpose of conserving the Delta ecosystem and restoring Delta species. The Delta was once the West Coast's largest wetland system, [footnote 6: San Francisco Estuary Institute, "Sacramento-San Joaquin Delta Historical Ecology Investigation: Exploring Pattern and Process," p. xxi (August 2012), available at: www.sfei.org/sites/default/files/Delta_HistoricalEcologyStudy_SFEI_ASC_2012_medres.pdf.] with over 500,000 acres of perennial wetlands (including 365,000 acres of tidal wetlands and 145,000 of non-tidal wetlands) in the Delta's core, as well as seasonal wetlands, riparian forests, rising sand mounts, willow thickets, grasslands, ponds and lakes, oak woodlands, savannas and other diverse ecosystem features. [footnote 7: Id., pp. 81-82.] Landscapes throughout the Delta varied -- from the maze of channels in the central Delta's tidal freshwater wetland, to the expansive flood basin in the north Delta, complete with tule marsh, lakes, riparian forests and other features. [footnote 8: Id., p. xxiv.] The rich Delta ecosystem supported flourishing terrestrial and aquatic life, particularly the iconic salmon. Wrote Edwin Bryant about his journey to the Delta in the 1846-1847: "It abounds in fish, the most valuable of which is the salmon. These salmon are the largest and fattest I have ever seen." [footnote 9: QUEST Science, "California's Deadlocked Delta: Interactive Map," Slide 21, available at: science.kqed.org/quest/delta-map.] The Delta's former natural splendor, however, has been fundamentally transformed. The San Francisco Estuary Institute described the Delta's transformation from wild ecosystem to factory for human use as follows: "Rivers were leveed, wetlands drained, tidal sloughs dammed, riparian forests cut, and flows altered," creating a landscape that is "broadly recognized" to be "failing as an ecosystem." [footnote 10: San Francisco Estuary Institute, "Sacramento-San Joaquin Delta Historical Ecology Investigation: Exploring Pattern and Process," p. 1 (August 2012), available at: www.sfei.org/sites/default/files/Delta_HistoricalEcologyStudy_SFEI_ASC_2012_medres.pdf.] What is left of the Delta is "highly disturbed, fragmented, or disconnected from other habitat types." [footnote 11: Id., p. 92.] Local wetlands have "virtually disappeared," with only about three percent of historic freshwater emergent wetlands remaining. [footnote 12: Id., p. 96.] The Delta has been degraded from all sides: from above, by altering or destroying most of the surface habitat; from the periphery, by exporting vast quantities of water out of the Delta, which dries up waterways that fish species and estuarine systems rely on to survive; and from below, with the drainage of the Delta causing peat soil to decompose more quickly under aerobic conditions -- resulting in land subsidence that could trigger the catastrophic failure of Delta levees. [footnote 13: U.S. Geological Survey, "Delta Subsidence in California: The Sinking Heart of the State," (Apr. 2000), www.science.calwater.ca.gov/pdf/fs00500.pdf.]	As noted in response to comment 1, above, Master Response 5 provides additional information in response to comments on the BDCP.
1636	9	Salmonid populations have been especially hard-hit, with Central Valley salmon and steelhead runs having decreased by at least 90 percent since State Water Project operations began. [footnote 14: CA Advisory Committee on Salmon and Steelhead, "Subject: Recommendation to Deny Incidental Take Permit and Natural Communities Conservation Plan for Bay Delta Conservation Plan" (Feb. 26, 2014), available at:	Please see response to comment 1, above. As noted in response to comment 1, above, Master Response 5 provides additional information in response to comments on the BDCP. Also, see Master Response 17, Biological Resources.

DEIRS Ltr#	Cmt#	Comment	Response
		http://mavensnotebook.com/wp-content/uploads/2014/02/CACSST-to-Bonham-CDFW-on-BDCP-NCCP_022614.pdf.] Flow alterations have also harmed a long list of additional Delta species: delta smelt, longfin smelt, Sacramento hitch, white sturgeon, Sacramento splittail and others. [footnote 15: PPIC, "Aquatic Ecosystem Stressors in the Sacramento--San Joaquin Delta," p. 13 (2013), available at: http://www.ppic.org/content/pubs/report/R_612JMR.pdf.] Poor flow and habitat quality have caused the Sacramento River winter-run and Central Valley spring-run Chinook salmon to be listed as endangered on the State and Federal Endangered Species Acts, the Central Valley Steelhead and Southern Distinct Population Segments of North American Green Sturgeon to be listed as threatened on both lists, and the delta smelt to be listed as state-endangered and federally threatened. [footnote 16: Id.] Further, flow alteration supports the expansion of invasive species in the Delta, such as red ear sunfish, largemouth bass, golden shiner and bluegill, to the detriment of native species. [footnote 17: Id.] Fundamental change, especially restoring Delta flow, is necessary to overcome these escalating challenges.	
1636	10	The BDCP fails to meet fundamental Habitat Conservation Plan and Natural Community Conservation Plan mandates to protect Delta fish and habitats by failing to establish meaningful increases in Delta flow. Despite its mandate, the BDCP unfortunately fails to take the necessary steps to ensure needed fundamental change occurs to protect and restore Delta species and their habitat to health. The BDCP serves as both a HCP and a NCCP. An HCP is a required element of an incidental take permit application under the Endangered Species Act (ESA). [footnote 18: 16 U.S.C. [Section] 1539(a).] HCPs "provide for partnerships with non-Federal parties to conserve the ecosystems upon which listed species depend, ultimately contributing to their recovery." [footnote 19: U.S. Fish & Wildlife Service, "Habitat Conservation Plans: Overview," available at: https://www.fws.gov/endangered/what-we-do/hcp-overview.html.] HCPs support the stated purpose of the ESA to "provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved," [footnote 20: 16 U.S.C. [Section] 1531(b).] where the term "conserved" refers to "all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." [footnote 21: Id., [Section] 1532(2).] In issuing incidental take permits, Congress directed the Secretary of the Interior to specifically consider "the extent to which the conservation plan is likely to enhance the habitat of the listed species or increase the long-term survivability of the species or its ecosystem." [footnote 22: U.S. Fish & Wildlife Service, "Issuance Criteria for Incidental Take Permits," p. 7-4 (Nov. 1996), available at: www.fws.gov/endangered/esa-library/pdf/hcpbk7.pdf, citing H.R. Report 97-835, 97th Congress, Second Session.] An incidental take permit cannot be issued if the permit "threatens the continued existence of a wildlife or plant population." [footnote 23: Id. at p. 7-1.] The BDCP describes an NCCP as a "comprehensive, broad-scale conservation [plan] that [focuses] on the needs of natural communities and the range of species that inhabit them." [footnote 24: CA Fish and Game Code [Sections] 2800 et seq.] The Natural Community Conservation Planning Act (NCCPA) states that the purpose of an NCCP is to "sustain and restore those species and their habitat identified by the department that are necessary to maintain the continued viability of those biological communities impacted by human changes to the landscape." [footnote 25: CA Fish and Game Code [Section]	As noted in response to comment 1, above, Master Response 5 provides additional information in response to comments on the BDCP. Also, see Master Response 17, Biological Resources. 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, EIR/EIS, describe effects of the proposed project and several alternatives 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. Where the alternative does not include preparation of an HCP, ESA compliance for construction and operation of water intakes in the north Delta and associated conveyance facilities would be achieved solely through Section 7. For these alternatives, USFWS and NMFS would not issue a permit and would not act as a lead agency for NEPA compliance. Where Section 7 is the ESA compliance strategy, USFWS and NMFS will assume roles as cooperating agencies for purposes of the NEPA review. Reclamation would be the lead federal action agency for Section 7 compliance where a non-HCP alternative is selected. Reclamation's Section 7 compliance would be expected to also address the Section 7 compliance needs for the USACE permit actions. In cooperation with DWR, Reclamation would prepare a biological assessment (BA) for submission to USFWS and NMFS requesting formal consultation under ESA Section 7. A biological opinion is not required prior to the release of the Draft BDCP/CWF EIR/EIS. For the Proposed Action, the USFWS and NMFS will conduct an internal ESA section 7 consultation prior to issuance of an Section 10(a)(1)(B) permit for the Proposed Action. These federal agencies will coordinate the ESA consultation process and other environmental review processes, such as 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. For more information please see 1.1.5.2 of Section 1 Introduction of the RDEIR/SDEIS.

DEIRS Ltr#	Cmt#	Comment	Response
		2801(i) (emphasis added).] More broadly, the NCCPA finds it to be the policy of the state to "conserve, protect, restore, and enhance natural communities." [footnote 26: Id., [Section] 2802.] As described by the California Department of Fish and Game, joint HCP/NCCPs are to "provide protection and long-term conservation and management for common as well as threatened, endangered, and at-risk species in terrestrial, aquatic, and marine habitats; for fine-scale and rare habitat features, as well as broader-scale natural communities; and for ecological processes that sustain the function of ecosystems." [footnote 27: CA Dep't of Fish and Game, "Regional Conservation Plans Protect Species and Ecosystems in California" (June 2010), available at: deltacouncil.ca.gov/sites/default/files/documents/files/Item_9_Attach_1_DFG_Summary_Paper.pdf.] The BDCP's joint HCP/NCCP should "conserve ecosystems in a sustainable manner and contribute to the recovery of threatened and endangered species." [footnote 28: Public Draft Plan Executive Summary, p. 1, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Executive_Summary.] With fish species and the Delta ecosystem in decline, the BDCP must fulfill the purposes of the NCCPA and ESA by describing and creating a clear path toward species recovery and Delta ecosystem health. As discussed below, this requires substantial increases in Delta flow to waterways. Along with diminished habitat, scientists consider inadequate flow in rivers and other waterways to be the biggest stressor on the Delta ecosystem. [footnote 29: PPIC, "Scientist and Stakeholder Views on the Delta Ecosystem," p. 2 (2013), available at: http://www.ppic.org/content/pubs/report/R_413EHR.pdf.] Very simply, fish need water to survive. Inadequate flow also affects fish habitat by altering "turbidity, temperature, dissolved oxygen, [and] nutrient loading" and can exacerbate the effects of pollutants, such by affecting their concentration, duration of exposure, contaminant chemistry and biological availability. [footnote 30: U.S. EPA, "Water Quality Challenges in the San Francisco Bay/ Sacramento-San Joaquin Delta Estuary: EPA's Action Plan," p. 7 (August 2012), available at: www2.epa.gov/sites/production/files/documents/actionplan.pdf.]	
1636	11	The BDCP fails to adequately protect and enhance Delta flow. Current flows in the Delta are vastly inadequate to support fish and fish habitat, as found by a wide variety of government agencies, scientists and stakeholders. For example, according to the State Water Resources Control Board, "[t]he best available science suggests that current flows are insufficient to protect public trust resources," and "[r]ecent Delta flows are insufficient to support native Delta fishes for today's habitats." [footnote 31: SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," pp. 2, 5 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf. See also U.S. EPA, "EPA's comments on the Bay-Delta Water Quality Control Plan; Phase 1; SED (March 28, 2013), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/baydelta_pdsed/docs/comments032913/tim_vendlinski.pdf.] The U.S. Bureau of Reclamation (Reclamation) and U.S. Fish and Wildlife Service (USFWS) wrote that "San Joaquin Basin salmonid populations continue to decline and [the Interior] believes that flow increases are needed to improve salmonid survival and habitat." [footnote 32: U.S. Dep't of Interior, Comments on the Revised Notice of Preparation and Notice of Additional Scoping	Please see response to comment 1 above,, also see Master Response 5 provides additional information in response to comments on the BDCP and Master Response 17, Biological Resources.

DEIRS Ltr#	Cmt#	Comment	Response
		Meeting for the State Water Resources Control Board Review of the Southern Delta Salinity and San Joaquin River Flow Objectives in the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (May 13, 2011), p. 1, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts052311/amy_aufdemberge.pdf.] The California Department of Fish and Wildlife (DFW) similarly concluded that "[f]ish population declines coupled with these hydrologic and physical changes suggest that current Delta water flows for environmental resources are not adequate to maintain, recover, or restore the functions and processes that support native Delta fish." [footnote 33: DFW (formerly the CA Dep't of Fish and Game), "Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta," (Nov. 03, 2010), available at: http://deltacouncil.ca.gov/docs/2010-11-23/final-quantifiable-biological-objectives-and-flow-criteria- aquatic-and-terrestrial-s.] The message from these and other experts is clear: the Delta ecosystem will continue to fail unless we provide more flow. However, even though agency consensus is that flow is crucial to recovering fish species in the Delta, the BDCP preferred alternative is primarily concerned with securing and, in many cases, increasing Delta exports, to the detriment of ecosystems and species. Although the BDCP does call for measures to restore habitat, these efforts will be insufficient to protect Delta fish species without corresponding increases in flow. It is particularly telling that the BDCP's "Conservation Measure 1" consists of three, 3,000 cfs intakes plus associated pipeline and tunnel systems, which not only fail to protect flow, but also will actually increase exports under many scenarios, to the further detriment of the Delta ecosystem.	
1636	12	During wet and above normal years, the BDCP preferred alternative would result in an annual increase in average exports [footnote 34: See Public Draft Plan, Figure 5.B.4-4] available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_5B_-_Entrainment.sflb.ashx]. For example, average export projections under the BDCP for April and May in wet and above normal years show that the State Water Project [SWP] and the Central Valley Project [CVP] could export between 300,000 and 350,000 acre-feet more water compared to the status quo (depending on the scenario [footnote 35: See id. at Figure 5.B.4-1]), with approximately 75 to 80 percent of the increased exports resulting from the use of the north Delta intakes. Based on average export levels during wet and above normal years, the BDCP could seemingly result in record-setting export amounts [footnote 36: Figure 5.B.4-4 shows an average wet year export level of about 6.8 million acre-feet [maf], whereas the current record for the CVP and SWP is a combined 6.67 million acre-feet in 2011, a wet year: Id. At Figure 5.B.4-4]. In drier years, average exports under the BDCP appear to decrease in some individual months and increase in others [footnote 37: Id. At Figure 5.B.4-1], though they would fail to achieve the overall increases in flows necessary to ensure the well-being of the Delta and its native species. Moreover, without significant changes in California's water management trends, proposed reductions in exports during drought years may not even have the desired effect since, just as the Environmental Water Caucus [EWC] points out in their June 2014 comment letter, the State Water Resources Control Board [SWRCB] often grants requested petitions to have Delta water quality objectives waived during such times [footnote 38: See e.g. Environmental Water Caucus, "Comment Letter: Bay	As noted in response to comment 1, above, Master Response 5 provides additional information in response to comments on the BDCP. Model results show that long-term average Delta outflow under Alternative 4 (scenarios H1 - H4 at LLT) would be similar to that under Existing Conditions and No Action Alternative, with a minor increase in flows during the winter months and a minor reduction in flows during the spring months relative to Existing Conditions due to the shift in system inflows caused by climate change, as well as increased water demand expected in the LLT. In wet water year types, this trend is more evident, while in other water year types, Delta outflow under Existing Conditions and the No Action Alternative is generally within the range of Alternative 4 H1 - H4 scenarios. For more information and specific modeling results for all Alternatives, please refer to Chapter 5, Water Supply, and Appendix 5A, BDCP/California WaterFix EIR/S Modeling Technical Appendix.

DEIRS Ltr#	Cmt#	Comment	Response
		Delta Conservation Plan and EIR/EIS," p. 45 (June 11, 2014)].	
1636	13	While the BDCP also incorporates "bypass flows" that ostensibly establish the minimum amount of water that must flow downstream of the planned north Delta intakes, the north Delta diversion bypass flows fall well short of what would be necessary to protect aquatic habitat and other sensitive beneficial uses. The BDCP's analysis of flow below the north Delta intakes in 2060 shows that the BDCP will reduce flow in every month of the year compared to existing biological conditions (EBC2) -- on the low end, a reduction of 1,242 cfs in October, and on the high end, a reduction of 6,359 cfs in March (when comparing the average of different water-year types with the BDCP to the EBC2 scenario). [footnote 39: Public Draft Plan, Table 5.5.3-9, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_5_-_Effects_Analysis.sflb.ashx.] The average reduction in flow is about 4,000 cfs, compared to existing biological conditions (when comparing the average of different water-year types to the EBC2 scenario). [footnote 40: Id.] Chinook salmon, Central Valley steelhead, sturgeon and lamprey all migrate and spawn in this area, with delta smelt and longfin smelt likely spawning in the lower Sacramento River, as well. [footnote 41: Id. at [Section] 3.4.1.3.5, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_3_-_Part_2_-_Conservation_Strategy.sflb.ashx.] The north Delta intakes will significantly disrupt the lower Sacramento River's flow regime, such as through flow network changes to Elk, Steamboat, Sutter and Georgiana sloughs and the Delta Cross Channel [footnote 42: Id. at Table 5.3.1-5.3.1.13.] -- crucial areas for Salmonid smolt and juvenile survival. Furthermore, the State Water Resource Control Board August 2010 flow criteria report found that from November to June, adequate flows (13,000 to 17,000 cfs at Freeport) are needed to increase juvenile salmon survival by preventing bidirectional flow in the mainstem Sacramento River near Georgiana Slough. [footnote 43: SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," at 2, 54 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.] Yet north Delta diversion bypass flows (measured below Freeport but above Georgiana Slough) are only 7,000 cfs in November, while significant diversions are still allowed under many scenarios in December through June ("constant low level pumping" is allowed if flow is over 5,000 cfs, and significantly more exports are allowed when there are certain amounts of additional flow), indicating that north Delta diversion bypass flows fall short of what is necessary to protect salmon. [footnote 44: See Public Draft Plan, Table 3.4.1.2 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_3_-_Part_2_-_Conservation_Strategy.sflb.ashx.] While the BDCP alleges that north Delta intakes will be operated so as not to increase reverse flows at Georgiana Slough, the U.S. National Marine Fisheries Service wrote that the claim of reducing flows below the north Delta intakes without increasing the magnitude or duration of reverse flows at the Georgiana Slough junction is "counter-intuitive" and recommended independent peer review. [footnote 45: U.S. National Marine Fisheries Service, NMFS Progress Assessment and Remaining Issues Regarding the Administrative Draft BDCP Document, p. 4 (Apr. 4, 2013), available at: http://nodeltagates.files.wordpress.com/2013/04/nmfs_progress_assessment_regarding	Please see response to comment 1, above Master Response 5 provides additional information in response to comments on the BDCP and Master Response 17, Biological Resources.

DEIRS Ltr#	Cmt#	Comment	Response
		_the_bdcp_administrative_draft_4-11-13-sflb.pdf.]	
1636	14	The BDCP preferred alternative also results in an overall decrease in average Delta outflow. [footnote 46: See Public Draft Plan, App. 5C, Attachment 5.C.A, Table C.A-41 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_5C_-_Part_5_-_Flow_Passage_Salinity_and_Turbidity.sflb.ashx.] A comparison of the BDCP in the year 2060 (under the ESO_LLT scenario) to projected future conditions without the BDCP (based on the BiOps and predicted climate change impacts, also in 2060) shows that, on average, the BDCP results in an average reduction in outflow (15,767 cfs monthly outflow under the BDCP compared to 16,282 cfs without it). [footnote 47: Id.] In individual months, the BDCP, on average, would reduce outflow in November-May and July-August, and increase outflow in October, June, and September. [footnote 48: Id.] Comparing the same scenarios in the year 2025 (when the intake facility is complete but restoration activities are not), the BDCP once again would reduce outflow on average (15,590 cfs monthly outflow under the BDCP versus 16,157 cfs without it), with monthly outflow reductions again occurring in November-May and July-August. [footnote 49: Id.] Even when the BDCP's decision tree adaptive management process results in "increased" outflow through its high-outflow operations (HOS), average annual outflow will still be less than under existing, inadequate biological conditions (i.e., without the BDCP) in both 2025 and 2060, respectively. [footnote 50: Id. at Table C.A- 43.]	Model results show that long-term average Delta outflow under Alternative 4 (scenarios H1 - H4 at LLT) would be similar to that under Existing Conditions and No Action Alternative, with a minor increase in flows during the winter months and a minor reduction in flows during the spring months relative to Existing Conditions due to the shift in system inflows caused by climate change, as well as increased water demand expected in the LLT. In wet water year types, this trend is more evident, while in other water year types, Delta outflow under Existing Conditions and the No Action Alternative is generally within the range of Alternative 4 H1 - H4 scenarios. For more information and specific modeling results for all Alternatives, please refer to Chapter 5, Water Supply, and Appendix 5A, BDCP/California WaterFix EIR/S Modeling Technical Appendix.
1636	15	The BDCP will negatively impact Delta fish species, including threatened and endangered species. This ironic ending to what was supposed to be a HCP/NCCP narrative brings the BDCP's characterization as a "conservation" plan into serious doubt. Indeed, the opposite effect is being proposed; for example, the BDCP is projected to result in average survival rate reductions in 2060 (compared to a no-BDCP alternative) of 2.9 percent for winter-run Chinook salmon smolt, four percent for spring-run Chinook salmon smolt, 2.2 percent for San Joaquin River fall-run Chinook salmon smolt, and 1.2 percent for Sacramento River fall- run Chinook salmon smolt. [footnote 51: Id. at [Sections] 5.5.3-5.5.6, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_5_-_Effects_Analysis.sflb.ashx.] The potential increases of late fall-run Chinook of .4 percent and Mokelumne River fall-run Chinook of 2.5 percent [footnote 52: Id.] do not justify the overall reduction in salmon smolt survival rates. The BDCP's decrease in salmon smolt survival rates will compound the ongoing long-term decline of winter-run and spring-run Chinook salmon populations in the Sacramento River Basin: adult winter-run Chinook production decreased from an average of 54,439 over the period of 1967-1991 to 6,320 over the period of 1992-2011, and adult spring-run Chinook production decreased from an average of 34,374 over the period of 1967-1991 to 13,654 over the period of 1992-2011. [footnote 53: U.S. Fish and Wildlife Service, "Doubling Goal Graphs," available at: http://www.fws.gov/stockton/afrp/Documents/Doubling_goal_graphs_020113.pdf.] The BDCP's negative impact on winter-run and spring-run Chinook alone demonstrates that the BDCP cannot meet the Endangered Species Act, which requires ecological assurances that the HCP will "enhance the habitat of the listed species or increase the long-term survivability of the species or its ecosystem," and which conversely forbids the issuance of an incidental take permit if the permit "threatens the continued existence of a wildlife or plant population." Similarly, the Department of Fish and Wildlife cannot find	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, EIR/EIS, describe effects of the proposed project and several alternatives 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. Where the alternative does not include preparation of an HCP, ESA compliance for construction and operation of water intakes in the north Delta and associated conveyance facilities would be achieved solely through Section 7. For these alternatives, USFWS and NMFS would not issue a permit and would not act as a lead agency for NEPA compliance. Where Section 7 is the ESA compliance strategy, USFWS and NMFS will assume roles as cooperating agencies for purposes of the NEPA review. Reclamation would be the lead federal action agency for Section 7 compliance where a non-HCP alternative is selected. Reclamation's Section 7 compliance would be expected to also address the Section 7 compliance needs for the USACE permit actions. In cooperation with DWR, Reclamation would prepare a biological assessment (BA) for submission to USFWS and NMFS requesting formal consultation under ESA Section 7. A biological opinion is not required prior to the release of the Draft BDCP/CWF EIR/EIS. For the Proposed Action, the USFWS and NMFS will conduct an internal ESA section 7 consultation prior to issuance of an Section 10(a)(1)(B) permit for the Proposed Action. These federal agencies will coordinate the ESA consultation process and other environmental review processes, such as 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. For more information please see 1.1.5.2 of Section 1 Introduction of the RDEIR/SDEIS.

DEIRS Ltr#	Cmt#	Comment	Response
		that the BDCP will lead to the recovery of winter-run and spring-run Chinook, since the BDCP in fact jeopardizes their existence, as described above. [footnote 54: California Advisory Committee on Salmon and Steelhead Trout, "Subject: Recommendation to Deny Incidental Take Permit and Natural Communities Conservation Plan for Bay Delta Conservation Plan," p. 2 (Feb. 26, 2014), available at: http://restorethedelta.org/wp-content/uploads/2014/05/CACSST-to-Bonham-CDFW-on-BDCP-NCCP_022614.pdf.] In concurring with this conclusion in their February 2014 BDCP comment letter, the California Advisory Committee on Salmon and Steelhead Trout highlighted the BDCP's decrease of already inadequate outflow and failure to otherwise ensure adequate flow as "[contributing] to the decreases to salmon smolt survival rates modeled by the BDCP." [footnote 55: Id.] The Committee further critiqued the BDCP as "[promoting] the unproven scientific hypothesis that habitat restoration can substitute for flow." [footnote 56: Id.]	
1636	16	The BDCP does not adequately ensure funding sources as required by the Natural Community Conservation Policy Act. While the BDCP does propose some potentially useful conservation and restoration measures, the state has yet to identify specific sources of adequate funding to actually implement such measures. Roughly 68 percent of overall BDCP funding is projected to come from state and federal water contractors -- with almost 95 percent of that amount (over $16B) supporting the conveyance facilities -- and about 31 percent projected to come from state and federal sources (one percent is expected to come from interest earnings). [footnote 57: Nat'l Marine Fisheries Services, Dep't of Water Resources, "Public Meeting on BDCP Examines Project's Cost, Funding and Impact on Species" (July 17, 2013), available at: http://www.acwa.com/news/delta/public-meeting-bdcp-examines-project%E2%80%99s-cost-funding-and-impact-species.] Conservation and restoration funding is expected to come from a mix of state (over $4 billion) and federal (over $3.5 billion) sources, with small amounts also coming from water contractors (under $1 billion) and interest income (about $165 million). [footnote 58: Legislative Analyst's Office, "Financing the Bay Delta Conservation Plan" (Feb. 12, 2014), available at: www.lao.ca.gov/handouts/resources/2014/Financing-the-BDCP-02-12-14.pdf.] Almost all of the federal funding, which is planned to support ecosystem restoration and not the conveyance facilities, would purportedly come from yet-to-be-approved Congressional appropriations. [footnote 59: Id.] The state funding for ecosystem restoration is proposed to come primarily from two future, yet-to-be-drafted state bond measures -- with the significant caveat that "it is unclear if and when voters will approve them." [footnote 60: Id.] Disturbingly, the water conveyance facilities could in fact proceed before full funding for conservation is obtained. [footnote 61: Bay Delta Conservation Plan Homepage, "What Happens If Voters Do Not Approve Bond Measures? Could Conveyance Construction Begin Before Restoration Funding is Secured?," available at: http://baydeltaconservationplan.com/AboutBDCP/YourQuestionsAnswered.aspx (last visited July 28, 2014).] Although conservation is supposed to stay in "rough proportionality" to the BDCP's impacts, [footnote 62: Id.] the lack of even reasonably guaranteed conservation funding raises serious questions about the ability of the state to achieve the necessary conservation goals. The funding scheme for environmental conservation and restoration thus does not appear meet the requirements of the NCCPA, which states that "[t]he department shall approve [an NCCP] for implementation" only if the plan includes "provisions that ensure adequate funding to carry out the conservation actions identified in the plan." [footnote 63: CA Fish and Game Code [Section] 2820(a)(10)	Please see response to comment 1, above and Master Response 5.

DEIRS Ltr#	Cmt#	Comment	Response
		(emphasis added).] Ensuring funding for all needed BDCP conservation measures should be the first step in considering its approval as an NCCP, rather than an afterthought.	
1636	17	Compliance with NEPA, CEQA and the Delta Reform Act is also called into question under the current Draft BDCP. The BDCP EIR/EIS must meet the requirements of CEQA, State CEQA Guidelines, NEPA, and NEPA-implementing regulations. [footnote 64: Public Draft EIR-EIS Executive Summary, p. ES-1 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Executive_Summary.sflb.ashx. Regulations implementing NEPA come from the President's Council on Environmental Quality (CEQ), Department of Interior (43 CFR Part 46), and the NMFS (NOAA Administrative Order 216-6).] Broadly, CEQA and NEPA require the BDCP EIR/EIS to identify potentially significant adverse impacts and evaluate a reasonable range of alternatives and mitigation measures. Meanwhile, BDCP EIR/EIS also serves to meet certain Delta Reform Act requirements. [footnote 65: See Public Draft EIR-EIS, App. 3I (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.] This section addresses compliance with these state and federal mandates and finds that that the BDCP EIR/EIS fails to meet these mandates. The BDCP EIR/EIS fails to meet CEQA requirements. Under CEQA, an EIR must consider a reasonable range of alternatives, including those that "would avoid or substantially lessen any significant effects of the project." [footnote 66: Cal. Pub. Res. Code [Section] 21002; 14 C.C.R. [Sections] 15002(a)(3), 15021(a)(2), 15126(d).] Such alternatives must be considered "even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly" [footnote 67: 14 C.C.R. [Section] 15126.6(b).] (for example, notable reductions in Delta exports and negative economic impacts are not necessarily justifiable reasons for excluding otherwise valid alternatives). Where feasible alternatives or mitigation measures that substantially lessen environmental effects exist, CEQA expresses its intent that "public agencies should not approve projects as proposed." [footnote 68: California Public Resource Code [Section] 21002.] While not every possible alternative need be considered, an EIR must "consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." [footnote 69: 14 C.C.R. [Section] 15126.6(a).] The BDCP asserts that it achieves this mandate, at least in part, by evaluating fifteen alternatives in the BDCP EIR/EIS, and addressing impacts to covered species, natural communities and water supplies in these alternatives analyses. [footnote 70: Public Draft Plan, [Section] 3I.3 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.] The alternatives include, among others, a No Action alternative, one- and two-tunnel alternatives, and a "through- Delta" alternative that would modify Delta channels and intake locations. [footnote 71: Id. at Table 9-3, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Chapter_9_-_Alternatives_to_Take_5-29-13.sflb.ashx.] The BDCP EIR/EIS analyzes flow under each of the listed alternatives.	Please see Master Response 4 for more information regarding alternatives to the proposed project. The alternatives included in the EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. 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, FEIR/EIS. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS. 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. The project proposes 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 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. Also, see Master Response 31, which discusses the BDCP and the Delta Reform Act.

DEIRS Ltr#	Cmt#	Comment	Response
		However, the BDCP EIR/EIS fails to identify a reasonable range of alternatives that avoid or substantially lessen significant effects, as required by CEQA. Almost all of the alternatives, on average, actually increase exports, at the expense of adequate instream flow. At best, only one alternative (Alternative 8) would achieve some potential improvements. But even the flow levels in Alternative 8 (the dual conveyance design with Scenario F operational modeling criteria, including a monthly Delta outflow/unimpaired flow percentage of 55% from January through June [footnote 72: Public Draft EIR/EIS, [Section] 3I.4, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.]) fall well short of the flows identified in the August 2010 State Water Resources Control Board science-based flow criteria report, which recommends the following to protect Delta fish: 75% unimpaired Delta outflow from January through June, 75% unimpaired Sacramento River inflow from November through June, and 60% unimpaired San Joaquin River inflow from February through June. [footnote 73: SWRCB, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," at 2, 5 (Aug. 3, 2010), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.] Furthermore, Alternative 8 still involves construction of a north Delta intake and tunnel system, which itself negatively impacts fish species. To meet the burden of CEQA, the BDCP EIR/EIS must evaluate alternatives that notably reduce exports and increase in-Delta flows to clearly enhance protection and conservation of habitat and species, including alternatives without North Delta intake facilities and tunnels. These should include alternatives that reduce exports to meet and exceed in-waterway minimum flow needs, such as the enhancements identified in the State Water Resources Control Board's August 2010 flow criteria report. Such additional alternatives could also incorporate methods to decrease reliance on Delta exports, which have been offered in detail by stakeholders, such as in Environmental Water Caucus's May 2013 "Responsible Exports Plan." [footnote 74: Environmental Water Caucus, "Responsible Exports Plan" (May 2013), available at: http://www.aqualliance.net/wp-content/uploads/2013/08/RESPONSIBLE-EXPORTS-PLAN-MAY-2013-update.pdf.] EWC and partner organizations also transmitted an earlier version of the Responsible Exports Plan (the "Reduced Exports Plan" [footnote 75: Environmental Water Caucus, "Reduced Exports Plan," (May 2012), available at: http://www.ewccalifornia.org/reports/REDUCEDEXPORTSPLAN.pdf.]) to the California Resources Agency Deputy Secretary in December 2012. The Responsible Exports Plan contains constructive actions to achieve water supply reliability and Delta ecosystem restoration, including significantly reduced exports, adherence to the SWRCB's August 2010 flow criteria report, water conservation methods to ensure that exports are adequate to meet demand, enhancements to existing levees, installation of improved fish screens at existing Delta pumps, and other improvements to California's water management system. [footnote 76: Environmental Water Caucus, "Responsible Exports Plan" (May 2013), available at: http://www.aqualliance.net/wp-content/uploads/2013/08/RESPONSIBLE-EXPORTS-PLAN-MAY-2013-update.pdf.]	
1636	18	The BDCP EIR/EIS fails to meet NEPA requirements. An EIS under NEPA is required for "major Federal actions significantly affecting the quality	Please see Master Response 4 for more information regarding alternatives to the proposed project. The alternatives included in the EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals that

DEIRS Ltr#	Cmt#	Comment	Response
		of the human environment." [footnote 77: 42 U.S.C. [Section] 4332(2)(C).] Similar to CEQA, an EIS under NEPA must "inform decisionmakers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment." [footnote 78: 40 C.F.R. [Section] 1502.1.] The requirement to list alternatives to the proposed actions is "the heart of the environmental impact statement." [footnote 79: Id. at [Section] 1502.14.] Specifically, agencies have a duty under NEPA to "rigorously explore and objectively evaluate all reasonable alternatives." [footnote 80: Id. at [Section] 1502.14(a).] The BDCP EIR/EIS falls short of NEPA by failing to identify reasonable alternatives that would minimize adverse impacts of the BDCP. Similar to CEQA, in order to meet this requirement, the BDCP EIR/EIS must include alternatives that reduce exports and increase in-Delta flows, including alternatives without North Delta intake facilities and tunnels. As noted above, at least one suitable alternative should reflect instream flow levels such as those in the State Water Resources Control Board (SWRCB) August 2010 flow criteria report; however, the Lead Agencies eliminated consideration of an alternative based on these criteria. In explaining the failure of the BDCP EIR/EIS to include this type of alternative, agencies raised issues such as the alternative's impacts on pre-1914 water rights holders in the Sacramento River basin, which would raise the potential to require changes in the legal Sacramento River water rights or water entitlements of third parties other than BDCP permit applicants that are beyond the scope of the regulatory authority of the agencies charged with considering approval of the proposed BDCP (including California Department of Fish and Wildlife (CDFW), which approves the Natural Community Conservation Plan (NCCP), and U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), which approve the HCP). [footnote 81: Public Draft EIR/EIS [Section] 3I.4 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx.] However, these concerns do not raise a bar to consideration of this type of alternative. Despite the agency assertions raised in the BDCP, alternatives must be examined that include "all appropriate methods of accomplishing the aim of the action, including those without the area of the agency's expertise and regulatory control as well as those within it." [footnote 82: Environmental Defense Fund v. Corps of Engineers of United States Army, 492 F.2d 1123, 1135 (5th Cir. 1974) (emphasis added); 40 C.F.R. [Section] 1502.14(c).] Even where an alternative requires "legislative action" to be feasible, this "does not automatically justify excluding it from an EIS." [footnote 83: See City of Sausalito v. O'Neill, 386 F.3d 1186, 1208 (9th Cir. 2004) (citing Methow Valley Citizens Council v. Regional Forester, 833 F.2d 810, 815 (9th Cir. 1987); overruled on other grounds by Robertson v. Methow Valley Citizens Council, 490 U.S. 332 (1989)).] Therefore, the Lead Agencies were unwarranted in eliminating an alternative that potentially included sufficient flows to allow the BDCP to meet the letter and intent of its mandate to protect habitats and species, including recovery of threatened and endangered species. All water rights holders, including pre-1914 water right holders, are subject to the public trust doctrine, waste and unreasonable use doctrine, and other legal mandates that must be observed to prevent the type of damage being inflicted on Delta ecosystems and species by ongoing water use practices. [footnote 84: See e.g. Light v. State Water Resources Control Board, Cal. App. 1st, Case A138440 (June 6, 2014).] The EIR/EIS	were considered but ultimately rejected by the Lead Agencies are discussed in Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1, Draft EIR/EIS. As described in Appendix 3A, Identification of Water Conveyance Alternatives, EIR/EIS, comments and suggestions received from the State Water Board were influential in defining the range and content of alternatives considered in the EIR/EIS, including the State Water Board's Delta Flow Criteria Report, prepared pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009. 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 FEIR/FEIS for additional modeling details. Please see Master Response 26 regarding water resources and water rights in northern California. For more information regarding public trust please see Master Response 13.

DEIRS Ltr#	Cmt#	Comment	Response
		accordingly should not tie its own hands by failing to develop alternatives that could meet HCP/NCCP and other mandates and restore the health of the Delta. In order to meet NEPA requirements, the Lead Agencies should revise the BDCP to include a range of alternatives that significantly reduce Delta exports and increase outflow and then recirculate the BDCP EIR/EIS for public review. [footnote 85: NEPA requires that where "a draft statement is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft" that contains the information necessary for adequate public debate. 40 C.F.R. [Section] 1502.9(a).]	
1636	19	The failure of alternatives under the BDCP to adequately protect flow results in a failure to meet the requirements of the Delta Reform Act. The Delta Reform Act of 2009 created the Delta Stewardship Council (Council), required the Council to create a Delta Plan to cover actions in the Delta (which became effective on September 1, 2013), and established certain requirements for how the Council and the California Department of Fish and Wildlife would consider the BDCP for inclusion in the Delta Plan, among other provisions. [footnote 86: Calif. Water Code [Section] 85200 et seq.] According to the Delta Reform Act, the BDCP cannot be integrated into the Delta Plan and become eligible for state funding unless it satisfies the NCCPA and CEQA, including specifically a comprehensive review of: [a] reasonable range of flow criteria, rates of diversion, and other operational criteria required [for an NCCP], 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. [footnote 87: Calif. Water Code [Section] 85320(b)(2)(A).] The BDCP fails to meet this requirement of the Delta Reform Act. Specifically, the BDCP fails to identify the amount of flow necessary for recovering the Delta ecosystem and restoring fish populations, and only then identify the remaining amount of water for export and other beneficial uses. For example, if the amount of flow required to recover the Delta ecosystem and restore fisheries corresponds to at least the amount identified in the SWRCB's August 2010 flow criteria report, along with corresponding levels for other areas of the system, then the EIR/EIS must include an alternative that reserves such flows for instream purposes and then identifies remaining water for exports and other beneficial uses. (Of course, the EIR/EIS also could itself analyze the amount of flow that would recover the Delta and restore fish populations through new alternatives that provide additional in-Delta flows over and above what the State Water Resources Control Board recommended.) Only one alternative, Alternative 8, comes close to meeting this requirement by establishing that about 3.1 million acre-feet of water would be available for "export of other beneficial uses" after setting aside the amount of flow that would recover the Delta ecosystem and restore fisheries. [footnote 88: See Public Draft EIR/EIS, [Section] 3I.4, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_3I_-_BDCP_Compliance_with_the_2009_Delta_Reform_Act.sflb.ashx; see also Public Draft EIR/EIS, Table 5.4, available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Chapter_5_-_Water_Supply.sflb.ashx.] However, Alternative 8 does not quantitatively or qualitatively analyze whether this amount of flow will actually recover	The proposed project was developed to meet the standards of the federal and state Endangered Species Acts. By establishing a point of water diversion in the north Delta and new operating criteria to improve water operations designed to improve native fish migratory patterns and allow for greater operational flexibility. See also, Master Response 17, Biological Resources. As described in Appendix 3A, Identification of Water Conveyance Alternatives, EIR/EIS, comments and suggestions received from the State Water Board were influential in defining the range and content of alternatives considered in the EIR/EIS, including the State Water Board's Delta Flow Criteria Report, prepared pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009. Consideration of the specific determination contained in the Delta Flow Criteria Report, which identified 75% of unimpaired net Delta outflow for January through June, would not have been feasible to include as an alternative in the EIR/EIS. A letter from the Executive Director of the State Water Board to the deputy secretary of the Natural Resources Agency on April 19, 2011 recognized that the determination did not consider the competing needs for water or other public trust resource needs, such as the need to manage cold-water resources in tributaries to the Delta. Further, implementation of these flows would also likely affect water users beyond those receiving CVP and SWP deliveries south of the Delta. As described in Section 3A.3.5, alternatives requiring impairment of senior water rights held by entities not participating in the proposed project were eliminated from full consideration in the EIR/EIS, as such rights could not be infringed by CDFW, USFWS, or NMFS through those agencies' actions or through "ESA Section 7 consultation" with Reclamation. Furthermore, as described in Section 3A.10.6, consideration of outflows necessary to achieve biological goals and objectives for delta and longfin smelt have been explicitly incorporated into the proposed project through a decision tree process that allows for alternative outcomes for water operations based on the results of targeted research and studies. For information regarding the collaborative science and adaptive management program for non-HCP alternatives please see the Executive Summary of the FEIR/EIS. For more information regarding the proposed project's compliance with the Delta Reform Act please see Master Response 31.

DEIRS Ltr#	Cmt#	Comment	Response
		the Delta ecosystem and restore fisheries. Furthermore, this amount of flow falls short of the August 2010 flow criteria report and thus is inadequate, and Alternative 8 still includes construction of the twin tunnels, which itself impedes the goal of recovering the Delta ecosystem and restoring fisheries. Accordingly, the BDCP, if adopted as proposed, will fail to meet the requirements of the Delta Reform Act.	
1636	20	THE BDCP WILL RESULT IN ACTIONS THAT WILL VIOLATE THE CLEAN WATER ACT Implementation of the BDCP will require CWA Section 401 certification. Development and implementation of the BDCP must be held accountable to the CWA. Therefore, sound planning dictates that consideration of the CWA's requirements should be made now, to prevent violations arising from the projected implementation phase of the BDCP. One Clean Water Act requirement that will arise during BDCP implementation is CWA Section 401 certification, which is necessary for any "[f]ederal license or permit to conduct any activity ... [that] may result in any discharge into navigable waters." [footnote 89: 33 U.S.C. [Section] 1341(a)(1).] A key federal license or permit that will trigger the 401 certification process is a CWA Section 404 permit. This will be needed from the Army Corps of Engineers because implementation of the BDCP will result in discharges of dredged or fill material into waters of the United States. [footnote 90: "Many of the actions that will be implemented under the BDCP will result in the discharge of dredged or fill materials into waters of the United States and will need to be authorized by USACE." Public Draft Plan [Section] 1.3.7.1 (Nov. 2013), available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Chapter_1_-_Introduction.sflb.ashx.] Section 401 requires that the SWRCB certify that the Corps' Section 404 permit meets CWA requirements before the permit may be legally issued. [footnote 91: "No license or permit shall be granted until the certification required by this section has been obtained or has been waived as provided in the preceding sentence. No license or permit shall be granted if certification has been denied by the State, interstate agency, or the Administrator, as the case may be." 33 U.S.C. [Section] 1341(a)(1).] State and federal agencies have already recognized the importance of this requirement, meeting several times to discuss it in the context of the preparation of the BDCP EIR/EIS. [footnote 92: U.S. EPA, "EPA's Comments on BDCP ADEIS," p. 6 (July 03, 2013), available at: www2.epa.gov/sites/production/files/documents/july3-2013-epa-comments-bdcp-adeis.pdf.] As reflected by U.S. EPA in its comments on these discussions: [a]lthough there is no statutory requirement that the NEPA document prepared for an HCP under the Endangered Species Act be used as the basis for permits and certifications required under CWA [Section] 404 to authorize and implement the project, EPA recognizes the importance of coordination in federal review. Toward this end, EPA and the Corps have met with the project proponent on numerous occasions over the past several years in the interest of using the BDCP EIS/EIR to inform the Corps' 404 regulatory decisions. Despite these efforts, significant unresolved issues remain about the scope of analysis for the proposed project, the level of detail required to trigger the consultation process and federal permitting, and the structure of a comprehensive permitting framework for the proposed project. [footnote 93: Id.]	As discussed in Section 6.3.4 of Chapter 6, Surface Water, of the Draft BDCP EIR/EIS, it is recognized that the State Water Resources Control Board is preparing an updated to the Bay-Delta Water Quality Control Plan, which is considering reasonable protection of beneficial uses, including municipal and industrial uses, agricultural uses, and environmental uses. It is assumed that the results presented in the Final EIR/EIS would be considered by the State Water Resources Control Board; however, the final Water Quality Control Plan may include additional actions. 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 updated plan.

DEIRS Ltr#	Cmt#	Comment	Response
		Among other concerns that have arisen during this consultation process, Earth Law Center contends that the inadequate flow proposals contained in the BDCP EIR/EIS alternatives will ensure that implementation of the BDCP trips over mandatory compliance with the CWA. Flow regimes that fully protect Delta ecosystems and species are necessary to avoid this result. CWA Section 401 certification can be granted only for projects that comply with water quality standards. To obtain CWA Section 401 certification, the project at issue must meet several CWA requirements, [footnote 94: 33 U.S.C. [Section] 1341(a)(1), (d). A state agency may also condition, deny or waive certification under certain circumstances. 33 U.S.C. [Section] 1341(a)(1)-(2).] including the requirement to meet water quality standards under CWA Section 303. [footnote 95: 33 U.S.C. [Section] 1341(d). According to [Section] 401(d), certification "shall set forth any effluent limitations and other limitations ... necessary to assure that any applicant" complies with certain provisions of the CWA. The Supreme Court in PUD No. 1 of Jefferson County v. Washington Department of Ecology held that this includes CWA [Section] 303, since [Section] 301 incorporates it by reference. PUD No. 1 of Jefferson County v. Washington Department of Ecology, 511 U.S. 700, at 713-715 (1994) (PUD No. 1).] If these requirements are met, then either the Regional Water Quality Control Boards (RWQCB) or the SWRCB [footnote 96: In California, the Regional Water Quality Control Boards are responsible for granting water quality certification, unless the project occurs in two or more regions, in which case the SWRCB is responsible. See SWRCB, "Instructions for Completing the Clean Water Act Section 401 Water Quality Certification Application" (Jan. 2005), available at: www.swrcb.ca.gov/centralcoast/water_issues/programs/401wqcert/docs/instruct_401_wq_cert_app.pdf.] may grant Section 401 certification. As implementing U.S. EPA regulations assert, [footnote 97: The Supreme Court held that the EPA's interpretation is consistent with the CWA in PUD No. 1.] Section 401 certification "shall" include "a statement that there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable water quality standards." [footnote 98: 40 CFR [Section] 121.2(a)(3); PUD No. 1 at 712.] In other words, the state cannot grant Section 401 certification to a project if there is no reasonable assurance that it will meet water quality standards. The examination of whether a project violates water quality standards does not include "balancing" factors such as economic considerations -- a project either meets water quality standards, or it does not. [footnote 99: 40 CFR [Section] 131.11 ("For waters with multiple use designations, the criteria shall support the most sensitive use"); see also 40 CFR [Section] 131.6. As noted by the state Supreme Court, Porter-Cologne "cannot authorize what federal law forbids"; that is, California cannot allow for the "balancing away" of the most sensitive beneficial uses in a reliance on Porter-Cologne rather than the Clean Water Act. City of Burbank v. State Water Resources Control Bd., 35 Cal.4th 613, 626, 108 P.3d 862 (2005).] Furthermore, as confirmed by the U.S. Supreme Court in PUD No. 1 of Jefferson County v. Washington Department of Ecology (PUD No. 1), CWA Section 401 certification considers the impacts of the entire activity -- not just the impacts of the particular discharge that triggers Section 401. [footnote 100: PUD No. 1, 511 U.S. 700 (1994). PUD No. 1 established that so long as there is a discharge, the state can regulate an activity as a whole under [Section] 401. PUD No. 1 at 711-712.] Therefore, for the BDCP to receive Section 401 certification, the entire BDCP project must be conducted in such a way as to	

DEIRS Ltr#	Cmt#	Comment	Response
		meet all water quality standards. This it does not do, as water quality standards cannot be met under the currently-proposed BDCP flow regimes (as well as under the BDCP discharge scenarios, as described in the comment letters incorporated by reference). The CWA states that water quality standards "shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." [footnote 101: 33 U.S.C. 1313(c)(2)(A) (emphasis added); PUD No. 1 at 704. In addition to the uses to be protected and the criteria to protect those uses, water quality standards include an antidegradation policy to ensure that the standards are "sufficient to maintain existing beneficial uses of navigable waters, preventing their further degradation." PUD No. 1 at 705; 33 U.S.C. 1313(d)(4)(B); 40 CFR [Section] 131.6. EPA regulations add that "[e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 CFR [Section] 131.12.] In other words, "a project that does not comply with a designated [i.e., beneficial] use of the water does not comply with the applicable water quality standards." [footnote 102: PUD No. 1, 511 U.S. at 715. See also 40 CFR [Section] 131.3(b) (U.S. EPA stating that "[w]hen criteria are met, water quality will generally protect the designated use," (emphasis added) indicating that numerical criteria do not always by themselves protect a designated use).] This fundamental CWA mandate does not change when the impact on beneficial uses arises from altered flow. The CWA was established specifically to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters" -- not solely to regulate "pollutants." [footnote 103: 33 U.S.C. [Section] 1251(a).] The U.S. Supreme Court addressed this issue directly in PUD No. 1, stating that: Petitioners also assert more generally that the Clean Water Act is only concerned with water 'quality,' and does not allow the regulation of water 'quantity.' This is an artificial distinction. [footnote 104: PUD No. 1, 511 U.S. at 719.] In PUD No. 1, Supreme Court took up the question of whether Washington state had properly issued a CWA Section 401 certification imposing a minimum stream flow requirement to protect fish populations. The Supreme Court held that conditioning the certification on minimum stream flows was proper, as the condition was needed to enforce a designated use contained in a state water quality standard. [footnote 105: Id. at 723.] In reaching this decision, the court noted that the project as proposed did not comply with the designated use of "[s]almonid [and other fish] migration, rearing, spawning, and harvesting," and so did not comply with the applicable water quality standards. [footnote 106: Id. at 714.] The U.S. Supreme Court specifically took note of CWA Sections 101(g) and 510(2), which address state authority over the allocation of water as between users. The Court found that these provisions "do not limit the scope of water pollution controls that may be imposed on users who have obtained, pursuant to state law, a water allocation." [footnote 107: Id. at 720.] This conclusion is supported by the "except as expressly provided in this Act" language of Section 510(2), which conditions state water authority; and by the legislative history of Section 101(g), which allows for impacts to individual water rights as a result of state action under the CWA when "prompted by legitimate and necessary water quality considerations." [footnote 108: Id. ("See 3 Legislative History of the Clean Water Act of 1977 (Committee Print compiled for the Committee on Environment and Public Works by the Library of Congress), Ser. No. 95--14, p. 532 (1978) ('The requirements [of the Act] may incidentally affect individual water rights. . . . It is not the purpose of this amendment to prohibit those incidental effects. It is the purpose of	

DEIRS Ltr#	Cmt#	Comment	Response
		this amendment to insure that State allocation systems are not subverted and that effects on individual rights, if any, are prompted by legitimate and necessary water quality considerations')." See also Memorandum from U.S. EPA Water and Waste Management and General Counsel to U.S. EPA Regional Administrators, "State Authority to Allocate Water Quantities -- Section 101(g) of the Clean Water Act" (Nov. 7, 1978), available at: http://water.epa.gov/scitech/swguidance/standards/upload/1999_11_03_standards_waterquantities.pdf.] Accordingly, these CWA provisions are not impediments to California's implementation of its CWA mandate to ensure compliance with water quality standards, including within the context of flows. In summary: implementation of the BDCP will require a CWA Section 404 permit from the Army Corps of Engineers, which it cannot receive unless the state issues a CWA Section 401 certification. The certification in turn cannot be legally issued unless the BDCP project as a whole (i.e., rather than the individual discharge mandating the 404 permit) meets water quality standards, which includes meeting beneficial uses designed to protect Delta species and ecosystems. The BDCP will fail this test, as described in more detail below. The BDCP will violate water quality standards established for flow, preventing necessary Clean Water Act Section 401 certification. To obtain the CWA Section 401 certification for the necessary Section 404 permit, implementation of the BDCP must comply with the CWA. The BDCP does not set a path for implementation consistent with the CWA, however, because (among other reasons) it will result in water quality standards violations, including those involving violation of beneficial uses. These beneficial uses include "rare, threatened or endangered species habitat," "estuarine habitat," "spawning, reproduction, and/or early development," and other sensitive beneficial uses. [footnote 109: SWRCB, "Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary," p. 9 (Dec. 13, 2006), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/2006wqcp/docs/2006_plan_final.pdf.]	
1636	21	In its August 2010 flow criteria report, the Water Board found that "[t]he best available science suggests that current flows are insufficient to protect public trust resources," and that "[r]ecent Delta flows are insufficient to support native Delta fishes for today's habitats." [footnote 110: SWRCB, 2010 Flow Report, pp. 2, 5.] However, the flow regimes incorporated by the current BDCP are largely equivalent to those that have been failing to protect Delta ecosystems and species for years. These include: Water Right Decision 1641 (D-1641); [footnote 111: D-1641 requires the SWP and CVP to meet flow and water quality objectives, including specific outflow requirements, an export/import ratio, spring export reductions, salinity requirements, and, in the absence of other controlling restrictions, a limit to Delta exports of 35 percent total inflow from February through June and 65 percent inflow from July through January. Public Draft EIR/EIS [Section] 5B.1.1.2, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR-EIS_Appendix_5B_-_Responses_to_Reduced_South_of_Delta_Water_Supplies.sflb.ashx.] the 2006 San Furthermore, not only does the BDCP fail to significantly improve upon the current flow regime, but it actually increases average exports [footnote 114: See e.g. Public Draft Plan, App. 5B, Fig. 5.B.4-4, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft	As described in Section 3A.9.4.2 of Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, the alternatives evaluated in detail in the Draft BDCP EIR/EIS did not fully incorporate the recommendations of the State Water Resources Control Board 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem report 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 these water rights users. Results from this report were considered in the development of Alternative 8 which is evaluated in the Draft EIR/EIS, in accordance with the 2009 Delta Reform Act, as described in Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Draft BDCP EIR/EIS. Please also see Master Response 31 with regards to compliance with the Delta Reform Act. The No Action Alternative and Alternatives 2A, 2B, 2C; 4H2, 4H3, 4H4; 5; 6A, 6B, 6C; 7; 8; and 9 would result in greater average annual Delta outflow than under Existing Conditions (shown in Tables 5-5 and 5-8 and Figure 5-4). Similarly, Alternatives 6A, 6B, 6C; 7; 8; and 9 would result in greater average annual Delta outflow than under the No Action Alternative (shown in Tables 5-6 and 5-9 and Figure 5-4). The range of alternatives also includes Alternatives 6, 7, 8, and 9 which would result in less Delta exports on an average annual basis as compared to Existing Conditions and the No Action Alternative (see Figure C-10-8, Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the EIR/EIS).

DEIRS Ltr#	Cmt#	Comment	Response
		_BDCP_EIR-EIS_Appendix_5B_-_Responses_to_Reduced_South_of_Delta_Water_Supplies.sflb.ashx.] and reduces Delta outflow in many months [footnote 115: For example, on average for the period of February through June, the BDCP would decrease the average Delta outflow by about 1,000 cubic feet per second and also decrease the median Delta outflow by about 2,000 cfs. Furthermore, for the period of January through June (the time period during which the August 2010 Flow Criteria from the SWRCB called for an increase of outflow to 75 percent unimpaired Delta outflow), the BDCP decreases outflow. See Public Draft Plan, App. 5C, Attachment 5.C.A, Table C.A-41, available at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_Appendix_5C_-_Part_5_-_Flow_Passage_Salinity_and_Turbidity.sflb.ashx.] (see discussion on Delta flows, above). Like Earth Law Center, the U.S. Environmental Protection Agency expressed serious concerns about the EIR/EIS Administrative Draft's (ADEIS) proposed decrease in outflow "despite the fact that several key scientific evaluations by the federal and State agencies indicate that more outflow is necessary to protect aquatic resources and fish populations." [footnote 116: U.S. EPA, "EPA Comments on Administrative Draft EIR/EIS, III Aquatic Species and Scientific Uncertainty, Federal Agency Release," p. 4 (July 18, 2013) (emphasis added), available at: http://www2.epa.gov/sites/production/files/documents/july3-2013-epa-comments-bdcp-adeis.pdf.] By failing to significantly increase flow and, in many cases, decreasing flow, the BDCP's flow regime will violate the beneficial uses of affected waterways. In order to receive the Section 404 permit, the Lead Agencies should revise the BDCP to ensure that it meets all beneficial uses.	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 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 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 Tables 5-6 and 5-9). See Master Response 13 for further discussion on the Public Trust Doctrine.
1636	22	If the BDCP is integrated into the Bay-Delta Plan, the resultant flow regime projected under the current draft will fail to protect the most sensitive beneficial uses, as required by the Clean Water Act. The State Water Resources Control Board is currently in the process of updating the Bay-Delta Plan, last updated eight years ago. While the SWRCB is not required to incorporate the BDCP into the draft or final revised Bay-Delta Plan, the BDCP and its modeling criteria likely represent the shape of the "regime change" for water quality control in the Delta if the BDCP moves forward. As discussed above, the CWA requires the state to adopt water quality standards that "shall consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." [footnote 117: 33 U.S.C. 1313(c)(2)(A); PUD No. 1 at 704.] In setting criteria to protect the beneficial uses, U.S. EPA regulations require states to "protect the designated use." [footnote 118: 40 CFR [Section] 131.11 (emphasis added); see also 40 CFR [Section] 131.6.] Actions that "reasonably protect" [footnote 119: SWRCB, "Comments on the Second Administrative Draft Environmental Impact Report/Environmental Impact Statement for the Bay Delta Conservation Plan," p. 1 (July 05, 2013), available at: baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/State_Water_Resouces_Control_Board_Comments_on_BDCP_EIR-EIS_7-5-2013.sflb.ashx.] rather than "protect" the beneficial use are insufficient. If multiple beneficial uses are at stake, adopted flow criteria must protect the most sensitive beneficial use (i.e., they cannot "balance" away uses) and must be based on science. [footnote 120: EPA regulations state that "criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use." See 40 CFR [Section]	As discussed in Section 6.3.4 of Chapter 6, Surface Water, of the Draft BDCP EIR/EIS, it is recognized that the State Water Resources Control Board is preparing an updated to the Bay-Delta Water Quality Control Plan, which is considering reasonable protection of beneficial uses, including municipal and industrial uses, agricultural uses, and environmental uses. It is assumed that the results presented in the Final EIR/EIS would be considered by the State Water Resources Control Board; however, the final Water Quality Control Plan may include additional actions. 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 updated plan.

DEIRS Ltr#	Cmt#	Comment	Response
		131.11; see also 40 CFR [Section] 131.6.] As the state Supreme Court found, Porter-Cologne balancing provisions [footnote 121: Calif. Water Code [Section] 13000.] that provide only "reasonable" protection "cannot authorize what federal law forbids." [footnote 122: City of Burbank v. State Water Resources Control Bd., 35 Cal.4th 613, 626, 108 P.3d 862 (2005) (citing the Supremacy Clause).] The more protective CWA water quality standard requirements take precedence over weaker Porter- Cologne language; ecosystem and species needs cannot -- and should not -- be balanced away. This position is also evident in the 1995 U.S. Environmental Protection Agency approval of the then-Bay-Delta Water Quality Control Plan. Specifically, the approval letter recognizes that CWA Section 303 and implementing regulations require states to adopt water quality criteria "sufficient to protect" beneficial uses (i.e., not "reasonably" protect). [footnote 123: Letter from Felicia Marcus, Regional Administrator, US EPA, to John Caffrey, Chair, SWRCB (Sept. 26, 1995), available at: http://earthlawcenter.org/static/uploads/documents/WQCP1995Approval.pdf.] The letter recognized (as is the case today) that "there is a difference in opinion about the scope of EPA's authority under the Clean Water Act to review… measures included in the 1995 Bay/Delta Plan," and added that EPA believes that its actions "are fully in accord with the Clean Water Act." [footnote 124: Id., Attachment 1.] ELC agrees with U.S. EPA that federal review of the state's actions in developing new standards for consistency with the CWA is fully in accord with the CWA's requirements to protect, not "reasonably" protect, beneficial uses.	
1636	23	The BDCP alternatives are based on levels of instream flow that are widely considered to be inadequate for Delta fish and habitat. For example, the Department of Interior stated that it "remains concerned that the San Joaquin Basin salmonid populations continue to decline and believes that flow increases are needed to improve salmonid survival and habitat." [footnote 125: U.S. FWS, "Comments on the Revised Notice of Preparation and Notice of Additional Scoping Meeting for the State Water Resources Control Board Review of the Southern Delta Salinity and San Joaquin River Flow Objectives in the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary," p. 1 (May 23, 2011), available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cm mnts052311/amy_aufdemberge.pdf. See above for other statements of scientists and agencies on Delta flow.] A comparison of flow regimes established under the BDCP, current flows, the State Water Board's August 2010 flow criteria report, and other flow data demonstrates that flow regimes proposed under the BDCP are at best similar to existing, deeply inadequate flows -- and often less than that, with reduced average outflow in many months (see discussion on Delta flows, above). For example, comparing the BDCP "evaluated starting operations" to scenarios without the BDCP shows the BDCP results in an average decrease in Delta outflow for the period of January through June, despite the August 2010 flow criteria report calling for an increase to 75% unimpaired Delta outflow. The August 2010 flow criteria report from the State Water Resources Control Board used science to identify the minimum amount of unimpaired flow that would protect Delta fish species and habitats; this report far better reflects the flows needed to protect these sensitive beneficial Delta uses. A new Bay-Delta Plan that incorporated the BDCP's proposed flow regimes would fall significantly short of this benchmark, and thereby would fail to protect the most sensitive beneficial uses as required by the Clean Water	See Master Response 17 for more information on Biological Resources. As discussed in Section 6.3.4 of Chapter 6, Surface Water, of the Draft BDCP EIR/EIS, it is recognized that the State Water Resources Control Board is preparing an updated to the Bay-Delta Water Quality Control Plan, which is considering reasonable protection of beneficial uses, including municipal and industrial uses, agricultural uses, and environmental uses. It is assumed that the results presented in the Final EIR/EIS would be considered by the State Water Resources Control Board; however, the final Water Quality Control Plan may include additional actions. 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 updated plan.

DEIRS Ltr#	Cmt#	Comment	Response
		Act.	
1636	24	Establishment of a state program of instream water rights for waterways should be evaluated in the BDCP. The BDCP fundamentally fails to achieve its purpose to conserve ecosystems and move the state toward recovery of threatened and endangered species. The BDCP also runs afoul of NEPA, CEQA, the Delta Reform Act and the Clean Water Act, in addition to ESA and the NCCPA. The BDCP Lead Agencies should abandon the preferred alternative and work with stakeholders to create alternative flow regimes that protect ecosystems and species, so that we may begin to restore the Delta to health. The State Water Resources Control Board update of the Bay-Delta Plan--which must ensure "freshwater flow improvements to protect beneficial uses" [footnote 126: U.S. EPA Region IX, "Comprehensive Review of the Bay-Delta Water Quality Control Plan" (Dec. 11, 2012) (Letter from Karen Schwinn, U.S. EPA Water Division to Thomas Howard, SWRCB, available at: http://www2.epa.gov/sites/production/files/documents/sfdelta-decpost-workshopltr-dec2012.pdf).]--provides a critical opportunity now to establish robust, legally-based instream flow objectives and protections in the Delta. An additional, important, yet unexamined, path forward lies in creation of a comprehensive, instream water rights program that protects ecosystems and species. The Delta Vision Blue Ribbon Task Force found in 2008 that "Californians must . . . change their relationship toward the environment and water." [footnote 127: Delta Vision Blue Ribbon Task Force, "Our Vision for the California Delta," (2008), available at: http://www.water.ca.gov/deltainit/docs/Delta-Vision-Summary.pdf.] Our current legal system treats the environment's needs as an afterthought to our wants. The state has attempted to address the needs of waterways and fish for flows through a "co-equal goals" approach to water management; however, water supply reliability can only be achieved consistent with an overarching goal of environmental sustainability. The state Supreme Court has reached the same conclusion, finding that "water exports from the Bay-Delta ultimately must be subordinated to environmental considerations." [footnote 128: In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings, 43 Cal.4th 1143, 1168 (June 5, 2008). The state Supreme Court further found that the then-Delta management program (CA Bay-Delta Authority) was "premised on the theory, as yet unproven, that it is possible to restore the Bay-Delta's ecological health while maintaining and perhaps increasing Bay-Delta water exports"; the Court added that "[i]f practical experience demonstrates that the theory is unsound, Bay-Delta water exports may need to be capped or reduced." Id. As described in these comments, experience has indeed demonstrated that the state must move toward reducing exports sufficiently to ensure the health of Delta waterways and aquatic species.] Forcing a false dichotomy between environment and economy will only pit one against the other, to the detriment of both. We cannot extricate ourselves from our environment, no matter how many policies and laws to that effect that we adopt. The "co-equal goals" presumption allows us to imagine that our own needs are not dependent on the needs of the ecosystems to which we are inextricably linked. Rigid adherence to this flawed presumption only delays our acceptance of the inevitable: that we must learn to live within our means, or the environment will ensure that that happens in a manner for which we did not plan. By designing our water supply systems consistent with an overarching goal of ecological health, implemented through recognition of the rights of	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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. With regards to funding please also review Master Response 5. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		waterways to the water they need to survive, we will be able to plan a sustainable, reliable water future for California. The state should develop a program of instream water rights to ensure the ongoing, sound health of waterways and aquatic species. As challenged by the Delta Vision Blue Ribbon Task Force, we need to "change our relationship toward the environment and water" by recognizing in law the rights of rivers to flow with clean water, and the rights of fish to swim and have the aquatic habitat they need to flourish--not just to avoid extinction, but to thrive. If water rights are to be the legal system by which water is allocated, then the law must reflect the science and ethics of our integration with our environment: legal water rights for waterways must be developed, allocated, and enforced to support water needs for healthy aquatic ecosystems and a healthy California. Our legal system currently addresses ecosystem water needs only indirectly, through such methods as permit conditions, provisions in the state Constitution and Water Code to prevent "waste and unreasonable use" (when implemented), Water Code Section 1707 water transfers, the public trust doctrine, and the Endangered Species Act (ESA). None of these otherwise important tools are actual water rights, however, at a level equivalent to currently-allocated water rights for human uses. The result to date has been that ecosystem water needs are consistently relegated to a tangential role in state water planning, until the ecosystems and/or their non-human inhabitants are at the brink of collapse. That is when the ESA hammer falls--abruptly, with little foresight, controversially, and often too late. California needs a legal system that allows the state to plan effectively for the water needs for both Californians and California's ecosystems and species. The dangerously well-trod path of "use, overuse, environmental decline, then hasty and unplanned reaction" can begin to be broken by granting ecosystems the right to be at the planning table from the beginning, at a level legally at least "co-equal" to human water uses--rather than at the end, when the damage is done. We can start now to address this legal imbalance by drafting changes to our laws to recognize water rights for waterways based on their flow requirements, including the needs of fish, using the science we already have and obtaining the additional science we need. Formalizing and effectuating water rights for ecosystems will ensure that waterway and fish needs are considered up front, that planning is effective, and that implementation and enforcement are clearer. The BDCP alternatives analysis must include consideration of this important legal and policy avenue. As noted above, "all appropriate methods of accomplishing the aim of the action"--that is, to sustain and restore Delta habitats and species, including endangered and threatened species--must be considered, "including those without the area of the agency's expertise and regulatory control as well as those within it." [footnote 129: Environmental Defense Fund v. Corps of Engineers of United States Army, 492 F.2d 1123, 1135 (5th Cir. 1974); 40 C.F.R. Section 1502.14©. Again, "legislative action" (such as that which may be needed to establish a program of instream water rights) "does not automatically justify excluding [the alternative] from an EIS." City of Sausalito v. O'Neill, 386 F.3d 1186, 1208 (9th Cir. 2004) (citing Methow Valley Citizens Council v. Regional Forester, 833 F.2d 810, 815 (9th Cir. 1987), overruled on other grounds by Robertson v. Methow Valley Citizens Council, 490 U.S. 332 (1989) (quoting City of Angoon, 803 F.2d at 1021); see also Kilroy Ruckelshaus, 738 F.2d 1448, 1454 (9th Cir.1984) ("In some cases an alternative may be reasonable, and	

DEIRS Ltr#	Cmt#	Comment	Response
		therefore required by NEPA to be discussed in the EIS, even though it requires legislative action to put it into effect").] California is undertaking various processes now that could set state water policy for decades. What is needed is a statewide vision similarly broad in scope that reflects our interconnections with the natural world, and that commits us to actions commensurate with the sweep and importance of these efforts and the challenges we face. Accordingly, the process before us must include consideration of water rights for waterways, to ensure the well-being of the state's people and environment. One example of advancement of waterway rights in law is found in Oregon's Instream Water Rights Act (IWRA). The IWRA recognized a broad array of instream uses as beneficial uses, [footnote 130: O.R.S. [Sections] 537.332 - 537.334 (recognizing that public uses that are valid instream uses include "conservation, maintenance and enhancement of aquatic and fish life, wildlife, fish and wildlife habitat and any other ecological values").] converted minimum flow requirements to instream rights, [footnote 131: IRWA converted all minimum streamflows established under the 1955 Minimum Perennial Streamflow Act to instream water rights. O.R.S. [Section] 537.346.] and established a streamlined system to convert water rights to instream uses. [footnote 132: O.R.S. [Section] 537.348.] Not only did the IWRA create instream water rights for waterways throughout Oregon, but it also began to create a "culture of flow restoration" [footnote 133: Janet Neuman et al., Sometimes a Great Notion: Oregon's Instream Flow Experiments, 36 ENVTL. LAW 1125 (2006).] in which conservation groups, regional land trusts, state agencies and others became partners for waterway health. Limitations in Oregon's program could be addressed through careful crafting of a similar initiative in California. For example, newly established instream water rights in Oregon receive a priority date based on the day they were created, making them junior to most off-stream (human) water rights. This, of course, limits the amount of water practically available for waterways and hobbles the IWRA's effectiveness in reversing years of over-appropriations (although some of the Oregon's most senior water rights have recently been converted to instream uses). [footnote 134: Id. At 1151, 1154.] Another limitation is that only the Oregon Department of Fish and Wildlife, Department of Environmental Quality, and the State Parks and Recreation Department can appropriate new instream water rights, [footnote 135: O.R.S. [Section] 537.336.] which the Oregon Water Resources Department holds in trust. [footnote 136: O.R.S. [Sections] 537.332-537.349.] Nevada, on the other hand, allows any private party to appropriate water for instream use, unless the State Engineer finds this to interfere with existing rights, threaten the public interest or threaten a protectable interest in a domestic well. [footnote 137: Nev. Rev. Stat. [Section] 533.370.] California could learn from the work of other states in developing a state instream water rights program that ensures that the law backs up the science of waterways' flow needs. Additional elements of a state instream water rights program. "Finding" instream flows for fully appropriated or over-allocated waterways can present a challenge in California; however, a number of steps can be taken to overcome this challenge. One initial step could be to adopt a program similar to Oregon's Allocation of Conserved Water Program, which sets aside a certain percentage of conserved water for instream uses. Such a program could also be expanded to require that water conserved with public funds be converted to instream use. Other potential strategies for "finding"	

DEIRS Ltr#	Cmt#	Comment	Response
		water include, but are not limited to, the following: --Determinations as to whether the existing water use is a "waste and unreasonable use" pursuant to the California Water Code and California Constitution; --Assessment of methods of water use and methods of diversion, changes in which can improve waterway health; --Determinations as to whether the existing water use is a violation of the public trust; --Initiatives to convince existing water rights holders to give up their water rights voluntarily, such as via a charitable giving process; --Increases in fees on diversions to encourage voluntary release of unneeded rights; --Review of unexercised water rights and reapplication of those rights to waterways; --Formal adjudications of relative water rights; and --Efforts with the federal government to review and adjust the allocation of federal water rights in California. As water rights are freed up, they could be reassigned to waterways in a prioritized effort that considers the relative requirements of waterways and aquatic species populations. Other key elements to address in developing a rights-based system for protecting the health of waterways and species include enforcement and accounting. With respect to enforcement, ecosystem water rights would be "held" by the waterways, but must be managed on their behalf by human agents. Independent legal guardians or trusts can be established for this task, and given a clear fiduciary responsibility to protect and enforce the identified water rights fully. While these entities should be accountable to the public, they should not be a government agency, as they must have full and primary responsibility for protecting the waterways to which they are assigned. Guardians/trusts necessarily should be required to coordinate with each other pursuant to a statewide water system vision, due to the broad interconnections among California's surface water and groundwater systems. With respect to accounting, the state would need to ensure that flows put back into a waterway are being maintained in the waterway and not simply removed downstream. Such a system of accounting need not be limited to instream water rights, but also could be valuable in the context of Section 1707 transfers and other, existing approaches to restore waterway health. A clear system for tracking and maintaining assigned waterway flows in the medium- and long-term will provide needed accountability and transparency for the public. Necessarily, the state should also develop a process for funding program costs, including: guardian/trust costs, accounting, oversight, research, monitoring and other program elements. A reliable source of funding is essential; oversight funding cannot simply be delegated to intermittent grants and allocations. Fees on water diversions, for example, should at a minimum be tapped as a regular funding stream, with less-regular sources (such as federal or other grants) identified for short-term/pilot initiatives.	

DEIRS Ltr#	Cmt#	Comment	Response
		The BDCP should assess a program of instream water rights for waterways. An instream water rights program is a critical step towards restoring the Delta to health, and is necessary to set Californians on a path towards achieving resilient, self-sufficient water supplies. Such a program accordingly should be assessed in the Alternatives section of the EIR/EIS and considered in the BDCP itself. By recognizing and enforcing the rights of the Delta and its tributary waterways to flow, California can create flow regimes that will far better protect the Delta ecosystem and aquatic species, as well as the human communities that rely on the Delta for food, clean water and quality of life on an ongoing basis.	
1636	25	The long-term decline of the Delta ecosystem is a story of our lost connection with nature. Once a pristine ecosystem and the West Coast's largest estuary -- a rich, biodiverse habitat of unspoiled grasslands, riparian forests, willow thickets, and other features, with an abundance of native fish species such as salmon -- the Delta has suffered tremendously from society's misguided belief that nature can be endlessly exploited and degraded. As a first step towards recovery, we must enhance flow, which is essential for aquatic species populations and the larger health of the Delta. The BDCP instead focuses on reinforcing and, in many cases, increasing existing Delta exports. As such, it fails to achieve its purpose of conserving the Delta ecosystem and recovering threatened and endangered species. The BDCP also will likely result in implementation strategies that will violate the Clean Water Act, rather than actually restoring and conserving Delta beneficial uses. Fortunately, we can still restore the Delta by adopting (at a minimum) sufficient flows to support healthy fish species and Delta habitats. Moreover, the time is ripe to establish a comprehensive instream water rights program that ensures the longevity of the Delta ecosystem and species, and serves as a model for the state as a whole. Rather than following the same destructive path that transformed one of the world's most magnificent estuaries into an engine for unsustainable development -- which has left the Delta fragmented, thirsty and sick -- let us create a vision of people, ecosystems and species flourishing together.	Please see Master Response 23 with regards to Other Stressors in the Delta. Master Response 5 provides additional information in response to comments on the BDCP. See also Master Response 17 for more information on Biological Resources.
1636	26	ATT1: March 28, 2013 Letter from Earth Law Center (ELC) Executive Director Linda Sheehan to the State Water Resources Control Board -- A Comment Letter on the Bay-Delta Plan Substitute Environmental Document	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.
1636	27	ATT2: Letter from James D. Giattina -- Director of the Water Protection Division of the United States Environmental Protection Agency -- to Lance LeFleur, Director Alabama Department of Environmental Management, Dated Nov. 19, 2012 commenting on the State of Alabama's Statewide Water Management Plan and Clean Water Act (CWA)	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.
1636	28	ATT3: Letter from John P. DeVillars, Regional Administrator of the US Environmental Protection Agency, to Timothy R. E. Keeney, Director of the Department of Environmental Management, Dated June 25, 1996, On Flow Reductions and Water Supply	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.
1637	1	This is a comment about the BDCP Project Plan and why it is trying to solve a problem without recognizing what the real problem is. The real problem is that the expansion of farming on the westside has reached unsustainable levels. In addition, the westside farms leech selenium and other harmful chemicals. There is also insufficient drainage for those lands. Those damaged lands need to be retired and the number of trees in the Central	The Delta ecosystem is already in steep decline, which jeopardizes the Delta's ability to provide water supplies and support fisheries. Over the last 150 years, the Delta has been altered by a system of manmade levees, reservoirs, and dredged waterways constructed to support farming and urban development and to provide flood protection for local towns and cities. Many other factors affect species health in the Delta, including water quality issues, nonnative species, illegal fishing, and local water diversions. The Delta is also

DEIRS Ltr#	Cmt#	Comment	Response
		Valley cut back to a sustainable level. The attached children's book [ATT 1] explains in simple terms how greed got us to where we are today with the Delta crisis and what could be done to solve the problem for both the farmers and the fish if only Jerry Brown were as wise as the wise king in the story.	threatened by continuing land subsidence, seismic risk, and effects of climate change. With respect to the commenter's recommendations regarding the Central Valley agricultural community, please refer to Appendix 1C of the Draft EIR/EIS. This appendix describes conservation, water use efficiency, and other sources of water supply, including recycled water. While these elements are not proposed as part of the BDCP or the California WaterFix Project, the Lead Agencies recognize that they are important tools in managing California's water resources. Since 2006, the 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. Chapter 14, Agricultural Resources, Draft EIR/EIS, discloses the effects of the proposed project on farmland and proposes mitigation to reduce these effects to the extent feasible. Chapter 8, Water Quality, EIR/EIS, discloses effects related to selenium and proposes mitigation for significant impacts—see also Master Response 14 (Selenium). Additional analysis on the modified BDCP and the California WaterFix Project can be found in the RDEIR/SDEIS: Sections 3, 4, and 5; and Appendix A (Chapters 8 and 14). Lastly, the project was initiated by former Governor Arnold Schwarzenegger, who was twice elected by a majority of California voters. The process has continued under the administration of his successor, Edmund G. Brown, Jr., who has publicly stated his tentative support first for Alternative 4 as set forth in the Draft EIR/EIS and now for Alternative 4A as described in the RDEIR/SDEIS, though he has acknowledged the need to complete environmental review and to obtain public input prior to making any final decisions on the project. Hence, the project has been initiated and carried forward by two Governors acting on a mandate from the voters of the State as a whole. The environmental documentation and project approval will be acted on by the decision makers from each lead agency at the conclusion of the CEQA and NEPA processes.
1637	2	[ATT1: The Fable of the Farmer and the Fish. Written by Jan McCleery. Illustrated by Steve Greenfield. Once in a land far away lived a happy people. They lived on a bounteous land surrounded by large, fresh flowing rivers. They worked hard during the week, building their homes and using the river's water for their drinking water. They planted crops. On weekends they enjoyed swimming and boating on the wide quiet waterways. The river teemed with beautiful salmon which they revered as an important part of the web of life and important food source for their village. One day a visitor arrived. He said "You are a very lucky people. My people are not so fortunate. I work hard and farm my plot of land but our area is desert and it is difficult to grow enough to feed my family. You have more than enough water. Would you be so kind as to share some with your neighbors in the desert?" "Why, of course," said the mayor of the River People. So they worked to build a canal from the river to the desert and built pumps to pump the water into the canal. The farmer planted corn for his family to eat. The desert farms bloomed. Soon more farmers came to the desert and soon the desert farms were producing many fruits and vegetables. This took even more water so they added more pumps from the river to the canal. Some rich farmers from other lands heard about the blooming desert and bought many acres far out in the desert to plant and took more water from the river to irrigate with. They produced more fine fruits and nuts than their kingdom could eat so started sending	No issues related to the adequacy of the environmental impact analysis in the EIR/EIS documentation were raised.

DEIRS Ltr#	Cmt#	Comment	Response
		their fine nuts to distant lands. The farmers became very wealthy. The River People became worried. Their river was getting sick without enough fresh water. The salt water from the sea was mixing into their towns' drinking water. The River People said, "You need to cut back on the amount of water you are taking from our river. Our drinking water is getting salty." But the rich Desert Farmers said, "You have plenty of places you can get your water from - just take your water from further upstream where there is no salt." The River People said, "You need to cut back on the amount of water you are taking from our river. Our farmlands are getting salt from our irrigation water!" But the Desert Farmers said, "Your crops are looking fine. A little salt won't hurt them." The River People said, "You need to cut back on the amount of water you are taking from our river. Our salmon are dying." The Desert Farmers had a lot of money so they hired a scientist to find out how to save the salmon. The scientist went north and returned with her report. She said, "There's not enough fresh water flowing out to keep the sea from flowing in. Salmon need strong flows to make them healthy and strong and show them the direction to the sea. Lack of fresh water is what is killing the salmon." The Desert Farmers became angry. They did not want to give up their water and their profits. "No, that can't be the right answer." So they fired the scientist and hired another. The second scientist went north and returned with his report. He said, "There are many factors that are affecting the salmon. When the salmon went out to the ocean last year the ocean temperatures were higher than normal and that killed many salmon. The Orca population is higher in the Northwest and they eat many salmon. The fishermen kill salmon. The striped bass that live in the river probably eat salmon. The farm runoff has pesticides that could harm salmon. The River People probably pollute the river." The Desert Farmers told the River People, "We can't do anything about the ocean temperature. You should kill Orcas and the bass and stop the salmon fishermen who are killing the salmon. Stop farming by the river and move out of your villages. That is what you need to do to save the salmon." But the River People said, "Our river, the fish, the bass, the farms have all been here for hundreds of years and everything thrived, including the salmon. The salmon need more fresh water. You need to stop taking so much water from our river. Our salmon are dying. All fish in the river including the bass are dying. Even the littlest fish in our river, the smelt are dying." So the River People went to the pumps and made them stop pumping. The Desert Farmers said, "What? You think a little fish like the smelt is more important than	

DEIRS Ltr#	Cmt#	Comment	Response
		farmers?" The farmers sent out town criers to all of the villages and neighboring lands saying "The River People think fish are more important than farmers. They worry more about a little tiny smelt than hard working farmers who put food on your table. They are keeping our water from us." The king of the land who lived on a hilltop heard the news. "What? People are keeping water from the good farmers? They care more about a tiny smelt than putting food on the table for all the people in my kingdom?" The wise king decided it was time to come to their lands. The king traveled to see the River People to ask them why they cared more about a tiny fish than putting food on his people's table. The River People said, "We were happy to share our water with the Desert Farmers. But they kept taking more and more water. Now our fish are sick, our farms and drinking water are salty." The king traveled to the Desert Farmers who showed him their parched lands waiting for water from the river. As he looked about the land he remarked, "This is truly amazing. You have made this desert bloom. When I was here before there were just a few family farms and now look - there are orchards as far the eye can see." "Oh yes", said the proud farmers. "If you had all of the water the river holds, could you plant even more orchards and send even more fruits and nuts to distant lands?" "Oh yes", said the proud farmers. He told the Desert Farmers, "This is not a fight of fish or farmers. The River People were kind to share their water with you. But you have not shared well. My new scientist will decide how much water the river needs and then the extra can be used for your farms. But there isn't enough for all of these orchards. The farmers who have farmed here the longest will still get their water. Those who came last should sell their land and buy lands in wetter regions." The rich famers who had planted far out into the desert sold their land and bought land in far-away regions with an abundance of rain. They continued to make their profits from selling nuts to distant lands. There was still and abundance of fresh farm produce from the Desert Farmers for the kingdom. The River became healthy and the fish thrived. The River People were happy once again. The End	
1637	3	[ATT1: ATT1: Drawing of a farmer and a fish]	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.
1637	4	[ATT1: ATT2: Drawing of landscape with farms and mountains]	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

DEIRS Ltr#	Cmt#	Comment	Response
			already addressed in the comment referencing the attachment or the Final EIR/EIS.
1637	5	[ATT1: ATT3: Drawing of a farmer]	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 comment referencing the attachment or the Final EIR/EIS.
1637	6	[ATT1: ATT4: Drawing of a farmer, family and corn]	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 comment referencing the attachment or the Final EIR/EIS.
1637	7	[ATT1: ATT5: Drawing of farmer in truck with bags of money]	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 comment referencing the attachment or the Final EIR/EIS.
1637	8	[ATT1: ATT6: Drawing of farmer with truck full of money]	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 comment referencing the attachment or the Final EIR/EIS.
1637	9	[ATT1: ATT7: Drawing of sad farmer with dying crops and fish; drawing of businessman with bag of money]	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 comment referencing the attachment or the Final EIR/EIS.
1637	10	[ATT1: ATT8: Same drawing as ATT1: ATT7]	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 comment referencing the attachment or the Final EIR/EIS.
1637	11	[ATT1: ATT9: Drawing of sick fish]	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 comment referencing the attachment or the Final EIR/EIS.
1637	12	[ATT1: ATT10: Drawing of scientist]	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 comment referencing the attachment or the Final EIR/EIS.
1637	13	[ATT1: ATT11: Drawing of a balding scientist]	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 comment referencing the attachment or the Final EIR/EIS.
1637	14	[ATT1: ATT12: Drawing of rich businessman and farm land]	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 comment referencing the attachment or the Final EIR/EIS.
1637	15	[ATT1: ATT13: Drawing of policeman]	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 comment referencing the attachment or the Final EIR/EIS.
1637	16	[ATT1: ATT14: Drawing of town crier]	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 comment referencing the attachment or the Final EIR/EIS.
1637	17	[ATT1: ATT15: Drawing of sad farmer and king]	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

DEIRS Ltr#	Cmt#	Comment	Response
			already addressed in the comment referencing the attachment or the Final EIR/EIS.
1637	18	[ATT1: ATT16: Drawing of rich businessman and king]	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 comment referencing the attachment or the Final EIR/EIS.
1637	19	[ATT1: ATT17: Drawing of king and scientist]	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 comment referencing the attachment or the Final EIR/EIS.
1637	20	[ATT1: ATT18: Drawing of farmland]	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 comment referencing the attachment or the Final EIR/EIS.
1638	1	I am pleased to let you know that Vali Cooper & Associates, Inc. (VC&A) is in support of the Bay Delta Conservation Plan as outlined in the Draft EIR/EIS. VC&A is encouraged by the release of the public draft of the plan and environmental documents. The outcome of this multi-year effort reflects collaboration of public water agencies, state and federal fish and wildlife agencies, business and agricultural stakeholders, local governments and the public.	The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. The issue raised by the commenter addresses the merits of the project and does not raise any issues with the environmental analysis provided in the EIR/S.
1638	2	Based on our (Vali Cooper & Associates) current understanding, the recommended alternative which provides for three northern intakes along the Sacramento River, a 9,000 cubic feet per second twin-tunnel system conveying water to the existing aqueduct coupled with a comprehensive habitat conservation plan, is the best plan at this time to meet California's co-equal goals of reliability and ecosystem restoration.	The issue raised by the commenter addresses the merits of the project and does not raise any issues with the environmental analysis provided in the EIR/S.
1638	3	Vali Cooper and Associates, Inc. sees the Bay Delta Conservation Plan as a workable proposal leading to an action plan that offers seismic protection, long-term supply reliability, critical habitat restoration, immediate job creation and statewide economic sustainability.	The commenter is referred back to the response to Comment No. 1 of this letter (i.e., Letter No. 1638).
1639	1	Thank you for accepting the comments of the Pacific Fishery Management Council regarding the Bay Delta Conservation Plan (BDCP) and associated Draft Environmental Impact Report/ Environmental Impact Statement (DEIR/DEIS). The Council is concerned that essential fish habitat (EFH) for Council-managed species will be impacted by proposed BDCP activity, and that there are shortcomings in the DEIR/DEIS that are relevant to the choice of a final preferred alternative. As you know, the Pacific Council is one of eight Regional Fishery Management Councils established by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) of 1976, and recommends management actions for Federal fisheries off Washington, Oregon, and California. The MSA includes provisions to identify, conserve, and enhance EFH for species regulated under a Pacific Council fisheries management plan. Each Council is authorized under MSA to comment on any Federal or state activity that may affect the habitat, including EFH, of a fishery resource under its authority. Furthermore, for activities that the Pacific Council believes are likely to substantially affect the habitat of an anadromous fishery resource under its authority, the Pacific Council is obligated to provide comments and recommendations (MSA [Section] 305(b)(3)).	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, 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 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. Please note an EFH consultation will occur in coordination with the ESA Section 7 consultation.
1639	2	The Pacific Fishery Management Council believes the BDCP as currently proposed will negatively impact Essential Fish Habitat for the Pacific Fishery Management Council-	The comment expresses concern regarding the proposed project impacts to habitat for four runs of Chinook salmon – fall, late fall, winter, and spring. Chapter 11 of the Final EIR/EIS, Fish and Aquatic Resources,

DEIRS Ltr#	Cmt#	Comment	Response
		managed species. Adverse effects on habitat for Chinook salmon of all runs and races-fall, late fall, winter, and spring-particularly concern the Council. In-river habitat conditions for all life phases of Chinook salmon are currently marginal on many levels, as described throughout the Operations Criteria and Plan (OCAP) Biological Opinion for management of the State Water Project and Central Valley Project. This has resulted in a severe lack of genetic diversity in the fall- and late-fall run salmon populations	describes the effects of the project on salmon. 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. 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."
1639	3	The tenuous state of California's salmon populations listed under the Endangered Species Act (ESA) is beyond dispute; futher degradation to the habitat they depend on will simply worsen their condition. Impacts to unlisted Central Valley fall and late-fall runs, including both naturally spawning populations and hatchery-produced fish, result in reductions in the number of fish that can be taken in public fisheries. The Pacific Fishery Managament Council believes that additional negative impacts to these four runs should be avoided, and causing such impacts without enacting full mitigation measures is unacceptable	Chapter 11 of the Final EIR/EIS, Fish and Aquatic Resources, describes the effects and mitigation measures relevant to Central Valley fall and late-fall run Chinook salmon. Please also refer to Master Response 22 for additional information regarding mitigation measures. The 2015 RDEIR/SDEIS included three new Alternatives including the new preferred Alternative 4A. The evaluation of the effects of Alternative 4A are included in the RDEIR/SDEIS, with specific acknowledgement that real-time monitoring and associated triggers would allow for adjustments to the North Delta Diversion operations to minimize and avoid impacts to migrating fish. Effects would be mitigated with a nonphysical barrier at the entrance to Georgiana Slough, which would reduce the entry of outmigrating juvenile salmonids into the low-survival interior Delta. Loss of habitat would be compensated for by tidal habitat restoration and channel margin restoration. Additionally, predation at the North Delta Diversion was acknowledged as a potential effect, which would be mitigated with localized reduction of predatory fishes to minimize predator density. This illustrates mitigation measures proposed for the preferred alternative.
1639	4	The Pacific Fishery Management Council's examination of the effects of the alternatives, Section 11.3.4 of the BDCP DEIR/DEIS, reveals many examples of what are characterized in the analytical documents as "slight" reductions in the quality of habitat for Central Valley fall Chinook salmon. These examples frequently apply to the spawning and rearing habitat of fall Chinook salmon. In light of existing compromised habitat conditions for fall Chinook salmon in the Central Valley, these "slight" impacts should not be taken lightly. While individually each degradation might be small, when taken in total, they contribute to an unacceptable "death by a thousand cuts." The Council is very concerned that further reduction or degradation of Chinook habitat will lead to the inability of the unlisted fall run to support a sustainable fishery, and will threaten the very survival of the BSA-listed winter and spring runs	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 identified to minimize effects to the Delta and its inhabitants and to 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. Chapter 11, Aquatic Species, under Alternative 4A describes how the new alternative will provide no adverse effects to fall-run Chinook salmon. For additional information regarding cumulative impacts, please see Master Response 9.
1639	5	The Pacific Fishery Management Council is also concerned that ultimately, the flow of fresh water through the Delta will continue to be unreasonably constrained by the project's water withdrawals. The mitigations described in the DEIR/DEIS do not appear to compensate for the ecological degradation resulting from the diversion of water from the system, and as discussed later, do not contain the funding assurances and conditions	The preferred alternative, 4A, includes operational criteria developed in coordination with NMFS, DFW, and FWS that are intended to avoid and minimize operational effects on salmonids, sturgeon, and smelts. As such, the EIR/EIS concludes that Alternative 4A would not have significant or adverse effects on these species and no mitigation for operations is required. Please refer to Chapter 11 of the Final EIR/EIS for information regarding effects to fish and aquatic

DEIRS Ltr#	Cmt#	Comment	Response
		necessary to be considered dependable. The Council requests that the DEIR/DEIS more clearly describe the potential negative effects of changes in the fresh water flow available to the Central Valley and estuary ecosystems, and any changes in the carrying capacity of habitat for Council-managed species, from the furthest upstream withdrawals to the San Francisco Bay exit. Further, the Council requests complete analysis of proposed mitigation throughout the project area in order to explain how no net reduction in salmon production can be reasonably expected. If full mitigation in terms of the number of adult fish produced and available spawning and rearing habitat are not achieved, the Council requests the proposed plan be altered so that they are achieved	resources. Please also refer to Master Response 5 regarding the BDCP effects analysis for covered fish and wildlife species, water quality for Delta species, and information regarding funding.
1639	6	Salmon Essential Fish Habitat The Essential Fish Habitat description of the Pacific Coast Salmon Fishery Management Plan (FMP) lists known threats to salmon habitat such as dam construction, reducing in-river flow, levee construction, logging riparian habitat, and pollution from both agricultural and urban runoff. These threats lead to loss of water quality, including elevated water temperatures, increased turbidity and suspended solids, flooding and dewatering of spawning areas, and alteration of the natural flow regime. The EFH description identifies beneficial habitat factors listed as EFH including side channel habitat, channel margin shading, high riffle/pool ratio and structure, and presence of large woody debris. The Council is greatly concerned that almost none of these beneficial EFH elements presently exist in the Central Valley. While the BDCP contemplates some EFH conservation effort, there is no assurance of funding. Even though BDCP purports to address entrainment in the pumps and Delta habitat, Lindley et al. (2009) state, "…from this perspective the biggest problem with the state and Federal water projects is not that they kill fish at the pumping facilities, but that by engineering the whole system to deliver water from the north of the state to the south while preventing flooding, salmon habitat has been greatly simplified. In addition, the BDCP should take notice of any changes to salmon EFH including the descriptions of non-fishing activities that may adversely affect EFH	Please refer to Chapter 11, Fish and Aquatic Resources, of the Final EIR/EIS and the 2015 RDEIR/SEIS for a discussion of effects to Chinook salmon. Also please refer to Master Response 5 regarding the BDCP effects analysis for covered fish and wildlife species and information regarding funding.
1639	7	The Pacific Fishery Management Council notes that the 1992 Central Valley Project Improvement Act (CVPIA) and the recommendations of the independent audit of compliance and performance (Department of Interior, "Listen to the River" 1 are not incorporated into the BDCP except as references. The Council believes that fish and wildlife resources are not receiving equal prioritization with irrigation and domestic uses of Central Valley Project water. The Council believes that improvements in EFH should result from implementing the CVPIA recommendations, and believes the BDCP should incorporate and fully analyze these recommendations and the independent audit "Listen to the River" in the DEIR/DEIS, including the funding necessary to accomplish them. 1 https://www.usbr.gov/mp/cvpia/docs _reports/indep _review/FisheriesReportl2_12 _08.pdf	Please see the Final EIR/EIS Chapter 5, Water Supply, particularly section 5.2.1.1, for information regarding uses of CVP water supply. DWR's fundamental purpose of the proposed project is to make physical and operational improvements to the SWP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. By establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water volume, timing, and salinity, the proposed project is designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. For more information on alternatives considered and evaluated in the EIR/EIS please see Master Response 4.
1639	8	Central Valley Hatchery and Wild Salmon Due to the lack of habitat to support abundant natural spawning of Chinook salmon since dam construction, Pacific Fisheries Management Council fisheries are dependent on salmon hatcheries in the Central Valley. Hatchery mitigation programs, which are designed to mitigate for the loss of habitat above the dams, cannot replace the natural	Please see the Final EIR/EIS Chapter 5, Water Supply, at section 5.2.1.1, and Chapter 11, Fish and Aquatic Resources, at section 1.2.1.11 for information regarding CVPIA(b)(2) flows. Alternative 4A, the new preferred alternative, would generally not alter reservoir operations or flows in any river upstream of the Delta. Flows in the Sacramento River downstream of the proposed new diversions would be reduced. San Joaquin River flows in the Delta would increase, however, due to reduced exports

DEIRS Ltr#	Cmt#	Comment	Response
		production of an entire river. In order to reduce straying of hatchery-produced salmon, the juveniles from some hatcheries are typically released and allowed to migrate naturally to the Delta and out to the ocean. As is especially apparent in this drought year, the lack of adequate flows in the Sacramento River can prevent salmon from experiencing a natural life cycle, with the possible loss of even hatchery stocks, as well as naturally-spawned fish. The Council believes in-river flows must be adequate and continuous through the Delta and into San Francisco Bay to provide for proper exercise of the mitigation function of the hatcheries. The Council believes that Central Valley Project Improvement Act (b)(2) flows are a minimum requirement, and recommends using flows above (b)(2) where necessary to adequately mitigate the damage to fisheries resources caused by development of Central Valley water resources.	there, causing Delta outflow to change very little. Mitigation is proposed for flow reductions in the Sacramento River downstream of the new diversions. Please see Chapter 5, Water Supply, and Chapter 11, Fish and Aquatic Resources, of the EIR/EIS for more details.
1639	9	The Pacific Fishery Management Council notes the extreme importance of Sacramento River fall-run Chinook salmon to the economic well-being of California and Oregon coastal communities. Due to ESA conservation constraints, Sacramento River winter-run Chinook are of equal importance. Conservation actions to protect the winter-run Chinook frequently constrain the ocean harvest of fall-run Chinook by commercial and recreational fishers. With this in mind, the Council strongly recommends that the goal of BDCP be not simply to minimize impacts to salmon, but to fully support and fund measures to increase salmon and other native Central Valley anadromous fish populations through habitat restoration, including increased freshwater flow through the Delta and into San Francisco Bay. At the same time, hatchery mitigation programs are vital to west coast commercial and recreational fisheries. Hatchery mitigation programs should be adequately supported to ensure that the diversity of genetic resources is preserved and enhanced in order to fully mitigate for the decline in wild populations.	Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation. Please refer to Master Response 5 for more information regarding the BDCP conservation strategy and Master Response 22 for more information regarding mitigation. Please also see the following for information about conservation hatcheries under the BDCP and other HCP alternatives: Chapter 3 of the BDCP, Section 3.4.18; Appendix 3D of the BDCP; Section 3.6.2.2 of the Final EIR/EIS; Chapter 11 of the EIR/EIS.
1639	10	National Marine Fisheries Service Incidental Take Permit; Reasonable and Prudent Alternatives Regarding the National Marine Fisheries Service (NMFS) Incidental Take Permit (Section 1-25), the Council is largely in agreement with the comments of the California Advisory Council on Salmon and Steelhead Trout (Attachment 1). The Council is also aware that the NMFS California Central Valley Area Office has been in consultation with the Bureau of Reclamation concerning implementation of Operations, Criteria, and Plan Endangered Species Act Reasonable and Prudent Alternatives and EFH conservation recommendations. It is clear from communications between NMFS and the Bureau of Reclamation (Attachment 2) that the EFH conservation recommendations for Sacramento fall and late fall Chinook salmon have not been fully implemented. The Council recommends the BDCP explicitly allocate resources for the implementation of EFH recommendations as well as ESA Reasonable and Prudent Alternatives in the OCAP Biological Opinion.	Under Section 7 of the Endangered Species Act (ESA), federal agencies whose actions may impact listed species are required to consult with the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS), as appropriate, prior to taking any such action to ensure the action is not likely to jeopardize species listed under the ESA or result in destruction or adverse modification of critical habitat. At the end of consultation, USFWS and/or NMFS will complete a biological opinion, setting forth an opinion detailing how the agency action affects the species or its critical habitat. Please refer to Master Response 5 for information regarding the BDCP conservation strategy and funding. Please also refer to Master Response 22 for general information regarding mitigation and Chapter 11 of the EIR/EIS for information regarding mitigation measures related to fish and aquatic resources.
1639	11	Research, Monitoring, and Evaluation The Pacific Fishery Management Council appreciates the extensive monitoring and research program proposed in the BDCP, and has the following recommendations.	Please refer to the Mitigation Monitoring and Reporting Plan for information about documentation and monitoring procedures related to Alternative 4A. Please also refer to the Bay Delta Conservation Program's Adaptive Management and Monitoring Program, Section 3.1.3 of the Public Draft Bay Delta Conservation Plan, for information related to BDCP monitoring and documentation.

DEIRS Ltr#	Cmt#	Comment	Response
		First, the Council has identified escapement and harvest monitoring as its primary data need in terms of salmon management. Specifically, the Council notes in its Research and Data Needs document that "escapement and fishery monitoring should be maintained and expanded where appropriate, and data collection should include information on age and sex composition, mark rates, coded wire tag recovery, and include spawning ground carcass enumeration and sampling. Sampling programs in some systems have been expanded and new escapement estimation methods developed such as genetic mark-recapture techniques." California Central Valley stocks are identified as the top priority under this topic. This data could be used to develop an age-specific cohort reconstruction for the stock, which, among other things, would allow for estimating contribution of hatchery-origin Chinook to ocean harvest, river harvest, and spawning escapement. Centralized documentation and monitoring of habitat restoration programs, particularly with geographic information system technology, is also essential to the evaluation of program progress and success. The Council recommends that the database described in Appendix 3.D include projects not specifically funded by BDCP in order to monitor the affected ecosystem as a whole. This could enable BDCP conservation activities to work within a larger effort such as a National Oceanic and Atmospheric Administration Habitat Blueprint for the Central Valley. The Council stresses the need to know what other agencies and efforts are doing so that duplication and working at cross purposes is avoided. Some monitoring activities in the BDCP are described as not expected to be needed for more than a few years. One example of this is the CM14 Tidal Natural Communities Restoration, (Appendix 3.D, page 13, "Conduct a site-level assessment of use by native and non-native fishes"). BDCP will monitor this restoration project for one year and then rely on existing programs for monitoring. The Council recommends that the BDCP continue to fund existing programs in this case, and to look throughout the BDCP monitoring program and ensure that the BDCP collaborates with other agencies to ensure that monitoring of the effectiveness of BDCP conservation programs continues to provide high-quality data that will enable program-level decision-making and adaptive management of Bureau of Reclamation and California Department of Water Resources (DWR) operations	DWR, Reclamation, CDFW, USFWS, NMFS, and the public water agencies will establish a robust program of collaborative science, monitoring, and adaptive management for the proposed project. Since the preferred alternative is now the California WaterFix Project rather than the BDCP, monitoring activities will be tailored accordingly, as discussed in the RDEIR/SDEIS. The Lead Agencies also concur about avoiding duplication while collaborating and sharing data. One such database management opportunity could be the Bay Delta Live website (http://www.baydeltalive .com/). The purpose of the Bay Delta Live website is to aggregate the wealth of scientific knowledge and information from a variety of sources and then present the information in an easy to use web application. This initial effort to aggregate the data will give all stakeholders equal access to visual insight and understanding into the Delta and neighboring regions for water quality, hydrodynamics, salinity and turbidity conditions, stressors on sensitive native fish populations, infrastructure projects, and development of new scientific inquiry and investigations. In the meantime, specific methodologies, databases, and actions for this program will be considered and developed within the context of the final mitigation program/operational needs/environmental regulatory requirements/and other factors for the project.
1639	12	Research planned for the BDCP will investigate the effectiveness of many elements of the conservation program. The Pacific Fishery Management Council notes that in the Columbia River Basin, research into fish passage has been ongoing since the first dams were built in the 1930s. The Bureau of Reclamation and DWR should plan to continue to invest in research and applied science programs to understand the changing relationship of the Delta ecosystem and its fish populations, especially as climate change increases stressors. Change will occur, and continued research will enable the Bureau of Reclamation and DWR to mitigate the impacts to fish and wildlife affected by the BDCP and other programs	DWR and Reclamation are committed to collaborative science and research as part of the project, as well as other efforts in the Delta, such as IEP, CAMT, and others.
1639	13	The Pacific Fishery Management Council encourages state and Federal water managers and resource managers to consider implementing Passive Induced Transponder (PIT) tag technology in the BDCP and Central Valley Project in the context of additional monitoring and evaluation strategies. PIT tag technology has been highly useful in the Columbia River Basin, where it has revolutionized how hydro-system management is evaluated and managed in order to help protect and	The comment requests the use of PIT tag technology for fish monitoring. For a response to this comment, please refer to Response to Comment 1639-11.

DEIRS Ltr#	Cmt#	Comment	Response
		recover ESA-listed and other important salmon and steelhead stocks in the Basin. The data available from PIT tag technology provide real-time information on juvenile abundance, emigration timing, reach passage survival, adult return timing, tributary and hatchery return timing, adult abundance, and early indications of straying. These data are valuable for monitoring and assessing all phases of salmon recovery programs. PIT technology has application to a broad suite of fishes in the freshwater environment, but has generally been targeted towards salmon and steelhead. We recognize that significant funding and additional monitoring capabilities will be needed in the Sacramento River system to fully utilize PIT tag technology; however, the benefits gained from this applied science and its use in real-time adaptive management in the Columbia Basin have far exceeded the costs	
1639	14	Regional Oversight The Pacific Fishery Management Council recommends giving the public a voice and visibility into BDCP fish and wildlife conservation programs, as these directly impact public resources. In the Pacific Northwest, the Northwest Power and Conservation Council (NPCC) Fish and Wildlife Program provides a public forum to give policy guidance to the Bonneville Power Administration in terms of coordinating, reviewing, and guiding fish and wildlife program development and project spending. The NPCC forum enables all interested management entities, sovereigns, the interested public, and others to work together to develop and periodically amend a fish and wildlife program for natural resource protection and recovery, including monitoring and evaluation programs that track the progress of the program towards achieving its goals and objectives. If such an arrangement is not possible for the BDCP, then detailed reports outlining progress made and allowing for feedback should be disseminated to the Council and other stakeholders on a regular basis.	As state agencies, the Department of Water Resources and the California Natural Resources Agency have a duty 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 are kept on the project website, www.BayDeltaConservationPlan.com and are 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. The BDCP, Alternative 4, includes a robust adaptive management program which consists of representatives from DWR, Reclamation, a CVP contractor-Permitee, a SWP contractor-Permittee, CDFW, USFWS and NMFS as voting members; and the Interagency Ecological Program lead scientist, and the Director of the National Atmospheric Administration Southwest Fisheries Science Center, as non-voting members. It also includes a Stakeholder Council of interested parties to assess BDCP implementation and to propose ways in which it may be improved. The Council includes broad representation local governments and agencies; reclamation districts; fishing, hunting, and recreation interests; agricultures interests; conservation groups; natural resources scientists; water purveyors; labor; and others. Please refer to Chapter 6, Implementation, of the 2013 Draft BDCP for additional information.
1639	15	Funding for Fish and Wildlife Conservation Chapter 8 of the DEIR/DEIS describes potential funding sources for the BDCP, including Federal, state, and local sources, matching grants and income from water contracts. As the document clearly states, these are potential sources of funding. Before an ESA Section 10 Incidental Take Permit can be issued, NMFS must find: "There are adequate assurances that the conservation plan will be funded and implemented ..." (50CFR 222.307). The Council is also concerned about the adequacy and certainty of long-term funding; for example, fish production at Mitchell Act hatcheries has "been substantially reduced as inflation, maintenance, and other costs have eroded the amount of funding available for fish production." (NMFS Draft Environmental Impact Statement to Inform Columbia River Basin Hatchery Operations and the Funding of Mitchell Act Hatchery Programs). State and Federal funding is often less reliable than contractual mitigation funding from private power companies operating hydroelectric dam facilities. In addition, the Council is concerned that governmental funding for the BDCP may come from re-allocated funding	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. Please see Master Response 5, BDCP, which discusses project funding and Master Response 22 related to Mitigation and Environmental Commitments.

DEIRS Ltr#	Cmt#	Comment	Response
		from existing programs the Council relies on. The Council recommends BDCP better demonstrate funding certainty, particularly for fish and wildlife conservation programs, and also ensure that other programs will not lose funding as BDCP gains funding	
1639	16	Groundfish and Coastal Pelagic Species Essential Fish Habitat In addition to Essential Fish Habitat for salmon, the BDCP would affect EFH for other Council-managed species. Section 11.2.1.3 of the DEIR/DEIS notes that EFH for salmon, but not for groundfishes or coastal pelagic species, occur in the plan area. However, Section 11.1.1 identifies Suisun Bay as being in the plan area, and San Pablo Bay and San Francisco Bay as areas that may be affected by the plan. These three areas contain estuarine and marine habitats that have been identified as EFH and habitat areas of particular concern for various species and life stages of groundfishes (e.g., starry flounder, English sole, rockfishes) and coastal pelagic species (e.g., northern anchovy and Pacific sardine). Appendix B to the West Coast Groundfish FMP and Appendix D to the coastal pelagic species FMP identify the species and life stages that occur in these areas and types of habitats. Therefore, the Council recommends that the DEIR/DEIS be revised to address these additional species.	Please see Chapter 11 of the EIR/EIS for information regarding fish and aquatic resources. Please also see section 1.4.3 of the Bay Delta Conservation Plan for information regarding species that are covered by the BDCP.
1639	17	Accuracy of Fishery Descriptions The Pacific Fishery Management Council recommends permit applicants contact Council staff regarding the description of all fisheries impacts described in the BDCP document to assure that they clearly and accurately describe Council salmon management policy. For example, the subsection "Overfishing" in Chapter 11.1.5.4 (Harvest and Hatchery Management) is generally true; however, because the BDCP concerns only Central Valley-01igin salmon, the mark-selective fisheries statements do not apply to Council-managed fisheries South of Cape Falcon, Oregon, and only one to three percent of the overall harvest of Central Valley-origin Chinook occurs North of Cape Falcon, Oregon. Furthermore, the Council sets conservative spawning escapement goals for Central Valley Chinook to allow for sustainable production of natural spawning Chinook, and naturally spawning Chinook in the Central Valley are not overfished under the terms of the Magnuson-Stevens Fishery Conservation and Management Act.	As noted in Response to Comment 1639-16, DWR and Project proponents strived to use the best available science throughout the EIR/EIS. 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. Chapter 11 of the EIR/EIS is supported by the source material cited.
1639	18	The bullets under Section 11.2.1.3 do not accurately reflect the status or FMPs of the species identified. For example, the first bullet states that starry flounder and northern anchovy are "monitored species" under the groundfish FMP; however, the groundfish FMP (2011) does not distinguish between "managed" and "monitored" species, and northern anchovy are managed under the coastal pelagic species FMP, not the groundfish FMP. As noted above, the species listed do not represent a comprehensive list of species with Essential Fish Habitat in these areas.	The FEIR/EIS has been corrected. The list of species included in EFH assessment for the preferred alternative (4A) has been refined in association with NMFS.
1639	19	Att 1: Letter from California Advisory on Salmon and Steelhead Trout, dated February 20, 2014 to California Department of Fish and Wildlife on Recommendation to Deny Incidential Take Permit and NCCP for BDCP	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 comment referencing the attachment or the Final EIR/EIS.
1639	20	Att 2: Letter from National Oceanic and Atmospheric Adminstration (NOAA) to Mid-Pacific Region of the U.S. Bureau of Reclamation, Dated July 28, 2010 on Topic of Response to Essential Fish Habitat Conservation Recommendations of the CVP and SWP	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 comment referencing the attachment or the Final EIR/EIS.
1640	1	The North San Francisco Bay is 303(d) listed for selenium, and therefore selenium loads and impacts have been studied for many years [footnote 1: For example, please see the	Please refer to Master Response 14 for further analysis on selenium effects in particular, as well as water quality assessment methodology and data sources. See also Chapter 8, Water Quality and Appendix 8M of

DEIRS Ltr#	Cmt#	Comment	Response
		North San Francisco Bay Selenium Characterization Study (2012) prepared by Tetra Tech in support of the North San Francisco Bay Selenium TMDL: ftp://swrcb2a.swrcb.ca.gov/pub/rwqcb2/Staff/Barbara%20Baginska/Se%20DrftFinal%20Rpt%2010_5_12.pdf]. The Delta contribution of selenium to Suisun Bay, in particular from the San Joaquin River, is well documented. Implementing the BDCP project would increase the flow from the San Joaquin River to Suisun Bay relative to the flow from the Sacramento River. Since the San Joaquin River has much higher selenium concentrations than the Sacramento River, this could increase the loading of selenium to Suisun Bay, and ultimately to the entire North San Francisco Bay. The EIR/EIS proposes that selenium in Suisun Bay will be controlled by the Total Maximum Daily Load (TMDL) under development by the San Francisco Regional Water Quality Control Board: "Discharges from point sources in North San Francisco Bay (i.e., refineries) that contribute selenium to Suisun Bay and the western Delta are 21 expected to be reduced through a TMDL under development by the San Francisco Bay Water Board that is expected to result in decreasing discharges of selenium." (Page 8M-5 Lines 19-36). This assessment places the burden of mitigating the environmental impacts of selenium from the proposed BDCP project to dischargers downstream from the project. The combined selenium load from all refineries is estimated to be approximately 500 kg/yr, whereas approximately 2,700 kg/yr comes from the delta outflow. Contributions from point source dischargers other than the refineries are much smaller [footnote 2: For an estimate of selenium loadings to North San Francisco Bay, please see North San Francisco Bay Selenium TMDL Preliminary Project Report (2011) at: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/TMDLs/northsfbayselenium/SeTMDL_Pr eliminaryReport_01-11.pdf]. Therefore, a small increase in selenium loading from the Delta entails a much larger proportional decrease by point source dischargers. Bay Area Clean Water Agencies believes that it is inappropriate to plan to increase discharges of a 303(d) listed constituent while relying on the TMDL process to offset the increase in the future. Bay Area Clean Water Agencies requests that impacts on the entire San Francisco Bay, not merely the portion that is upstream of the Benicia Bridge, be considered in the EIR/EIS. More current data, such as those associated with the North San Francisco Bay TMDL development, should be used to evaluate the impacts of the BDCP on selenium loading. Additionally, the BDCP should not rely on future regulatory actions by outside entities to mitigate adverse impacts of the projects.	the Final EIR/EIS. 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.
1640	2	Nutrients in the San Francisco Bay are a major issue for the Bay Area water quality community. Historically, the San Francisco Bay has not been adversely impacted by nutrient loading, although there are indications that its resilience is decreasing. Numerous scientific studies are being conducted by several entities to understand the impact of nutrients on the San Francisco Bay. The San Francisco Bay Regional Water Quality Control Board recently adopted the first Watershed Permit for Nutrients for municipal dischargers to the San Francisco Bay. If adverse impacts of nutrients are shown by the ongoing scientific studies, nutrient control management actions will be required, the cost of which will be borne by our members. The largest source of nutrients in the North San Francisco Bay is flows from the Delta [footnote 3: Nutrient loads to the Bay are calculated in Novick, E. and Senn, D., External Nutrient Loads to the San Francisco Bay (2014), at: http://www.sfei.org/sites/default/files/NutrientLoadsFINAL_FINAL_Jan232014_0.pdf].	See response to comment 1640-1. See also Appendix 8O of the Final EIR/EIS for San Francisco Bay analysis.

DEIRS Ltr#	Cmt#	Comment	Response
		Concentrations of nitrogen species are higher in the San Joaquin River than the Sacramento River [footnote 4: For a recent estimate of nutrient concentrations and loads in the San Joaquin and Sacramento River, please see Novick, E., Characterizing Nutrient TRENDS, Loads, and Transformations in Suisun Bay and the Delta (2014), a poster presented at the February 2014 IEP meeting, at: http://www.sfei.org/sites/default/files/IEP%202014%20ENovick%20FINAL.pdf], and this disparity will be magnified once the Sacramento Regional Wastewater Treatment Plant completes its nutrient control upgrades. Since the project will increase San Joaquin River flows to the delta compared to Sacramento River flows, the project has the potential to increase nutrient loads to the San Francisco Bay compared to a no-project alternative.	
1640	3	Scientists are studying how the different nitrogen and phosphorus species may interact to impact the food web in the Bay-Delta ecosystem. However, the BDCP and EIR/EIS currently only consider the ammonia/um form of nitrogen. Furthermore, the analysis is semi-quantitative and only considers wastewater treatment facilities as sources, whereas agricultural non-point sources may be a significant source when considering additional nitrogen species. Given the importance of the ongoing nutrient projects and development of regulatory mechanisms in the San Francisco Bay and throughout the State, the BDCP and EIR/EIS should complete a quantitative analysis to assess the project's impacts on nutrient concentrations and loads more comprehensively. Bay Area Clean Water Agencies requests that the BDCP conduct a quantitative analysis of how the project will impact loads of nitrogen and phosphorus species into Suisun Bay and San Francisco Bay.	Impacts WQ-16 and WQ-17 in the Draft EIR/EIS address effects of the project alternatives on nitrate, and Impacts WQ-23 and WQ-24 address the effects of the project alternatives on phosphorus for the Upstream of the Delta region, the Delta, and SWP and CVP export service areas. Assessment of the effects of the project alternatives on San Francisco Bay water quality, including nitrogen and phosphorus, is included in the RDEIR/SDEIS under Impact WQ-34. For more information about water quality issues, please see Master Response 14 and Chapter 8 and associated appendices of the Final EIR/EIS.
1642	1	Issue: Baseline Data I. BDCP EIR/EIS Chapter 4 Approach to Environmental Analysis A. The BDCP EIS does not meet the requirements of 40 Code of Federal Regulations 1502.22, Incomplete or unavailable information. B. Comment: In accordance with 40 CFR 1502.22, the federal agencies responsible for preparation of the BDCP EIS shall always make clear when data necessary to evaluate reasonably foreseeable significant adverse effects is incomplete or unavailable. The federal agency shall include information the cost of which is not exorbitant to obtain in its analysis of reasonably foreseeable significant adverse effects; or explain how the incomplete information is relevant. Appendix 4A is clear that important information is not available to assess biological, geotechnical, archaeological, floral and faunal effects along proposed tunnel alignment alternatives. Despite statements contained in Appendix 4A, which makes clear information is lacking, the co-lead federal agencies make no attempt to conform to NEPA guidance set forth in 40 CFR 1502.22 and how the lack of those data effects a credible assessment of the effects of the proposed project.	See Response to Comment 1642-3.
1642	2	For BDCP, the NEPA baseline for determining the significance of impacts is required to be the set of conditions defined by examining the full range of construction and operational activities the applicants could implement and are likely to implement absent permits from the U.S. Fish and Wildlife Service and National Marine Fisheries Service. Unlike the CEQA baseline, which is defined by conditions at a point in time (Notice of Preparation, February 12, 2013), the NEPA baseline is not bound by statute to a "flat" or "no-growth"	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered. 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

DEIRS Ltr#	Cmt#	Comment	Response
		scenario. The significance of impacts associated with implementation of the BDCP or its alternatives is defined by comparison to impacts that would occur under NEPA baseline conditions. The NEPA baseline should also include other actions that would affect diversions into the intake structures. Those actions should be described under the No Action Alternative. The determination regarding the effects of other actions should be based on direct statements and empirical data from the applicants, and on the judgment and experience of the federal agencies.	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.
1642	3	BDCP EIS/EIR Appendix 4A: Summary of survey data collection efforts by Department of Water Resources to obtain information regarding baseline conditions in areas that could be affected by BDCP. Appendix 4A corresponds to Chapter 4, Approach to the Environmental Analysis, and pleads the DWR case that private property owners denied access to land such that DWR could not gather necessary information: DWR has taken actions to obtain access to land in the Delta for the purpose of gathering information to be used in environmental review. DWR, however, has not been able to get access [to] a substantial number of the private properties that would yield relevant information. The problem repeatedly faced by DWR in such efforts has been the unwillingness of private property owners to allow entry onto their properties. Many landowners have gone to court to prohibit access. This appendix describes the actions taken by DWR to gain access to properties within the Delta as needed to fulfill the requirements of CEQA and NEPA and federal permits (i.e., Sections 408 and 404(b)) for the BDCP. Appendix 4A describes the history of attempts to obtain the temporary entry permits and opines that private property owners have obstructed their attempts to gather information. The appendix concludes: As the preceding discussion shows, DWR has been unable, despite diligent efforts, to gain access to all of the private properties within the Delta on which it would like to conduct ground surveys, Environmental Site Assessments, and engineering, biological, geotechnical, archaeological, floral and faunal studies. Although DWR has been able to conduct some of the geotechnical studies it contemplated originally, it has not been able to conduct all such studies because of the court order issued April 8, 2011. DWR has challenged that court decision and is currently seeking access to land in the Delta for the purpose of conducting the geotechnical activities through the use of eminent domain. In short, DWR has done all that is reasonably feasible under the circumstances to conduct thorough investigation of the impacts of all of the BDCP alternatives. On June 24, 2005, James Connaughton, Chairman of the Council on Environmental Quality wrote in a letter to heads of Federal agencies: The purpose of 40 Code of Federal Regulations 1502.22 is to disclose the fact of incomplete or unavailable information, to acquire information if it is "relevant to reasonably foreseeable significant adverse impacts" and "essential to a reasoned choice among alternatives," and to advance decision-making in the absence of all information regarding reasonably foreseeable effects. The focus of this provision is, first and foremost, on "significant adverse impacts." The agency must find that the incomplete information is	Please note that the preferred alternative is now 2015, RDEIR/SDEIS, Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The Lead Agencies do not believe that the requirements of section 1502.22 of the NEPA Regulations adopted by the Council on Environmental Quality (CEQ) apply to the kind of informational limitation mentioned by the commenter. The commenter brings up this NEPA regulation in connection with the absence of information that could have been learned by the Lead Agencies from site visits on properties within the Delta if the affected landowners had granted the Lead Agencies permission to make such visits. Section 1502.22 does not apply to this issue for at least three reasons. First, and most importantly, the Lead Agencies were able to obtain and develop sufficient information to understand, and formulate mitigation measures with respect to, the potential effects on Delta properties from the various EIR/EIS action alternatives even in the absence of site visits. In other words, the additional information that could have been gained from such site visits is not "essential to a reasoned choice among alternatives." Secondly, the Lead Agencies' inability to access the properties at issue was not a function of the exorbitant costs of doing so, but the unwillingness of the landowners to grant permission. And third, the information that could have been gained from site visits was not unavailable because "the means to obtain it are not known." Indeed, the means to obtain it were well known: getting permission from affected landowners. Although the commenter raises only a NEPA issue in this context, it is noteworthy that, under CEQA case law, an EIR can be legally adequate in terms of the extent of the information it includes despite a lead agency's inability to gain permission to conduct site visits on potentially affected properties. In City of Maywood v. Los Angeles Unified School District (2012) 208 Cal.App.4th 362, 403-413, the petitioner argued that the EIR for a proposed high school project was inadequate because, among other things, the lead agency had not been able to conduct site visits to 27 properties that made up the "project site" to determine the extent to which the properties were affected by hazardous materials. The landowners were not willing to enter into "access agreements" with the lead agency. The Court of Appeal upheld the discussion of hazardous materials even in the absence of such information, concluding that it had been "impractical to conduct a full investigation and remediation of the project site prior to approval of the FEIR." (Id. at p. 412.) Despite the lack of information that could have been obtained through the site visits, the EIR was adequate due to the information that it did contain, combined with mitigation measures that would ensure that adequate information would be obtained before construction could commence. Similar considerations apply here. Despite their lack of access to certain properties, the Lead Agencies were able to use a variety of information sources, including aerial photography, GIS information, data bases, and visual observations from off-site locations to obtain sufficient information to assess the potential effects of various alternatives. The DEIR/EIS also includes a number of mitigation measures (e.g., Mitigation Measures CUL-2 and CUL-3) that will ensure that any information still needed to ensure the avoidance or reduction of environmental impacts is obtained prior to groundbreaking. This combination of using available analytical tools and formulating mitigation measures that would require even further information prior to

DEIRS Ltr#	Cmt#	Comment	Response
		relevant to a "reasonably foreseeable" and "significant" impact before the agency is required to comply with 40 CFR 1502.22. If the incomplete cumulative effects information meets that threshold, the agency must consider the "overall costs" of obtaining the information. 40 CFR 1502.22(a) The term "overall costs" encompasses financial costs and other costs such as costs in terms of time (delay), program and personnel commitments. The requirement to determine if the "overall costs" of obtaining information is exorbitant should not be interpreted as a requirement to weigh the cost of obtaining the information against the severity of the effects, or to perform a cost-benefit analysis. Rather, the agency must assess overall costs in light of agency environmental program needs. Analysis The Council on Environmental Quality directs Federal agencies to obtain project-specific baseline information to compare the effects of the proposed action and its alternatives on the human environment if the costs to do so are not exorbitant (40 CFR 1502.22(a)). If collecting the data is not possible, the EIS must disclose what information is not available and identify the relevance of the information (40 CFR 1502.22(b)(1)(2)(3)). The DWR explanations in Appendix 4A (and in Chapter 4) make no reference to the costs of obtaining data on private land or if those costs made it exorbitantly expensive to do so The EIS is largely silent with regards to the significance of the incomplete information, except in Chapter 4, Table 4-1. Overview of BDCP EIR/EIS Modeling Tools, Habitat Suitability Models (HSM), p. 4-16: "The models are not formulated on the basis of species occurrence data, which is incomplete for most covered species in the Plan Area. Instead, species occurrence data are used to verify the habitat models and, as necessary, revise the input data." However, this reference does not seem to be the result of the agency's inability to gain access to private property.	groundbreaking is the same approach found to be adequate in the City of Maywood case. A level of detail sufficient for CEQA purposes is also sufficient for NEPA purposes, as all impact analyses and conclusions in the Draft EIR/EIS, including those relating to properties for which the Lead Agencies had no ability to access, are supported by substantial evidence reflecting the expertise of the various authors of various chapters. The commenter has acknowledged that, in at least one instance, the Draft EIR/EIS acknowledged the limitations associated with a modeling tool the Lead Agencies used in connection with their analyses of impacts on biological resources. But this was only one of many such acknowledgements. Although the Lead Agencies used the most advanced technical tools available, all such tools necessarily have their limitations; and the Lead Agencies acknowledged as much in various technical appendices to the Draft EIR/EIS.
1642	4	The DWR explanation pursuant to incomplete information does not meet the requirements set forth in 40 Code of Federal Regulations 1502.22, Incomplete or unavailable information. When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking. a. If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement. b. If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: 1. A statement that such information is incomplete or unavailable; 2. A statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human	The methods section of Chapter 12 Terrestrial Resources, Chapter 9 Geology and Seismicity and Chapter 18 Cultural Resources include detailed methodologies used to analyze proposed project impacts to resources. These details include research and theoretical approaches that meet NEPA requirements for assessing project impacts. Additional cultural and geotechnical surveys will be conducted once the final construction design has been accepted. Also please refer to Master Response 20 for more information on cultural surveys.

DEIRS Ltr#	Cmt#	Comment	Response
		environment; 3. A summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and 4. The agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason. c. The amended regulation will be applicable to all environmental impact statements for which a Notice of Intent (40 CFR 1508.22) is published in the Federal Register on or after May 27, 1986. For environmental impact statements in progress, agencies may choose to comply with the requirements of either the original or amended regulation. Based upon Chapter 4 and Appendix 4A, and the NEPA guidance provided by the CEQ pertaining to incomplete or unavailable information the BDCP EIS fails to comply with NEPA and makes an evaluation of potential project impacts impossible to reasonably evaluate: 1. Appendix 4A does not meet directives in 40 Code of Federal Regulations 1502.22. All three Federal agency NEPA Handbooks refers to 1502.22. The National Oceanic and Atmospheric Administration (NOAA)/National Marine Fisheries Service (NMFS) handbook does not offer specific instructions to comply with 1502.22. The U.S. Fish and Wildlife Service handbook (516 DM 4.1, paragraph 4.13) notes that, "The references to overall costs in this section [EIS preparation guidance] are not limited to market costs, but include other costs to society such as social costs due to delay." However, the U.S. Bureau of Reclamation's handbook provides explicit guidance to comply with 1502.22 and U.S. Department of the Interior (DOI) NEPA Implementing Guidance (43 CFR 46.125). This guidance is specific to the U.S. Bureau of Reclamation and does not necessarily apply to the U.S. Fish and Wildlife Service (USFWS). Bureau NEPA Handbook, p. 3-15, February 2012 [footnote 1: See attached table that compares BoR NEPA Handbook 1990/2000 to BoR NEPA Handbook dated February 2012.]. U.S. Bureau of Reclamation will obtain the information necessary to fully evaluate all reasonably foreseeable, significant adverse impacts in NEPA documents, unless the information cannot be obtained because the costs are too great or the means of getting it are not available. Data and new information needs should be identified early enough in the process to enable timely completion of required studies and integration of the information. The determination of costs being too great (i.e., exorbitant) is the responsibility of the deciding official. In addition to the monetary costs of obtaining the information, consideration of other nonmonetary costs, such as social costs, delays, opportunity costs, and non-fulfillment or non- timely fulfillment of statutory mandates, is appropriate. U.S. Bureau of Reclamation should carefully evaluate whether to move ahead on	

DEIRS Ltr#	Cmt#	Comment	Response
		proposals for which limited relevant information may prevent meaningful analysis of alternatives, impacts, or the means to mitigate impacts. If information cannot be obtained, the NEPA document will make it clear that such information is lacking and why, discuss how that information would be relevant to the analysis, provide a summary of relevant existing data, and provide Reclamation's evaluation of potential impacts based upon generally accepted approaches, methods, or models. Some information may not be available to U.S. Bureau of Reclamation because it is proprietary information maintained by an applicant (i.e., a non-Federal entity requesting Reclamation to take some action). The CEQ regulations in 40 CFR 1502.21 state that "Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference." Reclamation should work closely with the applicant on questions that deal with proprietary issues or information. 2. Based on a word search of the BDCP EIS/EIR, we could not find any chapter or section which complies with the directives in 1502.22. That is, we could not find a discussion of the incomplete information; a summary of relevant existing data and an evaluation of potential impacts based upon generally accepted approaches, methods or models. In short, the Federal agencies did not comply with 1502.22. In Appendix 4A DWR shines a bright light on incomplete data. DWR makes neither argument that the costs to comply with NEPA are exorbitant, nor does DWR attempt to identify how the incomplete information affects an evaluation of the project impacts. 3. DWR does not make a case that costs to obtain the incomplete information are exorbitant. We could not find a discussion regarding any kind of cost associated with gaining access to private property for the purpose of collecting environmental data. CEQ guidance provides that costs can include nonmonetary costs, such as social costs, delays, opportunity costs, and non-fulfillment or non-timely fulfillment of statutory mandates. There is no discussion in the EIS that provides the reader with an understanding of nonmonetary costs.	
1642	5	Chapter 7 and Appendix 7A: Groundwater Throughout the Draft EIR/EIS a groundwater model is used to attempt to describe the environmental setting/affected environment and the environmental consequences on groundwater resources. The groundwater model used throughout the document to assess groundwater conditions in the plan area and upstream and service export areas is based on one developed by the US Geological Survey, referred to as CVHM. The application and limitations of CVHM are described in US Geological Survey Professional Paper 1776 (2009). The consulting firm, CH2MHill, listed on as one of the document preparers modified the CVHM model to assess groundwater conditions (environmental setting) and environmental consequences in the plan area (Delta) and renamed that modified model "CVHM-D", where the nomenclature "D" represents the Delta. Most of the groundwater section descriptive text and the data used as input to the CVHM and CVHM-D models were extracted from the State of California, Department of Water Resources publication, Bulletin 118-03 (February 2004). Groundwater modeling, the project (alternatives) impacts on groundwater and the cumulative effects of the project (alternatives) on groundwater do not meet the requirements set forth in NEPA, nor does Chapter 7 or Appendix 7A of the Draft EIR/EIS identify all potential effects likely to impact groundwater resources.	The information presented in the Existing Conditions, including information from Bulletin 118 which is included by reference, is presented to provide a regional description of groundwater basins. As described in Chapter 7, the basis for comparison of conditions under the action alternatives as compared to the Existing Conditions and the No Action Alternative were based upon groundwater model results. The groundwater model is based upon CVHM model developed by U.S. Geological Survey. The CVHM-D model was developed as part of the EIR/EIS effort based upon data included in the CVHM model but extrapolated to a model with a smaller node system to allow for more detailed analysis of groundwater changes in short distances. The model analyses results are used to compare alternatives in the EIR/EIS. As described in Chapter 7, Groundwater, and Chapter 14, Agricultural Resources, in the Draft EIR/EIS and the BDCP/California Water Fix RDEIR/SDEIS, DWR would conduct site-specific groundwater analysis during the design phase to determine the extent of the dewatering activities along the conveyance route. The effects on existing land use activities are addressed 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

DEIRS Ltr#	Cmt#	Comment	Response
		The EIS fails to meet the requirements set forth in 40 Code of Federal Regulations Section 1502.15 Affected Environment: NEPA guidance requires that the EIS "…succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration." The EIS does not provide site-specific groundwater or aquifer data along the proposed conveyance routes or at the intake locations. The EIS uses only generalized data from published reports, primarily DWR Bulletin 118-2003. Bulletin 118-2003 provides generalized area information. No detailed groundwater or aquifer characteristic data are available for most of the project area within the Delta. The data necessary for a comprehensive, analysis of the groundwater setting along the alternative conveyance routes and intake locations are not available to a reviewer. Section 7.1.1, Potential Environmental Effects Area, provides only regional generalized descriptions of the groundwater settings, and devotes significant discussion to regional groundwater conditions outside of the Delta. There are no specific discussions about groundwater or aquifer conditions in the Delta or that describe environmental and specific groundwater conditions within the alternative alignments. However, Section 7.3, Environmental Consequences, attempts to "describe[s] the potential groundwater-related effects that could result from project construction, operation, and maintenance." Regional groundwater data extracted from Bulletin 118-2003, the primary reference used in EIS Chapter 7, provides virtually no specific groundwater or aquifer data for project alternatives locations and site- specific groundwater data. The EIS avoids reference to existing groundwater data as published in DWR Bulletin 118-3, Evaluation of Ground Water Resources: Sacramento County, 1974, which provides geologic data for superjacent stream channel deposits which cross-cut the northern Delta and which will affect and be affected by proposed dewatering and construction activities. Furthermore, the EIS makes no attempt to describe the sedimentary textures or aquifer characteristics along the alignment alternatives, instead relying on groundwater modeling as described in and derived from USGS Professional Paper 1766, Groundwater Availability of the Central Valley Aquifer, California. However, according to Professional Paper 1766, the groundwater aquifer-system deposits in the Central Valley used to model groundwater availability, including the Delta, are derived from "the, lithologic data from approximately 8,500 drillers' logs of boreholes ranging in depth from 12 to 3,000 feet below land surface were compiled and analyzed to develop a 3-D texture model. The lithologic descriptions on the logs were simplified into a binary [two textures] classification of coarse- or fine-grained. The percentage of coarse-grained sediment, or texture, then was computed from this classification for each 50-foot depth interval of the drillers' logs. A 3-D texture model was developed for the basin-fill deposits of the valley by interpolating the percentage of coarse-grained deposits onto a 1-mile spatial grid at 50-foot depth intervals from land surface to 2,800 feet below land surface." This modeling approach which is poorly described in the EIS ignores that only about 500 well logs were used to determine groundwater levels and only about 200 well logs out of 8,500 were used to describe aquifer textures (clay, silt, sand, gravel, etc.) for the entire Central Valley of California. The EIS describes how the U.S. Geological Survey model, called CVHM, was modified (CVHM-D) from one-square mile modules to ¼ mile modules to analyze groundwater conditions in the project area. However, the modified model, CVHM-D, adds no new data, relies on essentially two wells in the Delta and provides no site specific groundwater data that describes the environmental setting along the	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 are anticipated to remain significant and unavoidable and adverse to existing land uses.

DEIRS Ltr#	Cmt#	Comment	Response
		alternative conveyance alignments. On February 12, 2014 at a public open-house meeting held for the BDCP EIR/EIS in Clarksburg, this reviewer talked with Gwendolyn Buchholz, PE, Vice President, CH2M-Hill. Ms. Buchholz is listed as a preparer of Chapter 7. Ms. Buchholz said that she was responsible for groundwater modeling for the BDCP EIR/EIS and that the groundwater models used to evaluate the environmental setting, and the project impacts on the groundwater were lacking in site-specific data and that their usefulness was very limited. Ms. Buchholz was also unaware of geologic data acquired by CH2M-Hill from six-boring along a portion of the southern proposed alignment of one tunnel alternative which contradicted modeling data input and which called into question the conclusions reached in the EIS regarding tunnel impacts on groundwater. Based on the absence of groundwater data as required by 40 CFR Section 1502.15, it is not possible for a reviewer to independently understand the environmental setting for the alternative alignments or at the intakes along the Sacramento River. Therefore, the EIS must be revised to provide site specific groundwater and aquifer data along the alternative conveyance routes and at the proposed intake locations so that a reviewer can understand the environmental setting for groundwater resources, and evaluate project impacts and mitigation measures and assess the likelihood that the EIS has failed to address other impacts and mitigation measures..	
1642	6	The EIS fails to meet the requirements set forth in 40 CFR Section 1502.16 Environmental Consequences: Section 7.3 Environmental Consequences, states that, "The potential for interaction between the canal alignments and the underlying aquifer system in the Delta Region was evaluated using a numerical model, Central Valley Hydrologic Model-Delta (CVHM-D), described in subsection 7.3.1.2, Analysis of Groundwater Conditions due to Construction and Operations of Facilities in the Delta." The EIS does not include an analysis of the environmental consequences to groundwater resources from the construction or operation of any of the proposed tunnel alignments, even though it appears that a tunnel, rather than a canal is the preferred alternative. Therefore, the EIS must include specific groundwater modeling analysis of the tunnel alignments on groundwater resources and describe how the tunnels, with inverts at approximately 150-feet below the existing ground surface, will affect groundwater flow, groundwater quality and availability of groundwater resources.	The groundwater analysis presented in the EIR/EIS was developed to provide and disclose a comparison of regional conditions under the action alternatives as compared to the Existing Conditions and the No Action Alternative; therefore, the CVHM and CVHM-D models were selected for this analysis. Well logs near the construction sites or throughout the SWP and CVP service are not publically available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals. The EIR/EIS analysis recognized the limitations of a regional evaluation, and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse. The EIR/EIS also indicates that there would be additional groundwater impacts associated with operation of canals due to seepage into the canal from surrounding groundwater, or seepage from the canals into the surrounding groundwater, as described in Chapter 7.
1642	7	Section 7.3.1.1 Analysis of Groundwater Conditions in Areas that Use SWP/CVP Water Supplies states that, "It is assumed that in areas that experience increased SWP/CVP water supplies, groundwater withdrawals would decline, and depending upon the local groundwater characteristics, groundwater elevations may rise. It is further assumed that if SWP/CVP water supplies decrease in areas that have historically relied upon groundwater for major portions of the water supply, groundwater withdrawals would increase to replace the reduction in SWP/CVP surface water supplies." This statement contradicts the Purpose Statement (Chapter 2, Section 2.4) which states that, "The … Purpose Statement reflects the intent to advance the coequal goals set forth	The EIR/EIS evaluates the changes in the SWP and CVP water contract deliveries under the alternatives as compared to the Existing Conditions and the No Action Alternative within the upper limits of the contract amounts. As described in Chapter 5, Water Supply, and Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, the ability of the SWP and CVP to deliver water contract amounts has been modified over the past 60 years due to increased use of senior water rights upstream of SWP and CVP water service area and regulatory criteria. The alternatives, including the No Action Alternative, were developed to deliver SWP and CVP water up to the upper limit of legal SWP and CVP contractual water amounts, with the understanding that full contract amounts would not be delivered on average for the alternatives considered in the EIR/EIS, as described in Chapter 2, Project Objectives and Purpose and Need.

DEIRS Ltr#	Cmt#	Comment	Response
		in the Sacramento-San Joaquin Delta Reform Act of 2009 of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The above phrase—restore and protect the ability of the SWP and CVP to deliver up to full contract amounts—is related to the upper limit of legal CVP and SWP contractual water amounts and delineates an upper bound for development of EIR/EIS alternatives, not a target. It is not intended to imply that increased quantities of water will be delivered under the BDCP. As indicated by the "up to full contract amounts" phrase, alternatives need not be capable of delivering full contract amounts on average in order to meet the project purposes. Alternatives that depict design capacities or operational parameters that would result in deliveries of less than full contract amounts are consistent with this purpose." Therefore, how can the project proponents assume that increased deliveries will be forthcoming under BDCP? Increased exports to supplement groundwater withdrawals should not be considered unless the BDCP EIS Purpose and Need is modified to reflect the need. Additionally, the EIS offers no evidence that increased groundwater withdrawals within the export service area will occur. The assumption used in the BDCP EIS that increased water exports with mitigate groundwater withdrawals in the export service areas is unfounded and should not be used as a justification for the BDCP, and without supporting evidence the assumption is not a legitimate direct, indirect or cumulative effect; therefore not an environmental consequence.	The lead agencies disagree with the assertion that the methodology described in Section 7.3.1.1 is inconsistent with the project purpose and need. The proposed project objectives do not include actions to manage ground water levels in the San Joaquin River and Tulare Lake areas. Generally, when available, agricultural water users in the San Joaquin River and Tulare Lake areas prefer to use surface water for irrigation because the water quality is better than for groundwater. When adequate surface water is not available, they will use groundwater (U.S. Geological Survey 2009: 60). The CVHM uses the FMP process (see subsection 7.3.1.1, Analysis of Groundwater Conditions in Areas that Use SWP/CVP Water Supplies) to estimate agricultural water supply needs and assumes that when surface water deliveries are available, they are used first, before groundwater is pumped for additional water supplies. 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. The proposed project is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures). Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The premise of the California WaterFix is that it will provide environmental benefits while stabilizing water supplies for a large population of California residents, consistent with statutory policy as found in the Delta Reform Act of 2009 (see, e.g., California Public Resources Code, §§ 85001(c), 85002, 85004(a), 85020.) Refer to Master Response 31 (Compliance with the Delta Reform Act).
1642	8	Section 7.3.1.2 Analysis of Groundwater Conditions Associated with Construction and Operations of Facilities in the Delta. In the Central Valley Hydrologic Model-Delta Methodology portion of 7.3.1.2, the EIS lists five modifications to the CVHM for application to the project, to create model CVHM-D. One model modification reduced the grid-cell size from 1 mile square to ¼ mile square in order to provide more Delta- specific detail. "This modification allowed for greater precision in model output in the Delta Region." However, this modification relies on the assumption that spatial information, such a groundwater levels and aquifer texture characteristics are available within the original one-square mile grid-cell. According to Professional Paper 1766, Figure C15, Distribution of Calibration Data, in the case of the Delta region, there are no data points. That is, the US Geological Survey did not use any data from the Delta in CVHM. How then does the EIS use CVHM and CVHM-D to calibrate and model groundwater conditions in the Delta or specifically, along the alternative conveyance alignments if there are no data? Dividing one-mile square grid cells into ¼ mile grid cells does not improve model precision if there are no data. The EIS must explain how subdividing one-mile square grid cells devoid of data into ¼-mile grid cells, also devoid of data, improves the model precision and how these data-less grind-cells provide meaningful input to model groundwater conditions along the alternative alignments.	As defined in Appendix 7A, Groundwater Model Documentation, is a calibrated regional model. CVHM-D was developed using the information in the CVHM model to provide a method to evaluate potential groundwater changes at a smaller scale than was provided by the larger cells in CVHM. This was useful in evaluating potential impacts of groundwater dewatering activities at specified intake locations. However, the EIR/EIS analysis recognized the limitations of such an evaluation with limited site-specific hydrologic data, and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.

DEIRS Ltr#	Cmt#	Comment	Response
1642	9	The EIS fails to meet the requirements set forth in 40 Code of Federal Regulations Section 1502.22 Incomplete or Unavailable Information: The EIS fails to comply with NEPA at the most basic level, as set forth in 40 CFR Section 1502.22 Incomplete or Unavailable Information and Section 1502.24 Methodology and Scientific Accuracy. Chapter 7 (Groundwater) is extremely difficult to objective review and develop meaningful comments because there is virtually no data in the EIS which leads to conclusions that allows a reviewer to critically evaluate the impacts to groundwater or mitigation measures. At the Clarksburg BDCP open house we asked several "BDCP Staff" - all CH2MHill employees, if they could explain how they modeled groundwater conditions without any data - literally only 2 data points in 400,000 acres. Gwen Buchholz, VP at CH2MHill and the lead modeler, said that she had no data and was forced to create a model because they were under a time constraint to get the EIS out. She admitted that the groundwater model used to describe the affected areas was virtually useless. She told us that their assumption was that the tunnel would be bedded on a sand layer they saw in one boring at about 150 feet below ground surface. We told her that we had reviewed boring data (collected by CH2MHill) that clearly showed the tunnel invert would bed on fat clays. She said if that were true, it would change the analysis...it is true, but not evaluated in the EIS. At the same Clarksburg open house we spoke with Praba Pirabarooban, DWR Supervising Water Resources Engineer. We asked him to explain how the tunnels are constructed: 3 boring machines working at once; each machine dropped to tunnel depth (about 150 feet) in an excavation; pre-cast concrete tunnel parts, each 10-feet long and representing 1/8 if the circumference (45 degrees), bolted and glued together (about 304,000 individual precast concrete pieces held together by about 12,000,000 bolts) . Mr. Pirabarooban admitted he had virtually no data to inform the design of the tunnel and very limited data about construction of the intakes. For instance, he had data from one boring in the Sacramento River which showed a clay layer at 30 feet bgs. Therefore, the entire dewatering plan (sheet pile construction) and intake construction protocols in the EIS are based on one boring, he actually thought that clay layer in the Delta would be continuous for about one mile along the river and about 1000 feet east of the river. There are no data to confirm this assumption. According to the EIS, DWR relied on two technical memorandums prepared by DWR to estimate dewatering protocols. I took us about one month, but we finally obtained the Tech Memos. Mr. Pirabarooban was a quality control reviewer for one the memos which said, that to dewater the intake construction sites will require anywhere from 200 to 1,000,000 gallons per day. But a final pumping protocol could not be determined without more data...data DWR never acquired before they prepared the EIS. It makes it very difficult to review an EIS when there is no data from which we can reasonably evaluate any impacts. We asked Mr. Pirabarooban what percentage of data he had for the tunnel design; he said about 15% for one alignment. DWR probably had less than 5% of the necessary data when compared to the alternative alignments. Mr. Pirabarooban agreed with that. We asked him how long would it take to acquire and analyze enough data to design the tunnels, his answer- about 1.5 to 2 years and $1.5 billion. According to Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering Evaluation, DWR 9AA-31-05-145-002, Task Order No. WGI-15, Subtask 2, January 21, 2010, section 3.0 Approach: p. 3-1: Although several thousand borings have been drilled throughout the Delta, mostly	The groundwater analysis presented in the EIR/EIS recognized that well logs near the construction sites or throughout the SWP and CVP service are not publically available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals and to compare several intake locations. The EIR/EIS analysis recognized the limitations of a regional evaluation, and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.

DEIRS Ltr#	Cmt#	Comment	Response
		for geotechnical evaluation of manmade levees, almost none of these borings are located in the immediate vicinity of proposed project facilities. More relevant data for this investigation was found in previous studies for the Peripheral Canal. In addition, the project database included data from numerous United States Geologic Survey (USGS) and DWR groundwater monitoring wells surrounding the Delta. However, none of these well were located in the immediate vicinity of proposed project features. p. 3-4: Although more than 100 groundwater monitoring wells were identified within the project area, the spatial distribution of these wells is not uniform across the project area. Additionally, the density of wells with respect to near surface hydrogeologic conditions is insufficient to produce a project-wide groundwater map detailed enough for site-specific dewatering analysis. Therefore, it is not possible to determine the site specific variation of initial depth to groundwater along each ... alignment. The EIS ignores these statements from a document upon which Chapter 7 of the EIS relies for much of its credibility and scientific accuracy. The EIS must be revised to meet CFR 40 Section 1502.22 and include an explanation of the limits of available data and how those data gaps influence the usefulness of the CVHM-D groundwater model.	
1642	10	The EIS fails to meet the requirements set forth in 40 Code of Federal Regulations Section 1502.24 Methodology and Scientific Accuracy: The EIS fails to meet the NEPA requirements of 40 CFR Section 1502.24. Professional and scientific integrity is compromised throughout EIS Chapter 7 by citing only portions or sections of reference material which agree with the project proponents desired outcome. This selective data presentation violates Section 1502.24, and makes it impossible for comprehensive review of the proposed project's impacts and mitigation measures. Therefore, revise EIS Chapter 7 to meet the basic requirements of 40 CFR Section 1502.24 and to provide reviewers with a scientifically objective evaluation of the proposed project's impacts and relevant mitigation measures. Examples of the use of selective data include, but are not limited to: Comment 6a Section 7.1.1.1 Central Valley Regional Groundwater Setting; p. 7-3, beginning line 4, Regional Hydrogeology Overview; The EIS ignores or uses only selected data from three Chapter 7 references which describe the complex stratigraphy and lithologic character of the Delta and the site-specific groundwater conditions affecting project alternatives. The EIS uses only selective data or ignores the limitations of California Department of Water Resources, 2003, California's Groundwater. Bulletin 118, Update 2003; California Department of Water Resources, 2010, Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering and Groundwater Evaluation. Delta Habitat Conservation and Conveyance Program, Document Number: 9AA-31-05-145-002, and California Department of Water Resources, 2010, Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, Delta Habitat Conservation and Conveyance Program, Document Number: 9AA-31-05-145-001. From Chapter 9, the EIS ignores significant portions of Norris, R. M., and R. W. Webb. 1990, Geology of California Second Edition, New York: John Wiley & Sons, Inc. which describes the complex geologic setting of the Delta because it does not fit the pre-determined, simplified lithologic conditions for project groundwater modeling (Norris	The groundwater analysis presented in the EIR/EIS was developed to provide and disclose a comparison of regional conditions under the action alternatives as compared to the Existing Conditions and the No Action Alternative; therefore, the CVHM model was selected for this analysis. The CVHM model is described in Appendix 7A, Groundwater Model Documentation, as a regional flow model to be used to compare alternatives in the EIR/EIS. The assumptions in CVHM are presented in the U.S. Geologic Survey 2009 Groundwater Availability of the Central Valley Aquifer, California paper (U.S. Geological 12 Survey Professional Paper 1766) which is incorporated by reference into the EIR/EIS. Figure 9-3 in Chapter 9, Geology and Seismicity, was not considered in the groundwater analysis in the EIR/EIS or in the U.S. Geological Survey's development of CVHM.

DEIRS Ltr#	Cmt#	Comment	Response
		and Webb, beginning on page 434). The EIS does not explain that Figure Number 9-3 used for groundwater analysis and geology which is adapted from Atwater (Atwater, B. F. 1982. Geologic Maps of the Sacramento-San Joaquin Delta, California: U.S. Geological Survey. (Miscellaneous Field Studies Map MF-1401, scale 1:24,000), Reston, VA) and that the Atwater map is essentially a surficial geology map that provides data to only a few feet below the existing ground surface.	
1642	11	Section 7.3.1, Methods of Analysis. The EIS does not disclose that CVHM is a general, overall water balance tool model. CVHM specifies that groundwater water levels are generalized aquifer characteristics from selected wells and are culled to include just fine or coarse sand in 50 to 100 foot thick layers. This omission in the EIS prevents the reviewer from thoroughly understanding the implication of the dewatering and project construction impacts. Additionally, the "refinement of CVHM" to CVHM-D for the Delta only reduced the 1 sq. mi. grid to ¼ sq. mi. CVHM-D did not reduce the layer thickness to less than 50 feet; nor did it add additional texture (lithologic) descriptors. CVHM-D model calibration is critical to the evaluation and interpretation of project impacts on groundwater resources. Water level in wells is necessary for this calibration. No wells for calibration were used in the Delta area. A general water balance in the Delta has been produced by the model, but the EIS does not provide specifics for subsurface geology, engineering characteristics, dewatering programs, or domestic well interference.	CVHM-D also is described as a regional flow model to be used for planning purposes in a manner that compares conditions under the action alternatives with conditions under the Existing Conditions and the No Action Alternative models. Well logs near the construction sites or throughout the SWP and CVP service are not publically available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed at a regional level for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals. The EIR/EIS analysis recognized the limitations of a regional evaluation, and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse. The information presented in the Existing Conditions, including information from Bulletin 118 which is included by reference, is presented to provide a regional description of groundwater basins. As described in Chapter 7, the basis for comparison of conditions under the action alternatives as compared to the Existing Conditions and the No Action Alternative were based upon groundwater model results. The groundwater model is based upon CVHM model developed by U.S. Geological Survey. The CVHM-D model was developed as part of the EIR/EIS effort based upon data included in the CVHM model but extrapolated to a model with a smaller node system to allow for more detailed analysis of groundwater changes in short distances. The model analyses results are used to compare conditions under the action alternatives as compared to the Existing Conditions and the No Action Alternative to determine relative comparisons and develop possible mitigation measures. As described in Chapter 7, Groundwater, and Chapter 14, Agricultural Resources, in the Draft EIR/EIS and the BDCP/California Water Fix RDEIR/SDIES, DWR would conduct site-specific groundwater analyses during the design phase to determine the extent of the dewatering activities along the conveyance route. Based upon the results of the groundwater analyses, mitigation measures would be developed in accordance with Mitigation Measures AG-1, GW-1, GW-5, and WQ-11 to reduce the severity of impacts. However, these impacts are anticipated to remain significant and unavoidable and adverse to existing land uses.
1642	12	The EIS refers to existing ground water levels and flow directions (p. 7-40). None of the groundwater parameters necessary to evaluate existing conditions have been measured or calculated. The EIS only guesses at the groundwater elevations within one of two feet of depth and generalizes the groundwater flow direction based on topography and existing, present-day, drainage patterns. In the near-flat Delta terrain, surveys accurate to centimeters are necessary to accurately delineate the flow directions and head boundaries. The EIS fails to meet basic scientific standards.	The groundwater analysis presented in the EIR/EIS was developed to provide and disclose a comparison of regional conditions under the action alternatives as compared to the Existing Conditions and the No Action Alternative; therefore, the CVHM model was selected for this analysis. Well logs near the construction sites or throughout the SWP and CVP service are not publically available, and detailed geologic data is not available in a universal level of detail for the study area. Therefore, the analysis was completed at a regional level for the comparison of alternatives, especially related to the use of pipelines/tunnels or canals. The EIR/EIS analysis recognized the limitations of a regional evaluation, and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for

DEIRS Ltr#	Cmt#	Comment	Response
			further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.
1642	13	Section 7.3.1.2, p. 7-36, beginning line 19. The EIS states, "The parameters used to simulate the dewatering projects were obtained from two DWR technical memoranda: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering and Groundwater Evaluation (California Department of Water Resources 2010a) and Analysis of Dewatering Requirements for Potential Excavations (California Department of Water Resources 2010b). Each dewatering project was simulated using CVHM-D." However, according to Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, DWR Document Number 9AA-31-05-145-001, Task Order WGI-15, February 28, 2010 (Technical Memo-1), section 1.1, p. 1-1: "Task Order WGI-15, Conveyance Canal and Construction Area Groundwater Evaluation, is designed to develop a more detailed understanding of the near-surface hydrogeologic regime and excavation dewatering requirements for proposed water conveyance options in the Sacramento River-San Joaquin River Delta ("the Delta")." The term "near-surface" refers to, "The pipeline excavation depth was assumed to be 30 feet below ground water surface. The dewatering target was assigned as 5 feet below the pipeline excavation depth (i.e. 35 feet below ground surface)." (Section 3.3.2, p. 3-7). Although the tunnel alignment per se will not be dewatered, there are numerous locations along the proposed tunnel alignment which are proposed to be dewatered to depths up to 150 feet below the existing ground surface. Therefore, project dewatering effects on groundwater, to tunnel alternatives invert depths from 36 feet to 150 feet below the exiting ground surface are ignored in the EIS. Figure 3-3 (Technical Memo-1) shows one proposed tunnel alignment but does not show any alternative tunnel alignment, or Alternative 4, the preferred alignment and does not accurately show the proposed location of the intakes. Therefore, how can the EIS, which relies on Technical Memo-1, comply with 40 CFR Section 1502.14, Alternatives including the proposed action, and with CFR 40 Section 1502.24 Methodology and scientific accuracy?	The EIR/EIS analysis recognized the limitations of the preliminary dewatering analyses, and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.
1642	14	Section 7.3.1.2, p. 7-36, beginning line 23. The EIS states, relying on Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, states that, "Each dewatering project was simulated using CVHM-D. The effects of each dewatering simulation were compared to the simulation of the No Action Alternative baseline conditions to obtain an estimate of the incremental impacts of dewatering activities." However, the EIS ignores Technical Memo-1 which states (Section 5.0 Data Needs, p. 5-1): A numerical model or analytical calculation could be employed to estimate the subsidence that might occur as direct result of dewatering. However, the usefulness of such a modeling/analysis effort would also depend on gathering site-specific thicknesses of potentially compressible units, values for inelastic and elastic storage coefficients. The estimates for pre-consolidation head are also needed to evaluate potential dewatering induced subsidence. The results of the subsidence assessments would be used to	The Draft EIR/EIS recognizes that the analysis does not include site-specific geotechnical and hydrogeologic analyses which would be completed during the project design, as described in Appendix 3B, Environmental Commitments. This lack of data is also recognized in the impact analysis in Chapter 7, Groundwater, which states that the model results are only a “forecast;” and therefore, groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.

DEIRS Ltr#	Cmt#	Comment	Response
		evaluate the potential for dewatering impacts to the surrounding topography, including nearby levee systems. The necessary data for this type of modeling/analyses could be acquired though geotechnical borings and acquisition of undisturbed core samples. However, dewatering of one or more test excavations as suggested ...would be necessary to confirm and refine the model's predictions. Section 5.0, Data Needs of Technical Memorandum: Analysis of Dewatering Requirements for Potential Excavations, identifies "some data gaps" including dewatering analysis of peat, site specific aquifer parameters, installation of "numerous groundwater monitoring wells", collection of groundwater quality data and "Once site-specific data have been collected, it is recommended that previously created flow evaluations be updated to reflect these new data. Additional scenarios could then be created to optimize dewatering methods or to determine the feasibility of alternate methods." (p. 5-2) None of these data gaps are addressed in the EIS. How does the EIS comply with CFR 40 Section 1502.24 Methodology and scientific accuracy and 40 CFR 1502.22 Incomplete or unavailable information?	
1642	15	Section 7.3.3, p. 7-39, beginning line 6 The EIS states, "The assessment of effects resulting from implementation of the BDCP alternatives is complicated by the fact that locations and construction details for existing production wells in the vicinity of the project are unknown at this time." This statement is misleading and is contradicted by Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering Evaluation, DWR 9AA-31-05-145-002, Task Order No. WGI-15, Subtask 2, January 21, 2010, section 3.0 Approach, which states that, " Although more than 100 groundwater monitoring wells were identified within the project area, the spatial distribution of these wells is not uniform across the project area. Additionally, the density of wells with respect to near surface hydrogeologic conditions is insufficient to produce a project- wide groundwater map detailed enough for site-specific dewatering analysis. Therefore, it is not possible to determine the site specific variation of initial depth to groundwater along each ... alignment." (p. 3-4) Additionally, Technical Memorandum: Definition of Existing Groundwater Regime for Conveyance Canal Dewatering Evaluation, DWR 9AA-31-05-145-002, Task Order No. WGI-15, Subtask 2, states that, "Appendix A contains individual hydrographs of groundwater wells monitored by DWR within the project area." Appendix A contains 102 groundwater well hydrographs. The location of each hydrograph is known. Therefore the EIS choose to ignore available groundwater data.	The CVHM-D model did not modify the hydrogeologic data within the CVHM model because it was desired to use the calibrated model to provide the basis for comparison of alternatives. With respect to the comparison of alternatives in the EIR/EIS, the primary differences between the alternatives are related to the number of intakes and use of pipeline/tunnels and canals. Different alignments of the pipeline/tunnels or canals were not analyzed. The effects on groundwater conditions between pipeline/tunnels and canals are more generally related to the construction methods (e.g., tunnel construction only would require dewatering at the tunnel shafts; whereas, canal construction would require dewatering along the alignment) and operational characteristics (e.g., pipeline/tunnels do not provide connectivity of the conveyed water and the groundwater; whereas, groundwater would be affected by operation of the canals). The EIR/EIS analysis recognized the limitations of a regional evaluation, and identified that groundwater impacts due to conveyance construction probably would not be able to be fully mitigated, and would remain significant and unavoidable under CEQA and adverse under NEPA for Alternatives 1 through 8 as compared to the Existing Conditions and the No Action Alternative. In addition, the EIR/EIS included requirements for further specific groundwater analyses during design of the project to develop site-specific mitigation measures for each construction location, as described in Mitigation Measure GW-1 in Chapter 7, Groundwater, of the EIR/EIS. However, the EIR/EIS stated that even with mitigation measures, the groundwater impacts could remain significant and unavoidable and adverse.
1642	16	Section 7.3.3.9, p. 7-81, beginning line 25 The EIS states, "Operation of the tunnel would have no impact on existing wells or yields given the facilities would be located more than 100 feet underground and would not substantially alter groundwater levels in the vicinity." The BDCP proposed two tunnels, not one; the EIS should be corrected. The EIS should be corrected to reflect a tunnel invert depth of 150 feet below the existing ground surface. The EIS offers no evidence or data to support the above statement. Throughout the EIS, the project proponents have stated that there are limited groundwater data available for analysis and that much of Much of the Chapter 7 analysis of project impacts to	The text referred to in this comment is related to the construction and operation of both tunnel bores in the tunnel. The text also refers to a depth of over 100 feet in Chapter 7, Groundwater, in the Draft EIR/EIS. The actual dimensions and depths of the facilities under Conservation Measure 1 in the action alternatives are presented in Chapter 3, Description of Alternatives. As described in Appendix 3B, Environmental Commitments, detailed geotechnical evaluations will be conducted during the design phase. The geotechnical evaluations will be used to develop the final design criteria and to determine the need to mitigate effects on agricultural land uses along the alignments (as described in Chapter 14, Agricultural Resources, Mitigation Measure AG-2).

DEIRS Ltr#	Cmt#	Comment	Response
		groundwater resources is based on two technical dewatering memorandums prepared by DWR and the CVHM-D groundwater model, neither were used to evaluate groundwater resources to depths of 100 feet or greater. The construction and operation of two tunnels, each 44 feet in outside diameter, buried at 106 feet to about 150 feet below the surface could have significant impacts of groundwater resources. Based on geotechnical borings (dated April 2013) from Mandeville and Bacon Islands, acquired by DWR and CH2MHill for the tunnel alignments, but not used in the preparation of the EIS, the interbedded lithologic units at depths between 100 and 150 feet below the existing ground surface range in thickness from one foot to about 17 to 20 feet and include 30 or more lithologic types. Some of the lithologic units at the tunnel depths exhibit aquifer characteristics -- silty sand, fine grain sand, etc. The majority of lithologic units are clays which may act as aquitards or aquicludes. The EIS makes no attempt to assess the impacts of dual tunnel construction on groundwater resources at depths of 106 to 150 feet below the existing ground surface. Based on DWR Bulletin 118-3, Evaluation of Ground Water Resources: Sacramento County, July 1974, reprinted April 1980, there are buried channels composed of permeable sand and gravels incised into less permeable silt and clay, resulting in a network of meandering tabular aquifers which are normal or near-normal to the proposed tunnels alignments. The buried channel aquifers represent the former locations of major rivers including the Sacramento, American and Consumnes. These buried, highly permeable channels will be intersected by tunnel construction. It is likely, that in the north Delta, these buried tabular aquifers serve as drinking water and agricultural water supplies. However, the EIS does not address impacts to groundwater users who withdraw groundwater from these permeable aquifers.	
1642	17	The impacts to groundwater resources which are not addressed in the EIS include - Impact GW 7(1): Dual tunnel construction will intersect producing aquifers and reduce or interfere with pre-existing wells. The impact would result in lowered groundwater levels and reduced well capacities and discharge rates and would affect residential and agricultural available groundwater. Impact GW 7(2): Pumping pre-existing groundwater wells within the vicinity of the tunnel alignments will cause groundwater drawdown beneath the tunnels and may aversively affect the structural integrity of the dual tunnels. Pumping wells within the vicinity of the dual tunnels create radii of influence which lower groundwater levels. Withdrawing groundwater from beneath the dual tunnels will adversely affect the structural integrity of the lithologic units on which the tunnels are bedded. Impact GW 7(3): Pumping during dewatering activities at the intakes and at specific locations along the tunnels alignments, may cause reversals in groundwater gradients and groundwater flow directions. The shallow groundwater gradients are susceptible to alterations that would affect pre-existing domestic and agricultural water wells. Impact GW 7(4): Construction of the forebays, which intercept the unconfined aquifer, will change the gradient and depth to groundwater. Groundwater levels up-gradient of the forebays will be increased and depth to groundwater down-gradient of the forebays will be in reduced and may cause extremely shallow ground conditions that will damage building foundations, roadways and irrigation canals.	Changes in groundwater elevations, including effects of reverse flows, are indicated in Section 7.3 of Chapter 7, Groundwater Resources, of the Draft EIR/EIS and the BDCP/California WaterFix RDEIR/SDEIS. As discussed in Chapter 7, mitigation measures are available to reduce the effects; however, under specific conditions, the impacts may remain significant and unavoidable and adverse, as indicated in this comment.

DEIRS Ltr#	Cmt#	Comment	Response
1642	18	Chapter 9, Geology and Seismicity, Section 9.3.3.9, Impact GEO-3, beginning p. 9-181 Impact GEO-3: Loss of Property, Personal Injury, or Death from Ground Settlement during Construction of Water Conveyance Features (Note: Impact Geo-3 applies at all tunnel alternatives; Section 9.3.3.9 refers to Alternative 4, the preferred alternative) Impact Geo-3: Two types of ground settlement could be induced during tunneling operations: large settlement and systematic settlement. Large settlement occurs primarily as a result of over-excavation by the tunneling shield. The over-excavation is caused by failure of the tunnel boring machine to control unexpected or adverse ground conditions (for example, running, raveling, squeezing, and flowing ground) or operator error… This [large] settlement can also affect the ground surface…While this could potentially cause property loss or personal injury above the tunneling operation, instances of large settlement are extremely unlikely to occur due to pre-construction measures and other protective strategies and safety practices during construction. Comment 1 According to US Department of Transportation, Federal Highway Administration, Technical Design Manual for Design and Construction of Road Tunnels, and A Method of Estimating Surface Settlement Above Tunnels Constructed in Soft Ground, by R.K Rowe and K.Y. Lo (National Research Council of Canada, 1983) and Predicting the Settlements Above Twin Tunnels Constructed in Soft Ground by D. N. Chapman, C.D.F. Rogers and D.V.L. Hunt, University of Birmingham, U.K., estimating potential ground settlement above tunnels in soft ground can be accomplished with accepted mathematical formulas. However, in the EIS all methods to estimate potential ground settlement above the twin tunnels are ignored. The risk of ground settlement to cause personal injury above the tunnels may be low. However, the EIS ignores the potential for adverse impacts at the ground surface based on accepted soil mechanics applications. The Technical Design Manual for Design and Construction of Road Tunnels (US Department of Transportation, Federal Highway Administration) provides an approach to estimate ground surface settlement impacts above tunnels. Based on the design manual's mathematical formulas numbers 7-2, 7-3 and 7-4, it is possible to estimate the width and depth of a settlement trough. The design manual also states that, "In the case of parallel adjacent tunnels, surface settlement is generally assumed to be additive." Therefore, based on published data, accepted soil mechanic applications and the proposed BDCP tunnel geometry, known or estimated groundwater conditions and soil types as stated in other chapters of the BDCP EIS, a reasonable estimate of ground surface settlement can be determined. The BDCP EIS should be revised to include such an estimate to be used to evaluate surface impacts so that an informed reviewer can understand the surface settlement effects of the twin tunnels.	See response to comment 1601-1054.
1642	19	ATT1: Illustration from the Technical Design Manual for Design and Construction of Road Tunnels (US Department of Transportation, Federal Highway Administration, Figure 7-9)	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 comment referencing the attachment or the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1642	20	Impact Geo-3: The BDCP EIS's failure to estimate potential ground surface settlement above the twin parallel tunnels ignores potential surface impacts which include: --An estimate of the width of the settlement trough which could be several hundred feet or more in width and extend the entire 35-mile length of the tunnels and how the width could vary depending on geologic and groundwater conditions,. --An estimate of the depth of the settlement trough which could be minimal to tens of feet or more in depth and extend the entire 35-mile length of the tunnels and how the depth could vary depending on geologic and groundwater conditions. --Effect of highways, roads, and streets from settlement. --Effect on buried utilities. --Effect on surface streams and rivers. --Effect on agricultural lands and access to agricultural lands. --The withdrawal of additional agricultural land from production within the trough. --The requirement to purchase additional right-of-way to prevent encroachment onto land affected by settlement, and the additional costs to do so. --The effect of flooding within the trough and how flooding could affect surrounding land uses. Impact Geo-3: Site-specific geotechnical investigations are needed to design the extent and type of ground improvement that may be required. Ground improvement would be required to facilitate support of tunnel shafts, control groundwater at the locations of the shafts, prevent development of undesired tunnel-induced surface settlements and provide pre-defined zones for TBM [tunnel boring machine] maintenance interventions. However, during detailed project design, a site-specific subsurface geotechnical evaluation would be conducted along the pipeline/tunnel alignment to verify or refine the findings of the preliminary geotechnical investigation. The tunneling equipment and drilling methods would be reevaluated and refined based on the results of the investigations, and field procedures for sudden changes in ground conditions (e.g., excavate and replace soft soil; staged construction to allow soft soil to gain strength through consolidation) would be implemented to minimize or avoid ground settlement.	GEO-3 has been revised to describe the expected width of the settlement "trough," the depth of settlement, and the change in ground slope that is anticipated at certain developed areas and infrastructure as a result of the tunneling operation. Specific protection measures would be implemented at locations along the tunnel alignment that are particularly sensitive to settlement. Such "critical assets" consist of buildings, major roads, natural gas pipelines, electrical and communication lines, aqueducts, bridges, levees, and sensitive satellite dish facilities. The maximum allowable settlement for each type of asset would be established using published standards or industry best practice. Regarding the part of the comment pertaining to geotechnical investigations, DWR's Delta Habitat Conservation and Conveyance Program released a description of an expanded geotechnical investigation effort in October 2014, the draft Geotechnical Exploration Plan – Phase 2. That document presents a general geotechnical exploration plan with the rationale, investigation methods, and criteria for obtaining subsurface soil information and laboratory test data to support preliminary engineering and final design of the Modified Pipeline/Tunnel Option (MPTO) with north Delta pumping plants as well as the MPTO with Clifton Court pumping plant. The program involves approximately 600 boring and cone penetration test locations. In proposed tunnel alignments and at pump shafts and safe heaven areas, the explorations will include advancing boreholes to a depth of approximately 300 feet. As described in the Geotechnical Exploration Plan, the protection measures that may be employed to control settlement in excess of the allowable limits include establishing construction specifications for the minimum TBM face pressures and measurements of the volume and/or weight of the soil being extracted, requirements in the contract documents to limit TRM volume losses to a specific figure, requiring the tunneling contractor to closely manage the method of advancing the tunnel and manage ground losses at the tunnel face and around the shield body.
1642	21	The BDCP EIS relies exclusively on the twin tunnel concept to meet the purpose and need of the BDCP. However, there is virtually no detail and no significant discussion regarding the impacts of the tunnel construction on surface settlement. Therefore, a reviewer cannot reach any conclusion on the project's effects or mitigation measures. Although not specifically called out, Impact Geo-3 relies on "adaptive management" techniques and future engineering studies and design to allay any concerns regarding surface settlement, and ignores published data that provides methods to estimate surface settlement impacts. The BDCP EIS proponents and preparers clearly know that published data to estimate surface settlement is available because language within the BDCP EIS is very similar to, or nearly the same as, language in various professional publications that	Please refer to response to comment 1601-1054. A volume loss of 1% is considered robust for the proposed EPB tunneling method and variety of geological materials to be tunneled through. A review of performance on similar projects around the world demonstrates that 0.6% volume loss is typically achieved. As described in the revised Impact GEO-3, additional geotechnical borings and other data would be used to determine the amount of settlement that can be expected in each geologic unit.

DEIRS Ltr#	Cmt#	Comment	Response
		address surface settlement caused by tunnels in soft ground. However, the preparers have chosen not to cite any published design manuals or professional papers, probably because doing so would force the preparers to acknowledge that large scale surface settlement and significant adverse effects are likely to occur during the construction of the twin tunnels. Therefore, the BDCP EIS preparers should revisit available technical publications and fully disclose to the public an estimate of surface settlement and the likely impacts. Impact Geo-3 The geologic units in the area of the Alternative 4 modified pipeline/tunnel alignment are shown on Figure 9-3 and summarized in Table 9-26. The characteristics of each unit would affect the potential for settlement during tunneling operations. Segments 1 and 3, located in the Clarksburg area and the area west of Locke, respectively, contain higher amounts of sand than the other segments, so they pose a greater risk of settlement.	
1642	22	Figure 9-3 does not show the location of the Alternative 4 tunnel alignment. Therefore, the reference to Figure 9-3 is confusing and should be corrected in the BDCP EIS. Alternative 4 is not located west of the community of Locke and the location shown in Figure 9-3 should not be considered in the vicinity of the Alternative 4 alignment. Table 9-26, Surficial Geology Underlying Alternative 4/ Modified Pipeline/Tunnel Alignment by Segments, lists only surficial deposits. A surficial deposit is defined by the American Geological Institute (Dictionary of Geologic Terms, 1983) as, "Pertaining to or lying in or on a surface, specifically, the surface of the earth". Surficial geology is not a term that is applied to geologic deposits or geologic units at depth. The Atwater (1982) report cited in the BDCP maps surficial deposits and specifically identifies those deposits as shallow, near surface deposits, based largely on soil types; not 150 feet deep, the depth of the tunnel inverts. Therefore, the BDCP EIS should be revised to eliminate references to surficial geology as an indicator of potential ground surface settlement. Additionally, the title of Table 9-3 should be changed to "Surficial Geology Overlying Alternative 4/ Modified Tunnels Alignment by Segments".	Figure 9-3 shows the Alternative 4 tunnel alignment in green, as represented by the Modified Pipeline/Tunnel Alignment on the map. The alignment is shown correctly. However the color of the Modified Pipeline/Tunnel Alignment will be enhanced to illustrate the alignment more clearly. Additionally, the last sentence on Page 9-181 will be revised to refer to the area east of Locke, as follows (change shown in italics): “Segments 1 and 3, located in the Clarksburg area and the area east of Locke, respectively, contain higher amounts of sand than the other segments, so they pose a greater risk of settlement.” Regarding the part of the comment pertaining to geologic terminology, where describing the potential for ground surface settlement at depth, the EIR/EIS will be revised to eliminate references to surficial geology. Additionally, the title of Table 9-36 will be changed to "Surficial Geology Overlying Alternative 4/Modified Pipeline/Tunnel Alignment by Segments". Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A.
1642	23	Impact Geo-3 The title of Impact Geo-3 is "Loss of Property, Personal Injury, or Death from Ground Settlement during Construction of Water Conveyance Features" (section 9.3.3.9). Therefore it is misleading why the impact refers to: The results of the site-specific evaluation and the engineer's recommendations would be documented in a detailed geotechnical report prepared in accordance with state guidelines, in particular Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Geological Survey 2008). It is not clear from the BDCP EIS how surface settlement impacts from twin tunnels can be mitigated using Guidelines for Evaluating and Mitigating Seismic Hazards in California. Therefore, the BDCP EIS must clarify how these guidelines are applied to surface settlement impacts and what those impacts could be. Impact Geo-3 seems to assume that surface settlement from twin tunnels is akin to slope stability issues associated with landslides and that all risks from surface settlement will be	See response to comment 1601-1054. For mitigation of settlements, the design methodology laid out by the International Tunneling Association will be followed (ITA/AITES (2006). Report on settlements induced by tunneling in soft ground. Tunneling and Underground Space Technology 22 (2007) 119–149).

DEIRS Ltr#	Cmt#	Comment	Response
		addressed in the design phase of the project. Impact Geo-3 concludes: Conformance to these and other applicable design specifications and standards would ensure that construction of Alternative 4 would not create an increased likelihood of loss of property, personal injury or death of individuals from ground settlement. Therefore, there would be no adverse effect. At best, the BDCP EIS vague about design specifications and gives no hint of what "other applicable design specifications and standards" might be. The BDCP does not cite any technical manuals or professional papers regarding methods to estimate ground surface settlement and asks the public to trust that the a qualified tunnel engineer and operator will be retained to construct twin 44-foot diameter tunnels in soft ground, entirely within groundwater aquifers, at tunnel invert depths of 150-feet for a distance of 35-miles. The BDCP EIS should be revised to take a hard look at its conclusion that the twin tunnels would have no adverse effect.	
1643	1	This letter is submitted on behalf of owners on Long Island, situated approximately nine miles downstream of the proposed project as well as residents in the vicinity of and downstream of the proposed diversion point. Long Island consists of 34 residential lots all maintained by the property owners. Long Island is surrounded by water with the Sacramento River on one side and a Dredger Cut on the other. Access to Long Island is via a private bridge. Property ownership dates back over 7 decades. Long Island residents have maintained the Dredger Cut for over 4 decades, including maintenance dredging approximately every ten years, including an ongoing project for which permits have recently been issued by seven different federal and state agencies. This property is one of a kind in the Sacramento Delta and residents have invested hundreds of thousands of dollars in the island and the assessed value of the property is conservatively over $17 million dollars. The proposed project will adversely affect the property at Long Island and have significant environmental effect on the delta and Sacramento regions above and below the proposed project. A current dredging project at Long Island is paid for entirely by property owners at a cost of nearly $200,000.	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. The route of the tunnels is identified in the Chapter 3 Mapbooks. The preferred alternative, 4A, would be more than 5 miles away from commenter's location. Therefore, it is not within the construction footprint and no impacts are anticipated to Long Island from Alternative 4A.
1643	2	Substantial environmental work was done prior to approval of the project. The Tunnel Project will adversely impact the dredge work and will result in a declining condition in the Dredger Cut caused by silt build up. A companion project at Vierra's resort, one half mile downstream from Long Island will incur a similar expense and suffer similar effects. As part of this project Long Island Property Owner's Association commissioned a hydrology study relating to flows, weed growth, dredge options, and silt build up in the Dredger Cut.	Permit conditions would include erosion and sediment control BMPs (such as revegetation, runoff control, and sediment barriers) and compliance with water quality standards. Within the Delta, geomorphic changes associated with sediment transport and deposition are usually gradual, occurring over years. As discussed in Impact WQ-29, Alternative 4A is expected to have minimal effect on TSS or turbidity levels in Delta waters or in the SWP/CVP Export Service Areas (due to sediment). Therefore, the proposed project is not anticipated to impact Dredger Cut or contribute a substantial amount of sediment downstream.
1643	3	Water Flows: The summer and spring flows will be dramatically reduced by the water diverted 9 miles upstream. Residents depend on spring and summer flows for recreation and to reduce weed growth. The drought over the past two years has resulted in decreased flows and warmer water. The reduction of flows from Oroville, Shasta and Folsom all dramatically affect the use of property on Long Island. We are tide dependent and the low tides are lower than most long time residents can remember. The dramatic decreases in flows in the Sacramento caused by the tunnels will exacerbate our low and high tide conditions. In many months of the spring, summer and fall the residents can only use docks at high tide conditions. The tunnel project will adversely affect the ability of residents to enjoy the use of their property even at high tide conditions. The owners have substantial investments in the island and the Tunnel	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

DEIRS Ltr#	Cmt#	Comment	Response
		Project has not examined the impact on recreation for property owners, impacts to the Dredger Cut and the increased costs that owners will incur for future dredge projects caused by low flows. Low flows allow sediment to deposit in the slough channel (Dredger Cut) at a much more rapid rate. As the sediment builds at the up and down stream ends, it slows further and causes even great deposits of silt. The Tunnel Project has failed to examine the effects on flows for our neighbors or similarly situated property owners below the diversion point. Our studies show that greater silt will be deposited as flows slow. The lower flows impact fish, including the green sturgeon which we were recently required to analyze with our dredge project. The EIR/EIS significantly underestimates the flows from the diversion and thus the impacts experienced by all users below the Tunnel Project and the potential impacts to all reservoirs that are the source of the Sacramento River.	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. Please also see Appendix C of the RDEIR/SDEIS Supplemental Modeling Requested by State Water Resources Control Board Related to Increased Delta Outflows." To summarize changes in Delta outflow under Alternative 4A, late-fall and winter outflows remain similar or show minor reductions in Alternative 4A (ELT) compared to No Action Alternative (ELT) and are slightly higher relative to Existing Conditions. In the spring months, outflow would remain similar under Alternative 4A (ELT) as compared to No Action Alternative (ELT), and would be slightly reduced compared to Existing Conditions. In the fall months, outflow under Alternative 4A would increase relative to Existing Conditions, and as compared to the No Action Alternative (ELT), would be similar because of Fall X2 requirements in wet and above-normal years. As described in Chapter 8, Water Quality, in Impact WQ-29 for all project alternatives, changes in river flows would affect Delta hydrodynamics and, thus, erosion and deposition potential in certain Delta channels. However, the degree to which this would happen cannot be readily quantified, though it is expected that TSS and turbidity would not be adversely affected by the alternatives. Further, it is noted in Chapter 11, in Impact AQUA-6 that sediment supply may actually decrease due to operation of the north Delta intakes. The effects on fish, including green sturgeon, related to changes in flows are described in Chapter 11. Regarding impacts to recreation, as discussed in Chapter 6, CALSIM modeling results indicate that effect to Sacramento river flows are less than significant. 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 Delta. Because substantial changes in water levels on the Sacramento River are not anticipated, they were not included in the Chapter 15 analysis.
1643	4	The Tunnel Project assumes that Sacramento water users and American River water user's contracts could be violated in order to provide the required water for the Tunnel Project. This assumption is flawed The project assumes the Folsom Lake could go to a dead pool status once every ten years and thus jeopardizing all other downstream users, including farmers and users like the owners on Long Island who depend on this water below the proposed site of the Tunnel Project.	As shown in Chapter 5, Figure 5-12, Folsom Lake End of September Storage, of the Final EIR/EIS, the proposed project does not increase the frequency of "dead pool" conditions in the Folsom Lake compared to the No Action Alternative. The increased occurrences of "dead pool" conditions in the future either with or without the proposed project are primarily attributable to sea level rise, climate change and higher demands associated with water rights (primarily in El Dorado, Placer, and Sacramento counties), and not due to proposed project. Please see Master Response 19 for more information regarding climate change. See also Master Response 25 for discussion of upstream reservoir effects. The proposed project would not affect upstream water rights. 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 FEIR/FEIS for additional modeling details. Please see Master Response 26 regarding water resources in northern

DEIRS Ltr#	Cmt#	Comment	Response
			California.
1643	5	The Tunnel Project will adversely affect all residents on all sides of Grand Island as flows will be decreased in Steamboat Slough as well. The users of the water ways on all sides of Grand Island, including Snug Harbor, the marinas and Hogback launch ramp will all be affected. Summer is the highest recreational use period and likely the highest period of demand for users of the water diverted by the Tunnel Project. These properties will also experience greater invasive weed growth as a result of the lower and slower flows. The EIR fails to analyze the impact on users on all sides of Grand Island and fails to offer any mitigation measures or adequately examine how the impacts on these users can be mitigated.	Hogback Island Recreation Facility and Grand Island between 3 and 6 miles from the preferred alternative's alignment (4A), and are not within the project's footprint for 4A. No impacts are expected. Additionally, an environmental commitment to fund the California Department of Boating and Waterways' Programs for aquatic weed control in the Delta would be implemented.
1643	6	The tunnel project fails to provide any mitigation for the property owners who will not have beneficial use of their property. The tunnel project does not provide any mitigation or analyze any potential mitigation measures such as dredging in the Sacramento River or the Dredger Cut to reduce the significant impacts of the project.	Where applicable, the project proponents will provide compensation to property owners for losses due to implementation of the project. The potential environmental effects of Environmental Commitments and Mitigation Measures are analyzed in Chapter 31, Section 31.5.
1643	7	The result of lower flows in the past year has been dramatically increased weed growth of over 4 types of aquatic weeds, including several which are invasive to the delta and are attempted to be controlled by Department of Boating and Waterways (DBW). See http://www.dbw.ca.gov/BoaterInfo/ AguainvSpec.aspx for weed varieties. The Delta is being inundated by invasive weeds and our island has seen a dramatic increase in the past several years. The weed growth this year is even more dramatic than others due to low flows. As temperatures warm and the flows decrease the weeds grow exponentially. The weed growth impacts and prevents in some cases fish to utilize the water and makes navigation very difficult if not impossible depending on the flow and the tide level. The efforts to eradicate weeds by DBW are ineffective when there is even a small flows like we have in our Dredger Cut particularly with tidal action. The EIR fails to examine the impact on weed growth in the delta and fails to provide or study any potential mitigation measures for weed eradication.	The commenter is incorrect in stating that the proposed project does not address aquatic weed issues; for the alternatives proposed as HCPs/NCCPs, CM13 Invasive Aquatic Vegetation Control was included to augment existing efforts at weed control. The potential effects of this measure were analyzed for covered fishes. 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 BDCP Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts. Alternative 4A does not include CM13 for Invasive Aquatic Vegetation. Analysis of potential operational effects on Egeria densa because of channel velocity changes in the public draft BDCP (Appendix 5.F, section 5.F.4.2.4.3) suggested that there would little difference between existing biological conditions and the evaluated starting operation scenarios in the early long term, which is similar to Alternative 4A in terms of operations. Mitigation Measures in the Mitigation Monitoring and Reporting Program for Alternative 4A that include invasive weed prevention and management are: AG-1a: Promote agricultural productivity of Important Farmland; AES-1c: Develop and Implement a Spoil/Borrow and Reusable Tunnel Material (RTM) Area Management Plan; AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned ; AES-1f: Locate Concrete Batch Plants and Fuel Stations Away from Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities ; AES-1g: Implement Best Management Practices to Implement Project Landscaping Plan; EC: Develop and Implement a Barge Operations Plan & AMM7: Barge Operations Plan; AMM11: Covered Plant Species.
1643	8	The current drought is a clear example of the correlation between flow and water temperature. This project will take hundreds of thousands of cubic feet of water from the lower Sacramento system, just 9 miles above our homes. The water temperature has risen since the drought and is further affected by low flows and weed growth. The temperature is measured objectively and the weed growth is dramatic and apparent. The project will only further raise water temperatures, particularly in the summer and spring months when water is most in demand by the downstream users of the Tunnel Project. The Tunnel Project will divert water that keeps the lower delta cool and reduces the impacts partially described above. The Tunnel Project will cause waters to warm in the	The effects of operations on water temperature in areas upstream of the Delta are included in the species analyses in Chapter 11, and existing literature suggests that CVP and SWP reservoir operations do not affect changes in Delta water temperatures and therefore do not cause biological effects. Alternative 4A would continue to comply with the flow and temperature requirements of the existing Biological Opinions governing upstream reservoir operations. Under drought conditions, it is expected that a similar decision-making process as to 2014/15 would be implemented to manage real-time conditions. Overall, the analysis of Alternative 4A indicated that there would be minimal changes in upstream temperatures and that these changes could be avoided through the continued implementation of real-time operational adjustments. No impacts for Alternative 4A were found to be significant after mitigation and mitigation of

DEIRS Ltr#	Cmt#	Comment	Response
		American River affecting fish in the entire system. The Tunnel Project will significantly impact fish that are already struggling to survive in the delta. Water temperature increases will adversely affect fish, result in more rapid invasive and other weed growth and the project has failed to adequately study the impact on water temperature or to provide or study any mitigation measures to lessen or eliminate the impacts. The EIR/EIS has failed to adequately examine the efforts on steelhead and fall run salmon. In addition the green sturgeon in the Delta is impacted by water temperature and silt flows and the project has failed to analyze these impacts. If the state and federal agencies do not allow the delta system to be operated to the detriment of the fish, then the EIR/EIS has failed to present an accurate picture of the project. The EIR has failed to study the no project alternative option or to study and propose how the project can be mitigated to less than a significant level related to water temperatures.	significant impacts in other alternatives would require substantial changes in operations, thereby fundamentally changing the alternative. The RDEIR/SDEIS includes an updated analysis of the No Action alternative.
1643	9	The project will result in increased silt build up in the Dredger Cut and the Sacramento River. Our study by a licensed engineer and hydrologist as well as personal observation by owners on Long Island demonstrates that lower flows, particularly in the spring and summer will dramatically increase silt build up. Flows from upsteam of the Tunnel Project site will disturb silt and the reduction of flows at the tunnel site will result in depositing solids at a greater rate and cause further silt build up. Our residents bear the entire cost burden of Dredger Cut maintenance dredging and the EIR/EIS has failed to examine the impacts on the river or dredger cut in the area of Long Island or any of the marinas, or residential properties downstream of the tunnel project caused by silt build up. The project itself will create significant flows of silt in the Sacramento River for years to come. There is no analysis of the impact of the silt flows from the project, just 9 miles above our residences. No dredging has occurred in the Sacramento River below Walnut Grove for boat traffic in many years. The impacts on flows with diversions upstream will adversely affect navigation with any boats utilizing a sizable keel. Boat traffic for other boats will be impacted in low tides to a much more significant level. Boats docked on the river will potentially be impacted in lower tide situations and there is no analysis of these impacts or mitigation measures to address the impacts. The EIR fails to examine the impact on users of water, including water wells downstream of the project who will be impacted by decreased flows and increased silt build up. Pumps along the river for irrigation depend on clear areas, free of silt build up.	Please refer Chapter 6, Surface Water and Appendix 5A of the Final EIR/EIS for a description of the flow related changes associated with the action alternatives these analyses describe only minor changes in Delta flow that is not expected to affect Delta Navigation. Please also refer the Final EIR/EIS Chapter 11, Fish and Aquatic resources which describes how the proposed conveyance facility operation will result in removal of additional sediment as part of water diversions. Sediment conditions in downstream areas are not expected to increase with implementation of the proposed project.
1643	10	The EIR fails to adequately examine the potential for salinity in the river downstream of the project and fails to provide any mitigation measures to address salinity or alternatives to the project to avoid salinity. Historically and with droughts, the salinity levels have crept up river and impacted farms and lawful water users. Our residents are all on wells for domestic and landscape purposes. The EIR does not examine the potential for salinity in the river, and its dramatic impact on all aspects of life in the delta, farming and water usage. Once salinity impacts users, the impact may and is likely to be irreversible. Recent efforts that were abruptly stopped to install curtains at Walnut Grove to curtail salinity demonstrate the severity of the salinity threat. The Tunnel Project proposes to reduce flows by hundreds of thousands of cubic feet and result will be increased threats of salinity downstream from the tunnel diversion. The threat in the spring of 2014 of salinity resulted in dramatic proposals by state agencies. These proposals including	The effects of less Sacramento River water flowing through the Delta on salinity-related parameters under certain project alternatives is fully addressed in Final EIR/EIS Chapter 8, Water Quality. The water quality assessment addresses effects of changes in salinity on agricultural uses due to the project alternatives via the EC assessment (Impact WQ-11) through evaluation of compliance with agricultural objectives in the Bay-Delta Water Quality Control Plan and degradation relative to existing conditions and the No Action Alternative. Where significant impacts to uses would occur due to the alternative, as opposed to other forces including climate change and sea level rise, mitigation to lessen those impacts is provided. Regarding “silt”, Impact WQ-29 addresses changes in total suspended solids and turbidity due to the project alternatives and concludes for all alternatives that the effects would be less than significant to beneficial uses.

DEIRS Ltr#	Cmt#	Comment	Response
		blocking access to certain areas and using lifts to move boats. The dramatic proposals were deemed necessary even without any reduction in water due to the Tunnel Project. If the tunnels are constructed, the water will flow through them. The result is simply less water below the diversion point. It is clear, that the threat of salinity and other impacts will not be lessened and, in fact, will be increased. The project fails to examine the impacts on fish cause by salinity and increased silt. There are no adequate mitigation measures to prevent the devastation that one low flow season that increases salinity will cause. The project has failed to mitigate or attempt to mitigate to a less than significant level.	For additional discussion of salinity and other water quality considerations, see also Master Response 14.
1643	11	The Tunnel Project will reduce the flows for all downstream users. The 2013-14 drought, one of the worst on record, has heightened the demand by all users upstream and downstream of the project for any available water. Residents in the Sacramento region have dramatically reduced water usage and water agencies have imposed mandatory and other voluntary restrictions on water use. Some communities utilizing American River water have reduced consumption by over 25%, yet still have significant restrictions on water use and the delta is not receiving the flows that are necessary for a healthy system. All the while the Tunnel Project proposes to divert hundreds of thousands of acre feet each year, to the detriment of all lawful downstream users. Should the drought continue or when the next one comes, the potential users of the Tunnel Project will demand use of the tunnel diversion water and the downstream users will be adversely impacted. These users include some of the richest farmland in the western United States, if not the world. The Tunnel Project fails to adequately examine mitigation measure to address future droughts and impacts on users downstream of the diversion. The EIR is fatally flawed as the analysis shows that Folsom Lake will be reduced to a dead pool one out of every ten years. The Delta and particularly the upper Delta and the American River depend on Folsom lake flows for viability. The American River depends on cold water flows and the Delta depends these flows for migratory salmon, steelhead, and stripers, all of which will be impacted based on the flows from the American River.	Alternative 4A, the proposed project, will maintain compliance with Delta outflow regulatory requirements for all water years with the use of the North Delta intakes, as described in Chapter 5, Water Supplies, and Chapter 6, Surface Water. A detailed discussion of the specific Delta outflows under a range of seasons and water year types is contained in Appendix 5A.In addition, the BDCP will reduce Delta exports and increase Delta outflow during drier years. The action alternatives would only export water allocated to the SWP and CVP under existing water rights, as limited by hydrologic conditions and regulatory requirements issued by the State and federal agencies. Figures 5-17 and 5-19 of Chapter 5, Water Supply, of the Final EIR/EIS present the average annual SWP and CVP Delta exports for longer average annual conditions and dry/critical water year types. 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 in wet years. As shown in Figure C-11-6, the north Delta intakes would have minimal flows that would be required for maintenance of the pumps during critical dry years. However, it is important to have the maximum capacity in the intakes and tunnels to convey water during extremely wet periods to areas south of the Delta for storage and use during drier times. The proposed project is not intended to serve as a state-wide solution to all of California's water problems related to climate change, sea level rise, and population growth under the No Action Alternative; and it is not an attempt to address directly the need for continued investment by the State and other public agencies in agricultural and municipal/industrial water conservation, 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).
1643	12	The EIR/EIS contains no analysis to explain what would happen to groundwater in the region and in particularly the upper delta as users with wells rely more heavily on groundwater than their riparian rights. This is a serious concern as many users rely exclusively on well water for home and irrigation use. Our residents are exclusively on well water and we are only 9 miles below the diversion point. Impacts on the quality of the water and the depth at which water may be obtained must be identified. BDCP must adequately address possible groundwater impacts in our region.	Chapter 7, Groundwater, in the Final EIR/EIS describes the potential changes in groundwater due to implementation of the proposed project as compared to the Existing Conditions and the No Action Alternative, and potential mitigation measures. The EIR/EIS does not mitigate changes in groundwater in the No Action Alternative as compared to the Existing Conditions due to climate change, sea level rise, or population growth.
1643	13	Socioeconomic Impacts on the Delta Economy and Injury to Businesses Caused by Reduction in Water Below the Diversion Point are not Properly or Thoroughly Analyzed. NEPA requires that an EIS address a project's socioeconomic effects of a Project. CEQA requires that an EIR address a project's socioeconomic effects that generate environmental consequences. The DEIR/DEIS fails to properly analyze BDCP's socioeconomic impacts to the Delta and the region. The Delta economy survives and thrives on water and is dependent on water for all aspects of life. Tourism, fishing, boating, aquatic and bird life, small businesses who depend on users of the river and farming all depend on the flow of water through the	The socioeconomic effects of the proposed project are addressed in Final EIR/EIS Chapter 16, Socioeconomics, EIR/EIS. In particular, effects of construction of the proposed project 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,

DEIRS Ltr#	Cmt#	Comment	Response
		delta. At one of the upper most reaches of the delta the Tunnel Project proposes to divert water essential to the life of the Delta. Residents of all income brackets, farm workers and small business owners and farmers will be dramatically affected by the tunnel project and no mitigation is offered to assist or to prevent harm to the residents, business and economy all of whom depend on the river for their livelihood. The Tunnel Plan is poorly conceived and would violate the Endangered Species Act (16 U.S.C.A. [Sections] 1531-1544) ("ESA") and the Natural Community Conservation Planning Act (Fish & Game Code [Sections] 2800-2835) ("NCCPA"). The Tunnel Plan fails to satisfy the most basic funding requirements of the ESA and the NCCPA because nearly all of the funding sources it identifies are too speculative, and there are no guarantees that anticipated funding will be adequate to implement the proposed conservation measures. Further the plan fails to recognize any funding for the impacts described above including silt build up, weeds and salinity.	Impact ECON-9, Impact ECON-11, and Impact ECON-12. Additionally, effects on recreational resources, including specific businesses such as marinas, are addressed in Final EIR/EIS Chapter 15, Recreation. (See Impact REC-1 and Impact REC-2 for impact discussions and mitigation.) See also Please see Master Response 18 for more information on agricultural mitigation and Master Response 24 for information on the Delta As a Place. In addition, an analysis of economic impacts of the proposed project, including impacts related to agriculture, recreation, water rates, and taxes are also evaluated and described in the Statewide Economic Impact Report (http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx). Construction of water conveyance facilities would be sequenced over approximately 10 years. Construction of individual components (e.g. intakes, tunnels) would range from one to six years. Temporary construction-related impacts include noise, visual, and transportation, among others. The construction-related impacts are disclosed in individual resource area chapters in the 2013 Draft EIR/EIS. All impacts would be minimized and mitigated to the degree feasible and are described under each alternative in the RDEIR/SDEIS individual resource chapters and in Appendix 3B, Environmental Commitments, EIR/EIS. Salinity effects of the proposed project, and related mitigation measures, are discussed in Chapter 8, Water Quality, Final EIR/EIS. (See Impact WQ-9. Also note that the economic effects of the BDCP related to the salinity of Delta agricultural water supplies are address in Section 3.1, Salinity of Agricultural Water Supplies, Bay Delta Conservation Plan Statewide Economic Impact Report. Issues related to potential silt impacts are discussed in Final EIR/EIS Chapter 10, Soils. Potential issues related to weeds are discussed in Final EIR/EIS Chapter 12, Terrestrial Biological Resources. Please see Master Response 5 for a response to the proposed project funding assurance issues.
1643	14	The EIR/EIS is poorly written, confusing, contradictory and fails to adequately inform the public of the consequences of the Tunnel Project. The DEIR/EIS is legally inadequate as an informational document because it is poorly organized and very difficult to read. It is fundament that the EIR/EIS must be able to be understood, instead here it is incomprehensible to decision-makers and the public alike. The document fails to provide meaningful information about many of the project's environmental impacts. The confusing nature of the document itself -- its extreme length, numerous cross-references, and contradictory statements -- prevent the meaningful evaluation of BDCP's environmental consequences.	Discussions of the main environmental attributes affecting individual covered species are provided in Appendix 2.A of the 2013 public draft BDCP. Effects of the proposed water conveyance and associated restoration activities on general resource areas are discussed in Ch. 4 of the RDEIR/SDEIS. Resource areas are addressed separately 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, public health, and others. Where impacts are determined to be significant, environmental commitments will be implemented to avoid and/or offset these effects, where possible. 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. For more information regarding document length and complexity please see Master Response 38.It explains that 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

DEIRS Ltr#	Cmt#	Comment	Response
			state and federal laws for special status species protection
1643	15	The EIR/EIS is incomplete as it has failed to obtain the testing at the Project Site that sought to obtain. The project intended to do testing at the project site. Property owners denied access and have thus far prevailed in their desire to keep the State from doing invasive testing on their land. To continue to pursue and EIR/EIS without the very testing they desired renders the project incomplete in its analysis of the site conditions.	The comment does not refer to the content of the EIR/EIS. Additionally, it is unclear to what testing the commenter is referring, but presumably is referring to geotechnical exploration/testing. Geotechnical testing has already been conducted along parts of the conveyance facility alignment and at other locations, as part of the first phase of work. The second phase of the two-part testing program is described in Section 3.6.1.10 in Chapter 3, Alternatives. Some properties in the planning area have been selected for further geotechnical study to improve the accuracy of the previous exploration/testing. In these cases, DWR representatives have sought access to properties through the use of a Temporary Entry Permit (TEP). TEPs grant field crews temporary access to private property so that studies may be conducted. DWR has prepared an Addendum and filed an NOD to the 2010 IS/MND for Geotechnical Exploration Activities. DWR has been unable to obtain access to many properties in the planning area in order to complete the activities within the timeframe established under the 2010 IS/MND. Therefore it is necessary to extend the December 31, 2012 completion date. Because not all landowners allowed access, DWR filed a petition with the court for permission to enter certain parcels to gather the necessary data. Since that time, there have been several court hearings associated with this issue. In February 2011, DWR was granted permission to enter parcels to conduct environmental surveys. DWR is still in the process of obtaining permission from landowners to conduct geotechnical investigations on certain parcels.
1643	16	The EIR/EIS Fails to Examine Viable Alternatives to the Proposed Plan Alternatives have been offered by a host of individuals and organizations from smaller projects to diversions at a much lower point in the system that would avoid impacts to the Delta and farmland. Alternatives must be examined and mitigation measures provided to avoid the disastrous impacts from the proposed tunnel project.	Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1, Final EIR/EIS, describes the range of conveyance alternatives considered in the development of the EIR/EIS. Appendix 1C, Demand Management Measures, Final 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. For more information regarding alternatives to the proposed project please see Master Response 4. For more information regarding Environmental Commitments, AMMs, and CMs please see Appendix 3B of the Final EIR/EIS and Master Response 22.
1644	1	RE: BDCP Cooperating Agency Comments - BDCP Environmental Coordination Team (BECT) NEPA cooperating agencies Reclamation Districts 3, 150, 551, and 999, which are members of the Local Agencies of the North Delta (LAND), have been assessing and commenting on some of the greatest issues of technical importance associated with the Bay Delta Conservation Plan (BDCP) since its public inception. The issue of technical importance is a driving factor for LAND since its members have unique experience in land and water management in the Delta, as well as experience in land acquisition, mitigation and monitoring, as a result of their respective operations of water delivery, drainage and levee maintenance. These LAND members will also bear many of the economic and legal burdens of managing these facilities under the BDCP. Accordingly, these LAND members want to ensure that the projects have as minimal negative impact on their existing operations as feasible. To that end, LAND has taken a cooperating agency perspective, not just legally through its agreements with the U.S. Department of the Interior, Bureau of	Please note that the BDCP is no longer the preferred alternative. (For more information about BDCP please see Master Response 5.) The preferred alternative is now Alternative 4A. The EIR/EIS analyzes all alternatives, including Alternative 4A. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		Reclamation (BOR), but also through its engagement with the other federal and state agencies and the project proponents.	
1644	2	Local Agencies of the North Delta (LAND) believes that the original premises of the BDCP, in particular Conservation Measure (CM) 1 and its failure to reduce reliance on the Delta, are technically flawed in a fundamental way. Over several years, LAND has urged optimization of U.S. Bureau of Reclamation (BOR) project infrastructure and the Habitat Conservation (HCP) planning elements to attempt to achieve their project purpose, minimize their effects on the environment, and meet the legal requirements of Senate Bill (SB) 7x to protect Delta communities. BDCP ultimately responded by forgoing a proposed ring levee around Clarksburg, a proposed western habitat bypass along the ship channel, and by reducing the size of the intermediate forebay. Notwithstanding these incremental improvements to the project, the BDCP still proposes to significantly impair the flood protection and water supply operations of the cooperating LAND districts. BDCP's analyses as presented in the Plan and the EIR/EIS, have significant deficiencies. Despite these issues, the analysis still clearly indicates that there has been a gross failure in the development of an effective HCP/Natural Community Conservation Planning (NCCP) and project alternative since the preferred project has over 48 significant and unavoidable impacts.	See Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. Please see Appendix 6A for information on effects to flood water conveyance and capacity. For information regarding water rights, including riparian rights, please see Master Responses 26 and 32.
1644	3	The primary issues that concern all parties still remain, which include reliable water supplies, stable native species populations, take coverage for water operations and levee maintenance, and invasive species management. These issues, among others, will not be resolved with the current BDCP.	Please see Response to Comment 1644-1 regarding the new proposed project Alternative 4A. 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.
1644	4	Problem Statements BDCP continues to inadequately address the following issues: Reconciling the Water Demand: Removing millions of acre feet of water a year from a stressed system, and not designing that withdrawal to match the hydrologic cycle, is patently irresponsible. The BDCP's proposed operations take even more water out of the system, and take much more of it in drier years at the driest season of the year. No attempt is made by the BDCP to manage the demand side. The sole focus is to capture the supply side.	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. . The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Appendix 1C of the Final EIR/EIS, Water Demand Management, describes conservation, water use efficiency, and other sources of water supply including desalination. Please see Master Response 5 for more information regarding demand management. Although components such as demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently throughout the State, they are beyond the scope of the project.
1644	5	HCP/NCCP: This HCP/NCCP directly interferes with, and competes with, existing HCPs, conservation easements, habitat management plans, and refuge management plans. This HCP/NCCP is unique because it was developed without substantive input and support of those plans, or the participating local governments and landowners. Yet, the BDCP does not readily allow for future projects with similar goals and objectives to rely upon the BDCP HCP/NCCP, unlike other HCP/NCCPs	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. The preferred alternative is now Alternative 4A. The comment claims that the project could interfere with other projects by other agencies. Although it is not the intention of the Lead Agencies to interfere with other projects, the purpose of this EIR/EIS is to evaluate the environmental impacts of Alternative 4A.
1644	6	The south Delta pumping operations: the BDCP fails to fundamentally address continued flow reversals and the massive fish killing in the south Delta. The engineered system needs to attempt to improve overall circulation, San Joaquin River connectivity, and some means of reducing take (and salvage losses). The BDCP claims this is the purpose of CM1	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. The existing operation of the SWP and CVP pumps in the south Delta can cause reversals in river flows. The new system would reduce the ongoing physical impacts associated with sole reliance on the southern diversion facilities and allow for greater operational flexibility to better protect fish. Minimizing south Delta pumping would provide more natural east–west flow patterns (RDEIR/SDEIS Section 4.1). Overall reductions in OMR reverse

DEIRS Ltr#	Cmt#	Comment	Response
		(BDCP, p. 4-24), but then still proposes to operate the new facility only half of the time.	flows under all flow scenarios for the proposed project would be beneficial with corresponding increase in net positive downstream flows, during the migration period of Chinook salmon through the interior Delta channels (Appendix B, Supplemental Modeling for Alternative 4A, Section B.7 (RDEIR/SDEIS Section 4.3.7). Operations would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 BiOps (RDEIR/SDEIS Executive Summary ES.2.2). 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 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
1644	7	The Existing Habitat Projects: Tens of thousands of acres of existing publicly funded and/or managed lands have already been acquired with essentially no scientific analysis of their success or failures or active management for optimization for listed species needs (or even reducing weeds). Instead, the BDCP trades off successful terrestrial and riparian resources for yet more generic aquatic habitat. This is a numbers game instead of a quality-based effort that will simply put more species into peril, such as the greater sandhill crane.	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. Please see Master Response 5 (BDCP) for information regarding habitat restoration measures.
1644	8	Invasive Species Management: The BDCP proposes some sort of invasive species management, at an unspecified time in the future, and in some other unspecified analysis. This should be the highest priority under any future Delta scenario for any ecological outcome to be favorable in the Delta, and it has widespread support, yet it is the least developed of the conservation measures (CM 13 & 20). These may be difficult ecological issues, but the pelagic organism decline, as well as any attempt to counteract that decline, hinge in a large part on improving invasive species management.	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. With regard to invasive species, the prevalence of non-native species in the Delta is described in 2013 Public Draft Section 2.3.4, where each natural community description contains a subsection describing the prevalence and ecological consequences of non-native species in that natural community. The proposed project will incorporate existing Conservation Measures from the BDCP as Environmental Commitments (ECs) to further address the issue of non-native species (RDEIR/SDEIS Appendix 3B Section 3B.5). EC 11 Natural Communities Enhancement and Management describes how non-native vegetation will be disturbed or removed. Restoration ECs may have non-native weed control through operation and maintenance of restored sites (EC 3, 4, 7, 8, 9, 10). EC 15, Localized Reduction of Predatory Fish, does not intend to entirely remove non-native predators at the north and south Delta export facilities. It is intended to reduce localized abundance of fish predators of salmonids at these two locations through active capture methods. Division of Boating and Waterways' /California Parks & Recreation - Aquatic Weed Control Program helps suppress and control Water Hyacinth and Egeria densa. Please also see Response to Comment 1644-7.
1644	9	Inter basin Transfers: The BDCP, as well as the grossly over appropriated San Joaquin system in general, is dependent on inter basin transfers of water. The transfers have significant and unanalyzed impacts in their areas of origin, and can result in further stream depletion with or without conjunctive use. This is a classic example of how the BDCP trades off the high ecological value tributaries to make up for systemic failure to manage the root causes of declining Delta fisheries.	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. 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 BDCP/CWF facilities. Any future water transfers will require separate approvals as outlined below. The analysis of any potential upstream impacts is not a part of this EIR/EIS and must be covered pursuant to separate laws and regulations once the specific transfer has been proposed. For more information, pleases see section 5.1.2.7 in Chapter 5, DEIR/EIS. Indirect effects of changes in water transfers and Delta exports are addressed in Chapter 30, Growth Inducement, and other

DEIRS Ltr#	Cmt#	Comment	Response
			chapters addressing specific resources. Please also see Master Response 3 (Purpose and Need), Master Response 34 (Beneficial Use of Water), Master Response 26 (Area of Origin), and Master Response 43 (Water Storage) .
1644	10	Agricultural Impacts: The BDCP is also literally sacrificing an exceptionally high value, sustainable agricultural region for another region, which has devastated its local water supplies and has already created several ecological disasters. Massive Tulare Lake, the San Joaquin River, San Joaquin Valley groundwater, and the South Delta, as well as every large river in the lower water watershed has been captured, depleted and/or destroyed. The BDCP fails to even acknowledge this history and current practice, as well as the repercussions of continuing to subsidize these impacts and their resulting toxic agricultural drainage	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A.The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Thus no response is required. However, by establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water volume, timing, and salinity, the project is designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. The issues raised in the comment are outside the scope of the proposed project and environmental analysis. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. See Master Response 3 (Purpose and Need), Master Response 34(Beneficial Use of Water), Master Response 26 (Area of Origin), and Master Response 35 (MWD Water Supply).
1644	11	In addition to those more general problems and failures to develop an effective problem statement that deals with the fundamental issues of removing too much water from an already depleted watershed, there are a host of technical issues that are either inadequately addressed or simply not dealt with at all in the current BDCP analysis. Problems with Conceptual Development The CMs are a hodgepodge of an industrial water project and undeveloped window dressing "habitat" measures (CMs 2-13) that attempt to serve as mitigation for the impacts of CM1. To what degree the CMs mitigate for the project and what degree they stabilize and recover covered species is unclear in the analysis, but should be the most obvious part of the BDCP. It is nearly impossible to discern what the habitat-associated mitigation measures are for CM1 or for other CMs, and how these measures are different from the requirements to support species recovery. In just one illustration, miles of contiguous, mature riparian forest is lost for the intakes, project roads and other features, but replacement is deferred and piecemealed. The lapse in time before replacement of this critical ecological resource is 30-40 years, and the replacement is spatially re-distributed to areas other than where the original impact occurred.	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. With regard to the proposed project, DWR's fundamental purpose is to make physical and operational improvements to the SWP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. By establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water , timing designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. For a discussion of impacts on terrestrial biological resources, please see Appendix 12D. With regard to non-specific criticisms of the project, please see Response to Comment 1644-10.
1644	12	The range of alternatives is incomplete and insufficient to adequately analyze the project. For illustration, Alternative 9 (Through Delta) is a potentially significant improvement on current conditions, but that is not reflected in the analysis. Regardless of the selected alternative, existing Delta channels will remain the primary route for water for a minimum of 10 years during construction of the preferred alternative. It would also remain the primary flow route for up to half the time under the preferred alternative. Yet the benefits of implementing this alternative, or portions of this alternative, are not discussed. Since it would be still a primary flow route, it should be optimized for better hydrodynamics and reduction of fish loss. The implications of this failure to analyze the obvious future impacts of the project, and how to mitigate for them both during construction and during operations demonstrates how the analysis and its conclusions fail to meet the Least Environmentally Damaging Practicable Alternative ("LEDPA"). The BDCP should consider all alternatives individually without CM 1. For example, there is no analysis of which combination of CM 2, 13 and 16 would result in the lowest environmental impacts and greatest environmental and water supply benefits. There is also no analysis of the environmental result of timing CM 1 after successful completion of	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A . The alternatives included in the Public Draft EIR/EIS, RDEIR/SDEIS, and 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. For additional information on alternatives please see Master Response 4.

DEIRS Ltr#	Cmt#	Comment	Response
		CM 2, 13 and 16. This stepwise process was effectively the outcome of CalFED, but was not considered under the BDCP.	
1644	13	Operational Uncertainties The issues of defective conceptual development create a weak foundation for operations and the analysis in the BDCP. For example, the screen losses for salmonids in the north Delta were based on a series of assumptions that were not conservative. If depletions of groundwater resulting from water transfers and conjunctive use further damage the spawning areas upstream, the ecological impacts of those losses could be much higher than analyzed. The limits of those transfer operations and their environmental impacts are explicitly left out of the BDCP documents, yet could be responsible for much of the overall project impact on the environment	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. 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 FEIR/S provides details on the development of intakes and fish screening technology, as well as the Conceptual Engineering Reports (CERs). It is proposed that monitoring and research would be conducted to inform the fish screen design, construction, and operation in order to maximize their effectiveness. Dual operations provides for flexibility that will better protect the fish based on real time data. For more information regarding impacts to aquatic resources please see Chapter 11 of the FEIR/EIS. With regard to the impacts of water transfers on upstream spawning areas or other environmental resources in the source areas of water transfers, please see Master Response 43 (Water Transfers) and Response to Comment 1611-71.
1644	14	The relationship between how pumping will be controlled under real-time operations ("RTO"), and new dam operational rules are not described in this analysis. Yet, based on the provided water quality modeling, the dams would have to be operated under new rules - rules that are not yet developed or analyzed. The ecological considerations of matching north Delta pumping locations and rates in real world conditions, upstream dam operations, intake bypass flows, CM 2 bypass flows, Delta Cross Channel, Steamboat and Sutter Slough flow reversals, Head of Old River Barrier, and south Delta pumping operations are simply not analyzed in the EIR/EIS. The implications for this failure of describing operational conditions and providing an associated analysis are profound to the cooperating agency districts. The likely stage elevation and water quality changes associated with the project are also not identified. The districts are likely to be subject to greater seepage from increased stages associated with the project and its unanalyzed water transfers. The water elevations and rapid changes in those elevations can lead to scour on levees, seepage can lead to crop damage, and water quality degradation can lead to crop losses. The amount of loss cannot be predicted because the real time impacts of the project are simply not described. The means by which these impacts will be quantified by the project is not identified, placing the burden of monitoring and remediation on the districts.	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. The primary operating criteria are described in Chapter 3. Temporary, minimal adjustments could be made using real-time operations, similar to how current daily and weekly operations adjustments are made. Similar real-time operations currently occur for the DCC and SMSCG. The effects of the operations of Alternative 4A are disclosed based on the primary operating criteria, acknowledging that minor, temporary adjustments can be made. Please see Appendix 6A, section 6A.6.2.1 for information on effects to flood water conveyance and capacity. For additional information regarding water quality issues, including the effects on salinity, please see Master Response 14. For more information regarding agricultural mitigation please see Master Responses 18 and 43 for a discussion of water transfers.
1644	15	The overall environmental impacts of the project itself, together with its mitigation, and the habitat implications to the cooperating agency districts, have not been analyzed. The districts protect riparian and wetland habitat, and at times have mitigation needs of their own. The HCP should be open to all with similar project needs so that the Delta's environmental needs are consistently managed through one program. Under the BDCP, however, the existing and proposed local HCPs will compete for mitigation land with each other and the districts. It appears that the districts would have to duplicate portions of the BDCP in their own Section 7 and 10 processes, if needed in the future	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. However, the habitat restoration discussed in this EIR/EIS is appropriate for this project. This EIR/EIS does not include other projects by other agencies, and so does not consider the mitigation that would be required for those projects. Even if considering mitigation for the projects of other agencies in this EIR/EIS were appropriate, any discussion of mitigation for those projects at this time would be inappropriately speculative.
1644	16	The cooperating agency districts remain concerned that the significant environmental impacts of the project on both terrestrial and aquatic species will result on the burden being shifted from the beneficiaries of the project to the local districts. As the resource agencies discover the need for more species protections and restrictions due to the	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. With regard to permitting for the preferred alternative, please see Master Response 45.

DEIRS Ltr#	Cmt#	Comment	Response
		inadequacies of the BDCP, the BDCP proponents will be protected as they will have received 50-year take authority with "no surprises" assurances. On the other hand, BDCP offers no process by which other landowners or agencies within the plan area may receive take authority if needed for ongoing activities. Though remotely possible, the districts believe that re-consultation on the BDCP is unlikely and that the agencies will instead place environmental restrictions on local districts and landowners. The districts support LEDPA [Least Environmentallly Damaging Practicable Alternative] alternatives described earlier because they are far likely to achieve real environmental benefits, which in turn reduces everyone's compliance burdens.	
1644	17	The critical project monitoring and associated metrics are poorly defined and are likely not to provide any ecologically useful statistical information. This can lead to the requirement to take more land out of agriculture and put it into habitat, placing additional local burdens due to poor science. Or, local restrictions may be put into place based on flawed analysis. A transparent, robust monitoring analysis program must be developed.	Please see Master Response 33 regarding adaptive management and monitoring. Please see Response to Comment 1644-1. Please also see Master Response 31 for issues related to the Delta Reform Act and how it was considered in the environmental review process. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546. 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 (CSAMP) developed for Alternative 4A would not, by itself, create nor contribute to any new significant environmental effects; instead, the CSAMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A.
1644	18	The project's monomaniacal emphasis on aquatic species over terrestrial species remains a concern across the board. Project impacts may occur to terrestrial species, such as greater sandhill cranes, but the proposed inadequate project monitoring will likely not disclose whether reductions in populations are due to the project's impacts. That puts the districts at risk of being subjected to new environmental restrictions. Strong environmental support for all listed and covered species needs to be put in place before CM 1 so that species do stabilize and recover, and an effective statistically-sound monitoring program must be implemented to identify project benefits and impacts.	Please see Response to Comment 1644-1.. Please also see Master Response 17 regarding impacts on biological resources, including sandhill crane, and please also see Appendix 12D for a discussion of impacts on terrestrial biological resources.
1644	19	The water quality impacts of the project raise similar unresolved concerns for the districts. It appears that sediment reductions will lead to delta smelt impacts, which are arbitrarily ignored. Selenium and methylmercury impacts from habitat restoration activities could also lead to Central Valley Regional Water Quality Control Board restrictions on districts to reduce loads created by the project	As described in Section 8.4 of Chapter 8, Water Quality, of the Draft EIR/EIS (and Section 8.3 of the Final EIR/EIS), the project alternatives are not expected to result in substantial changes to turbidity or total suspended sediment in the upstream of Delta region, and the changes in the Delta are expected to be localized associated with the development of tidal habitat restoration areas. The potential negative impact of less sediment on delta smelt is acknowledged in the FEIR/S by inclusion of an environmental commitment to reintroduce the sediment to the water column in order to maintain Delta water quality (specifically, turbidity, as a component of delta smelt critical habitat). DWR will collaborate with USFWS and CDFW to develop and implement a sediment reintroduction plan that provides the desired beneficial habitat effects of maintained turbidity while addressing related permitting concerns (the proposed sediment reintroduction is expected to require permits from the Central Valley Regional Water Quality Control Board and USACE). USFWS and NMFS will have approval authority for this plan and for monitoring measures, to be specified in the plan, to assess its effectiveness. This is described in Appendix 3.G of the FEIR/EIS. As described in Section 8.4 of Chapter 8, Water Quality, of the Draft EIR/EIS (and Section 8.3 of the Final EIR/EIS), changes in selenium and methylmercury in the Delta due to implementation of Alternatives 1 through 9 as compared to the Existing Conditions and the No Action Alternative are presented. Mitigation measures related to these alternatives also are presented in Chapter 8. The No Action Alternative assumes

DEIRS Ltr#	Cmt#	Comment	Response
			that ongoing efforts to reduce projected changes in selenium and methylmercury as compared to the Existing Conditions would be fully implemented by 2060, including implementation of actions under TMDL requirements (see Section 8.4.3.1 of Chapter 8 of the Draft EIR/EIS and Section 8.3.3.1 of the Final EIR/EIS). Please see Master Response 14 for additional information on water quality.
1644	20	The districts have repeatedly identified that levee road damage and access impacts as a result of the project have been inadequately or improperly analyzed. The EIR/EIS does not deal with the structural impacts of the project on the structural, access and maintenance of critical district infrastructure. The districts use these levees to protect their islands from flooding, support flood fighting, transport agricultural supplies, goods and services, and to provide rescue routes. There are simply no substitutes available to replace these structures and routes; yet, the BDCP's treatment of impacts on local infrastructure is cursory and trivial.	Please see Appendix 6A, Section 6A.6.3.2, FEIR/EIS, for potential impacts to levee integrity due to increases in construction traffic, and Chapter 19 (Transportation) for impacts to levee roads and transportation. Chapter 20 (Public Services and Utilities) analyzes potential impacts to emergency response actions. Section 7 also includes a discussion on levees modified by construction of the California WaterFix (CWF/Alternative 4A), including responsibilities of the project proponents. Before and/or during construction of the CWF water conveyance facilities, project proponents will explore opportunities with local reclamation districts and the Central Valley Flood Protection Board (CVFPB) to address potential conflicts regarding levee maintenance, inspection, and flood fighting activities on project and non-project levees. DWR will look to enter into agreements with local reclamation districts with jurisdiction in the Delta to ensure levee management activities by both government and local agencies are not interrupted during construction of the water conveyance facilities. In addition, DWR will comply with all applicable flood protection requirements and regulations to ensure flood neutrality during construction and operations of the CWF.
1644	21	The Local agencies of the North Detla cooperating agency districts appreciate the opportunity to work with the federal lead agencies and the other cooperators to address these technical concerns that so profoundly affect the Delta. This letter has also been submitted as a formal comment on the BDCP and associated environmental documents	Please see Response to Comment 1644-1 regarding the new proposed project, Alternative 4A. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1645	1	Butte Water District supports the comment letter dated July 28, 2014, submitted on behalf of the North State Water Alliance [see BDCP1597], which contains comments on the Bay Delta Conservation Plan, and its associated Implementation Agreement and draft Environmental Impact Statement and Environmental Impact Report. By and through this letter, Butte Water District adopts each comment and objection in the July 28, 2014 letter as its own, along with all exhibits and attachments to that letter, and incorporates herein by this reference all such comments, objections, and documents.	Please see responses to comment letter 1597.
1646	1	As stakeholders with interest in the Yolo Bypass, [Cal Marsh & Farm Ventures] is very concerned about the overall timeline of the implementation of Conservation Measure 2 (CM2) in the Bay Delta Conservation Plan (BDCP). Our collaboration on the Knaggs Ranch Science Projects has changed perspectives on how to design CM2 for better results to meet the biological goals of the BDCP. We have been actively participating in the Yolo Bypass Fisheries Enhancement Planning Team and feel that too much time has been spent planning and not enough recognition has been given for the incremental steps already underway. To that end,we offer the attached Cal Marsh Five-Point Plan (CMP) for inclusion in CM2. CMP includes a coordinated strategy for fixing the major fish passage problem in the Yolo Bypass and will add significant habitat that benefits rearing millions of wild and hatchery juveni le salmon in the Upper Yolo Bypass. First, CMP addresses the problem of adult salmon, sturgeon, and steelhead straying into	It is unclear from the comment what the concern is related to the timeline for implementation of CM2. While it is recognized that significant time has been expended planning the various elements of CM2, significant concerns from many stakeholders have been raised with respect to CM2. Resolution of those concerns has required substantial planning, coordination and discussion with stakeholders and fish and wildlife agencies. The coordination and discussion is ongoing, and will likely continue through issuance of the Final BDCP and preparation of the Yolo Bypass Fishery Enhancement Plan and EIR/EIS. The commenter's overarching concern however, that more consideration of ongoing actions occurring in the Bypass be recognized, is understood and will be considered further during the preparation of the Yolo Bypass Fishery Enhancement Plan and associated EIR/S, when the various Component Projects will be better defined and design of these component projects is initiated. 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

DEIRS Ltr#	Cmt#	Comment	Response
		the Colusa Basin; with both short and long-term solutions for fish passage and stranding below the Fremont Weir. (Biop 1.7 - Reduce Migration Delay within Yolo Bypass) Second, CMP provides significant habitat improvements for rearing juveni le salmon in the Upper Yolo Bypass, including thousands of acres of managed inundated floodplain and many miles of restored riparian slough-floodplain forest. (Biop 1.6.1- Salmonid Rearing Habitat in Lower Sacramento River Basin) Most significantly,the implementation of CMP provides for improved floodplain production of both naturally reared and hatchery salmon in drought years	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.
1646	2	Cal Marsh & Farm Ventures, LLC (Sponsor) in collaboration with other stakeholders proposes to implement five Upper Yolo Bypass fish habitat and passage improvement projects over the next five years. The projects are consistent with projects included in the Bay Delta Habitat Conservation Plan (BDCP) within Conservation Measure 2 (CM2). The projects are part of a long-term and on-going floodplain restoration and science program being implemented by the Sponsor in partnership with CalTrout, DWR, U.S. Bureau of Reclamation, UC Davis, National Oceanic and Atmospheric Administration, California Waterfowl Association, Department of Fish and Wildlife, State and Federal Contractors Water Agency, and landowners	
1646	3	As part of the Yolo Bypass Science Program the Sponsor has identified five multi-phased Early Implementation Projects that are consistent with elements of CM2 of the BDCP. Early implementation (first ten years) of BCDP/CM2 should include these five projects proposed by the Sponsor and an additional five supported by the Sponsor: Tule Canal Fish Passage and Floodplain Habitat Project (BDCP CM2 Component 9): Create connectivity in Tule Canal from East pond just below Fremont Weir downstream to Highway 5. Barriers inhibit movement and trap adult and juvenile anadromous fish including listed salmon, steelhead, and sturgeon, especially after flood spills into the Yolo Bypass from the Sacramento River at Fremont Weir. (See Attachment A for further details.) Phase One: Replace fish passage obstructions at three road crossing over upper Tule Canal. North and middle crossings will receive operable gated culverts, while south crossing will be removed. This component project will replace agricultural crossings of the Tule Canal and Toe Drain with fish-passable structures such as flat car bridges or earthen crossings with large, open culverts. Construct new or replacement operable check structures to facilitate continued agriculture in the Yolo Bypass while promoting fish passage in season (BDCP Phase 1, Category 3 action). Benefits: Prevention of post-flood stranding of adult green and white sturgeon and Chinook salmon behind crossing barriers via improved connectivity of upper Tule Canal to the Fremont Weir. Prevention of juvenile salmon stranding upstream of barriers (thus increasing survival rates) of juvenile salmonids using floodplain ponds and shaded riparian channel habitats of upper Tule Canal. Phase Two: Operate new culvert gates at new crossing structures as elevation control	As described in response to comment 1646-1, Alternative 4A does not include an HCP. Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original HCP/NCCP. The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan. For information on the BDCP effects analysis please see Master Response 5.

DEIRS Ltr#	Cmt#	Comment	Response
		structures in Tule Canal to control post-flood water elevations (and the amount and quality of rearing habitats). This management system will create enhanced juvenile salmonid rearing habitat in shaded riparian aquatic and floodplain habitat units under existing Fremont Weir overflow frequency as well as under higher frequencies of proposed Fremont Weir notching (BDCP CM2 Component 15) and higher flows from Colusa Basin Drain (BDCP CM2 Component 13). Benefit: Enhanced foraging habitat to rearing juvenile salmon will result in greater size and body condition, earlier emigration, and improved survival to return as adults through improvement in upper Tule Canal's off-channel habitats by adding acreage of floodplain inundation and extending floodplain inundation duration.	
1646	4	As part of the Yolo Bypass Science Program the Sponsor has identified five multi-phased Early Implementation Projects that are consistent with elements of CM2 of the BDCP. Early implementation (first ten years) of BCDP/CM2 should include these five projects proposed by the Sponsor and an additional five supported by the Sponsor: Wallace Weir Retrofit: Replace dirt berm with year-round operable weir (as prescribed in BDCP CM2 Component 14). This component project will construct and test flood-neutral fish barriers to prevent fish from straying into Knights Landing Ridge Cut and the Colusa Basin Drain. These barriers will be most effective when employed in association with later phase attraction flows from the Fremont Weir that is fish-passable and leads to the mainstem Sacramento River. Benefits: Winter-operable weir: The current Wallace Weir infrastructure was built for summer irrigation and is normally removed in the fall. The operable infrastructure allows the weir's screen panels to be raised in a recessed position in order to not restrict flood flows, thus avoiding damage during flood events. The operable infrastructure can also be raised during winter low-flow periods in order to facilitate water delivery to managed agricultural floodplain rearing habitats on the Tule Canal and Knaggs Ranch. When in place the screen blocks fish from leaving the Bypass and moving upstream into the Colusa Drain where they are unlikely to reproduce or survive. Construction of a winter or high-flow weir and barrier will preclude fish passage into the Colusa Drain system during high water. Prior to attraction flows being available to pass fish upstream and over the Fremont Weir there will remain a need to trap and haul fish below any new barrier at the Wallace Weir entrance to the Colusa Drain.	See response to comment 1646-3.
1646	5	As part of the Yolo Bypass Science Program the Sponsor has identified five multi-phased Early Implementation Projects that are consistent with elements of CM2 of the BDCP. Early implementation (first ten years) of BCDP/CM2 should include these five projects proposed by the Sponsor and an additional five supported by the Sponsor: Wallace Weir Retrofit: Replace dirt berm with year-round operable weir (as prescribed in BDCP CM2 Component 14). This component project will construct and test flood-neutral fish barriers to prevent fish from straying into Knights Landing Ridge Cut and the Colusa Basin Drain. These barriers will be most effective when employed in association with later phase attraction flows from the Fremont Weir that is fish-passable and leads to the mainstem Sacramento River. Re-route Knights Landing Ridge Cut summer water attraction pulse to the Upper Tule	See response to comment 1646-3.

DEIRS Ltr#	Cmt#	Comment	Response
		Canal: the new Wallace Weir will also block any upstream movement of fish in response to increased Colusa Drain water being routed into the Yolo Bypass under BDCP CM2 Component 13. Adult salmon and sturgeon that currently swim into Colusa Drain at Wallace Weir on the west side of the Bypass, will instead be attracted to Upper Tule Canal on the east side of the Bypass and improved fish ladder infrastructure at Fremont Weir (BDCP CM2 Components 5-7). This will set the stage for the retrofit of the Fremont Fish fish passage (BDCP CM2 Components 15-19).	
1646	6	As part of the Yolo Bypass Science Program the Sponsor has identified five multi-phased Early Implementation Projects that are consistent with elements of CM2 of the BDCP. Early implementation (first ten years) of BCDP/CM2 should include these five projects proposed by the Sponsor and an additional five supported by the Sponsor: Wallace Weir Retrofit: Replace dirt berm with year-round operable weir (as prescribed in BDCP CM2 Component 14). This component project will construct and test flood-neutral fish barriers to prevent fish from straying into Knights Landing Ridge Cut and the Colusa Basin Drain. These barriers will be most effective when employed in association with later phase attraction flows from the Fremont Weir that is fish-passable and leads to the mainstem Sacramento River. Control water surfaces within Knights Landing Ridge Cut Canal: Increases capacity to manage irrigation and wetland habitats upstream in KLRC and Colusa Drain, which will indirectly help facilitate BDCP CM2 Component 13).	See response to comment 1646-3.
1646	7	As part of the Yolo Bypass Science Program the Sponsor has identified five multi-phased Early Implementation Projects that are consistent with elements of CM2 of the BDCP. Early implementation (first ten years) of BCDP/CM2 should include these five projects proposed by the Sponsor and an additional five supported by the Sponsor: Delta Food Web Export: Operate Wallace Weir in a manner to pass summer (August-October) ag flows and winter storm drainage from the Colusa Drain through Yolo Bypass. (BDCP CM2 Component 13). Under existing infrastructure and operation, most Colusa Drain non-flood water is routed to the Sacramento River at Knights Landing. Routing storm and ag drainage water to the Bypass would increase flows into, through, and out of the Bypass into the North Delta in all water-year types. Benefits: Increases export of food-web products produced on Yolo Bypass floodplains which will contribute to the Bypass and Delta foodwebs of multiple listed species including delta smelt, longfin smelt, all Chinook runs, steelhead, splittail and sturgeon. Increases habitat area and quality in Bypass. Improves fish passage flows in Bypass.	See response to comment 1646-3.
1646	8	As part of the Yolo Bypass Science Program the Sponsor has identified five multi-phased Early Implementation Projects that are consistent with elements of CM2 of the BDCP. Early implementation (first ten years) of BCDP/CM2 should include these five projects proposed by the Sponsor and an additional five supported by the Sponsor: Knaggs Operable Weir: Install operable weir within the Tule Canal approximately one-half mile north of Interstate 5 (such infrastructure is prescribed in BDCP CM2 Components 9 and 19). The weir would be positioned to work in conjunction with existing east/west berm that crosses the Bypass along the north side of the historic City of Woodland sewer ponds. The weir would facilitate floodplain inundation during non-flood flows and provide improved fish passage infrastructure.	See response to comment 1646-3.

DEIRS Ltr#	Cmt#	Comment	Response
		Benefits: An operable weir will control the water elevation across approximately 3,000-acres of managed agricultural floodplain habitat in the Bypass, increasing the extent and duration of floodplain inundation during non-flood periods. Initial configuration would include a deflatable weir to allow peak flood waters to pass and then inflating the weir to retain descending limb of natural floods in Northern Yolo Bypass, thus extending shallow floodplain inundation. Managed floodplain impounded behind operable Knaggs Weir could also be maintained with local water and from Ridge Cut Canal via Wallace Weir via overland methods. In drier years with low probability of Fremont Weir spills, hatchery salmon fry may be stocked in winter to rear "naturally" in ponded areas with expected high growth and survival potential. Splittail may also use the new inundated area in spring for spawning and early rearing. Eventually, the new Knaggs Weir would be operated conjunctively with operable gates in Fremont Weir to optimize the northern Yolo Bypass for fish habitat. In such cases the new inundated area would be used by wild salmon young that pass over (or through via a new "notch") the Fremont Weir into the Bypass.	
1646	9	As part of the Yolo Bypass Science Program the Sponsor has identified five multi-phased Early Implementation Projects that are consistent with elements of CM2 of the BDCP. Early implementation (first ten years) of BCDP/CM2 should include these five projects proposed by the Sponsor and an additional five supported by the Sponsor: Fremont Weir Retrofit Project: Retrofit existing Fremont Weir and fish ladder with year round operable fish passage structure that also extends period of overflow from Sacramento River into Bypass. (BDCP CM2 Components 5, 6, 7, 15, 16, and 19). Fremont Weir retrofits would be designed to operate in conjunction with other Bypass infrastructure and visa-versa. Coordination of design, build, and operation are essential for all elements of the Five Point Plan. Benefits: Create upstream passage for adult salmonids and sturgeon at the Fremont Weir, thereby avoiding stranding in the Bypass or migrations into the Colusa Drain. Project at Fremont Weir would be designed and operated in conjunction with downstream infrastructure and operations in the Bypass at Sponsor projects. Create connectivity for water and fish from Sacramento River to Yolo Bypass floodplain habitats. Operations of a gated structure at Fremont Weir would be coordinated with Sponsor's Bypass projects. Coordinate gated Fremont Weir operations to maximize floodplain inundation benefits in Bypass.	See response to comment 1646-3.
1646	10	Att 1: Map showning uper yolo bypass early implmentation projects - 5 projects	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 the comment referencing the attachment or the Final EIR/EIS. .

DEIRS Ltr#	Cmt#	Comment	Response
1646	11	Att 2: Description of PROJECT #1 Upper Tule Canal Fish Passage and Floodplain Habitat Project Consistent with BDCP Conservation Measure 1 (CM1)	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 the comment referencing the attachment or the Final EIR/EIS. .
1647	1	The Delta Protection Commission (Commission) has determined it is appropriate to review the proposed Bay Delta Conservation Plan (BDCP, or "project") and the associated Draft Environmental Impact Report/Environmental Impact Statement (DEIR/EIS) in relation to the Land Use and Resource Management Plan (LURMP). LURMP policies have been adopted to protect and enhance the Delta's unique resources. To the extent that any project contradicts those policies, whether or not officially under the jurisdiction of the Commission, it is likely that the project will harm or reduce the unique values of the Delta. The Commission discussed these comments at meetings held on May 22 and June 26, 2014. On a vote to approve these comments at the June 26 meeting, Commission members representing state agencies abstained from voting, and this letter in no way implies a recommendation or position of the Governor or his administration. It is worth stating at the outset that the BDCP and its associated DEIR/EIS represent an immensely complicated project and analysis, and it is challenging to navigate the entirety of the proposal to determine its impacts on the unique cultural, recreational, natural resource and agricultural values of the Delta. The project review period also occurs during a time when drought-related activities are competing for time and attention with the review of this proposal. Important components of the BDCP (especially the anticipated Implementing Agreement) have only recently been released. This creates an additional challenge for interested parties to review the full context of the proposal. As such, our review of the project has attempted to be thorough with regard to the most significant impacts to the Delta region, even though it is not comprehensive. The Commission's comments are organized into three primary areas of concern.	Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Numerous comments focused on specific elements of the BDCP were received. Where 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. Comments concerning the feasibility of the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS and whether they meet 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), are responded to 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 CEQA/NEPA context (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided. Further consideration will be given to these comments and appropriate revisions to the Draft BDCP made if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.
1647	2	Inadequate characterization of impacts to Delta as Place. While we appreciate the effort and consideration that went into the proposed BDCP, our primary criticism of the effort is that it was completed with an overwhelming focus on one of the co-equal goals (a more reliable water supply for California; more specifically, in our view, a more reliable water supply for south-of-Delta exporters) and a distant secondary focus on the other co- equal goal (protect, restore and enhance the Delta ecosystem). This almost entirely disregards the essential context provided in law -- protection and enhancement of the unique cultural, recreational, natural resource and agricultural values of the Delta as an evolving place.	The project objectives and purposes as outlined in Chapter 2 of the FEIR/FEIS, Purpose and Need, comply with CEQA and NEPA, are sufficiently broad, and appropriately reflect the State of California's intention to advance the coequal goals set forth in the Sacramento-San Joaquin Delta Reform Act of 2009 by providing a more reliable water supply for California, reducing effects of the project on state and federally listed species, and improving the Delta ecosystem. By establishing a point of water diversion in the north Delta and new operating criteria, the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility. As an example of positive steps toward meeting the coequal goals, the covered fish species would benefit from proposed alternative 4A; water operations under 4A would have beneficial effects with respect to entrainment of delta and longfin smelt and Chinook salmon and steelhead through reduced reliance of the south Delta exports, location of the NDD outside the main range of Delta and longfin Smelt, and the construction of a state-of-the-art fish screen at the NDD. The Delta Reform Act provides that the coequal goals "shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place." (Cal. Pub. Resources Code, § 29702, subd. (a).) The proposed project is not, however, directly responsible for achieving all of the objectives of the Delta Reform Act. Rather, the Act assigns specific responsibility for ensuring the protection of the "Delta as place" to the Delta Stewardship Council (DSC) by requiring the DSC to "develop, for consideration and incorporation into the Delta Plan by the Council, a proposal to protect, enhance and sustain the unique cultural, historical, recreational, agricultural and economic values of the Delta as an evolving place, in a manner consistent with the coequal goals."

DEIRS Ltr#	Cmt#	Comment	Response
			(Water Code Section 85301(a).) The legislation also identifies the Delta Protection Commission (DPC) as the "appropriate agency to identify and provide recommendations to the Council on methods of preserving the Delta as an evolving place as the Council develops and implements the Delta Plan." (Public Resources Code Section 29703.5(a).) For more information regarding consistency with the Delta Reform Act, please see Master Response 31. Please refer to Delta as a Place, please see Master Response 24.
1647	3	The DEIR/EIS does not adequately address or mitigate BDCP's effects (both from the proposed tunnel construction and the other conservation measures) on cumulative impacts to "Delta as Place": the agricultural, recreation, aesthetic, historic and community character resources of the Delta. In cases where there are not specific, feasible and enforceable mitigation measures provided, there should be specific performance standards that will mitigate the significant effects of the project.	The resource chapters in the Final EIR/EIS detail the impacts from construction, operation and maintenance of the water conveyance facilities as well as impacts from implementation of any habitat restoration features associated with the various alternatives. Where significant impacts are found, mitigation is proposed. Chapter 14 analyzes Agricultural Resources, Chapter 15 describes impacts on Recreation, Chapter 17 analyzes Aesthetic and Visual Resources, and Chapter 18 identifies impacts to historic and cultural resources. While neither CEQA nor NEPA require a cumulative roll-up of impacts across all resources to determine what kind of effect it would have on specific geographic localities, a summary table is provided in the Executive Summary (Table ES-8) outlining the conclusions to the various impacts across all the alternatives. Additionally, a summary discussion is provided at the beginning of each resource chapter.
1647	4	Community Impacts: The BDCP estimates numerous impacts to Delta residents and visitors from construction activities, including exposure to construction noise at all hours, truck traffic leading to unacceptable level-of-service and pavement conditions, impacts to local farm and resident traffic from road relocations, new sources of light/glare that will adversely affect views in the area, effects on regional/local utilities, increase in safety hazards, and visual impacts to communities near intake and tunnel construction. The attached matrix outlines some of the specific concerns related to these issues. The DEIR/EIS discussion seems to suggest that abandonment of buildings and residences during the construction period will be temporary, when it is more likely that this will be a permanent abandonment and contribute to community blight and decline. The DEIR/EIS should identify explicit mitigation measures for these impacts. As the BDCP states, the visual character of the Delta is strongly identified by its agricultural and water-based Delta landscapes and communities. As stated in DEIR/EIS Chapter 17 (page 205, lines 2-7): "These conservation measures would alter the Delta landscape by incrementally, and substantially, introducing elements into the study area over time. This could pave the way for the gradual transition of a much-valued cultural and regional landscape and make it easier for other similar projects to be implemented over time because of the devalued baseline conditions, compared to Existing Conditions, if conservation measures are not planned and implemented in a manner that protects visual resources."	The chapter does use "short-term" and "long-term" to describe the temporary (e.g. not permanent) effects related to the construction period. It would be speculative to assume that impacts such as blight and abandonment of buildings would persist once construction is complete, operations and maintenance are ongoing, and construction areas have been restored to their original condition or enhanced. Additionally, areas temporarily used for construction activities, such as staging areas, barge unloading facilities, and RTM, would be restored to their original conditions whenever possible, as described in Appendix 3B, Environmental Commitments, AMMs and CMs. The project proponents will consult relevant parties such as landowners, reclamation districts, flood protection agencies, federal and state agencies with jurisdiction in the Delta, and counties, in developing such site-specific spoil, RTM, and dredged material reuse plans. Mitigation measures that offset noise (Chapter 23), traffic (Chapter 19), visual (Chapter 17), utility (Chapter 20), and hazards (Chapter 24) impacts resulting from construction activities are outlined within the various resource chapters of the Final EIR/EIS. Impacts and mitigation for socioeconomic effects within the Delta region 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, EIR/EIS. (See Impact REC-1 and Impact REC-2 for impact discussions and mitigation.) The statement quoted by the commenter relates to implementation of the CMs 2-21. As an HCP/NCCP, the goals of BDCP included protection and creation of approximately 83,800 acres of habitat. Doing this amount of restoration would necessarily alter the Delta landscape over time, however subtly, as these projects were implemented. However, Mitigation Measures AES-1a through AES-1g and Mitigation Measures AES-4a

DEIRS Ltr#	Cmt#	Comment	Response
			through AES-4d are available to address effects from habitat restoration and enhancement actions under CM2–CM21. Please note however that the new proposed project, Alternative 4A, does not include CMs 2-21 and no longer involves an HCP. While habitat protection and restoration are proposed under Alternative 4A, 15,548 acres of habitat would be restored under Environmental Commitments 3, 4, 6, 7, 8 and 9–11. Therefore, the magnitude of effects under Alternative 4A would likely be smaller than those associated with the BDCP.
1647	5	The DEIR/EIS does not mitigate for the hydraulic impacts associated with construction of cofferdams in flood conveyance channels. Flood protection is critical for Delta communities as well as the greater region, and these impacts must be discussed and mitigated. In addition, the DEIR/EIS does not mitigate for the impacts to structural integrity of levees from construction traffic.	Please see Appendix 6A, Section 6A.6.3.3, FEIR/EIS, for potential impacts to water surface elevations due to cofferdam installation, and Section 6A.6.3.2 for information on potential impacts to levee integrity from increases in construction traffic.
1647	6	Recreation Impacts: The BDCP undercounts recreational spending in the Delta by $76 million, as compared with the recreational spending estimated in the Delta Protection Commission's Economic Sustainability Plan (ESP) - $236 million in DEIR/EIS, $312 million in the ESP. There also will be reduced boating opportunities in the vicinity of riverside construction and barge traffic, with resulting significant economic impacts to marinas from reduced boat traffic. Over a construction period lasting up to 10 years, it is likely that some number of these marinas will be unable to survive these negative impacts to their businesses. These impacts must be mitigated. There also will be a reduction in Delta day visitors due to road relocation and avoidance of truck traffic, and resulting impacts on the Delta economy.	Differences in the estimates of recreational spending in the Delta presented in the EIR/EIS and Economic Sustainability Plan are largely due to diverging estimation methodologies employed by the two studies. These methodologies rely on several factors, including estimated visitation levels and spending-per-day or per-trip estimates, to estimate total recreation-related spend. The spending estimates also differ in regard to the type of expenditures included in the estimates of total spending. Regardless of the differences, the $236 million spending estimate presented in the EIR/EIS is valid; it should be noted that this estimate does not affect the conclusions of the recreation-related impact assessments presented in Chapter 16, Socioeconomics, EIR/EIS. Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan would reduce impacts related to road and water traffic, as described in Chapter 15, Recreation.
1647	7	Conservation Measure 20 proposes a watercraft inspection program that will limit boating access to Delta waterways to specific points of entry. Chapter 15 (page 15-103) of the DEIR/EIS states that "Although there could be a marginal effect on the recreation experience if boaters are delayed at the boat launch, it is expected that there would be no adverse effect on recreational boating." Given the level of boating use in the Delta (6.4 million boating visitor days per year, according to the Economic Sustainability Plan) and the likely number of inspection stations, it is highly likely that many recreational boaters will seek other boating opportunities outside the Delta rather than wait to clear an inspection station.	Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or CM20. However, while boaters may be nominally delayed by implementation of an inspection point, it is unlikely that watercraft inspection programs would deter boaters from participating in recreational boating in the Delta. Boat inspection programs are becoming increasingly common in popular California recreation lakes and reservoirs and are an expected part of responsible recreating throughout the state. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=46843
1647	8	There will be a negative impact on Delta park facilities from tunnel construction and other conservation measures.	The proposed project may impact recreational opportunities including impacts on hunting, fishing, swimming, and boating. Mitigation is proposed to reduce these impacts; however some impacts may remain significant due to the long-term nature of the temporary construction related impacts. Please see Chapter 15, Recreation, for more detail on the impacts of the proposed project on recreational opportunities and the proposed mitigation. To compensate for the loss of access as a result of constructing the river intakes, Appendix 3B outlines how DWR will work with the California Department of Parks and Recreation to help ensure the elements of the proposed project would not conflict with the elements proposed in DPR's Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh (California Department of Parks and Recreation 2011d) that would enhance bicycle and foot access to the Delta. This would include the helping to fund or construct elements of the American Discovery Trail and the potential conversion of the abandoned Southern Pacific Railroad rail line that formerly connected Sacramento to Walnut Grove.
1647	9	The DEIR/EIS should identify explicit mitigation measures for the significant and unavoidable recreation impacts caused by BDCP tunnel construction and operation, as	Chapter 15 includes mitigation measures for impacts where feasible. Please see Impact REC-2 for a detailed discussion of the various ways in which DWR would attempt to mitigate long-term reduction of recreation

DEIRS Ltr#	Cmt#	Comment	Response
		well as Conservation Measure 20 (watercraft inspection).	opportunities and experiences as a result of constructing the proposed water conveyance facilities. Please also refer to Appendix 3B of the Final EIR/EIS for more information regarding the effectiveness of mitigation measures, environmental commitments, and conservation measures. Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures 2-21. There is an environmental commitment to address potential impacts on aquatic habitat and species from barge and tugboat operations associated with water conveyance facilities construction. DWR will ensure that a barge operations plan is developed and implemented for each project that requires the use of a barge.
1647	10	Agriculture Impacts: Conversion of agricultural land for habitat restoration in BDCP Conservation Measures 2 through 22 (CMs 2-22), especially tidal marsh restoration, is significant and dwarfs the conversion of agricultural land for tunnel construction activities. Combined, approximately 14% or 70,000 acres (equivalent to more than 109 square miles or the land area equivalent of the City of Fresno, population 510,000) of highly productive and unique Delta farmland is proposed for outright conversion as a result of tidal marsh restoration or tunnel construction, while an additional more than 10,000 acres (equivalent to more than 15.6 square miles or the land area equivalent of the City of Madera, population 62,600) would be agriculturally-restricted through seasonal flooding or other proposed restoration activities. It is also worth noting that 3,500 acres would be proposed for storage of reusable tunnel material, and this land (assumed to be farmland) could be contaminated by toxic materials added to the tunnel boring process, thus rendering the land unusable and contributing further to the permanent conversion of agricultural land as a result of tunnel construction. The agricultural impacts of CMs 2-22 are not adequately analyzed due to the conceptual level of the proposed measures. This is a significant shortcoming to capturing the full agricultural impacts (as well as other "Delta as Place" impacts) from the proposed conservation measures.	As stated above, the proposed project no longer includes the magnitude of habitat restoration proposed under the BDCP and therefore would not create the same impacts disclosed in the Draft EIR/EIS for Alternative 4. Additionally, the design of CM 1 (water conveyance facilities) has been revised to reduce the project footprint on Staten Island. Specifically, the proposed tunnel launch facilities, large reusable tunnel material storage areas, a barge landing site, and high voltage transmission lines would not be located on the island. This change also reduces the overall construction time on Staten Island. In total, approximately 1,595 acres may be needed for RTM storage for the pipeline tunnel alignment. Please see Master Response 12 for more information on RTM and the preliminary lab study done to assess the geotechnical and chemical characteristics of RTM (including added soil conditioners, which would be biodegradable and eco-friendly). That study is posted on the project website for review. While the concept of the "Delta as a Place" is not a specific topic area covered by the DEIR/EIS analysis, it nonetheless addresses many of the concerns raised by the Delta Stewardship Council staff by virtue of the analysis required by CEQA and NEPA. Please see Master Response 24 for a discussion of this issue.
1647	11	The Economic Sustainability Plan estimated the economic impacts to Delta agriculture from the BDCP conservation measures as they existed in the 2010 BDCP documents; these conservation measures are largely unchanged and are now known as CMs 2-22. However, the DEIR/EIS does not cite the estimates of agricultural revenue loss from CMs 2-22 that is part of the ESP (estimated at $32-$132 million of direct impact annually depending on the locations used for restoration activities), or even utilize the agricultural data generated for the 2013 BDCP statewide economic impact study (estimated at $89 million of direct impact annually).	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 Please refer to 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. A Draft BDCP Statewide Economic Impact Report has also been published, which indicates that the BDCP would result in an economic net benefit to the State of California. Please also note that the preferred alternative is now Alternative 4A and no longer includes an HCP.
1647	12	To minimize the impact on the Delta economy and communities, restoration efforts should focus first on existing publicly-owned land or land owned by conservation entities intended for restoration activities before acquiring productive agricultural land for restoration.	Please note that since the release of the public Draft EIR/S, a RDEIR/SDEIS has been released that states the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. As part of the mitigation for Alternative 4A, DWR will seek to minimize impacts to agricultural land. The Restoration Opportunity Areas associated with the HCP alternatives are conceptual in nature. Restoration planning activities within the ROAs would occur over the permit duration and would be determined on a site-by-site basis via subsequent environmental documents. Not all lands within the ROAs

DEIRS Ltr#	Cmt#	Comment	Response
			would be restored through project implementation.
1647	13	In addition to direct conversions of agricultural land, there also are significant indirect negative impacts on Delta agricultural land. These include changes to groundwater levels (both increase and decrease) occurring as a result of tunnel construction and restoration activities on adjoining lands, and the corresponding impact on the root zones of crops; and disruption of drainage and irrigation facilities from tunnel construction.	Indirect impacts on agricultural resources due to changes in groundwater levels, impacts on root zones of crops, and disruption of agricultural infrastructure are discussed in Impact AG-2, Chapter 14, Agricultural Resources, of the EIR/EIS. Multiple mitigation measures are also proposed within the chapter to reduce significant impacts.
1647	14	It also is worth noting that the Delta Protection Commission has a role in reviewing any land-use changes on Staten Island, the proposed site of tunnel construction areas and tunnel material placement. Staten Island is subject to a 2001 conservation easement and a 2002 Memorandum of Understanding between the Commission and the Department of Water Resources (DWR). The stated intent of the conservation easement is that Staten Island be protected from "any actions that would result in the conversion of any material portion ... away from agricultural use." DWR is the holder of the conservation easement and legally responsible for its enforcement. To date, the Commission has not been consulted related to these obligations, nor has it received a restoration plan for review as required by the conservation easement. It is difficult to understand how DWR intends to comply with these requirements and manage the apparent conflict of interest between its legal obligations to protect Staten Island against conversions from agricultural use and its interest in advancing the BDCP.	The design of CM 1 (water conveyance facilities) has been revised to reduce the project footprint on Staten Island. Specifically, the proposed tunnel launch facilities, large reusable tunnel material storage areas, a barge landing site, and high voltage transmission lines would not be located on the island. This change also reduces the overall construction time on Staten Island.
1647	15	The primary mitigation measure for agricultural impacts is the proposed Agricultural Lands Stewardship Plan (ALSP -- Mitigation Measure AG-1). While the recent draft version of the ALSP includes a variety of useful and well-thought mitigation strategies that would benefit agriculture, it also includes measures that appear designed more to facilitate restoration of agricultural land for the benefit of listed species. The Delta Protection Commission recommends that the Delta agricultural community be invited to select a preferred administrator for the agricultural mitigation funding, and allow this administrator to work with the full range of ALSP strategies to determine the best measures to mitigate for the loss of Delta farmland. The ALSP must also be adequately funded to compensate for the many agricultural impacts related to BDCP.	Please refer to Master Response 22 for further discussion of the proposed agricultural mitigation. While California WaterFix has not yet made a determination as to how Mitigation Measure AG-1 will be carried out, the lead agencies welcome any suggestions from the Delta agricultural community regarding a preferred administrator for agricultural mitigation funding, including how an administrator could work with the full range of ALSP strategies to determine the best measures to mitigate for the loss of Delta farmland.
1647	16	Water Impacts: The BDCP has significant effects on Delta water quantity and quality and these impacts must be fully mitigated. The DEIR/EIS is inadequate because it fails to analyze and disclose the significant adverse impacts to the water supply for in-Delta water users. It also discloses a change in Delta water elevations, but fails to analyze the impacts of these significant elevation changes on Delta agricultural water diversions, recreational fishing and boating. Agricultural water quantity is also mentioned as a significant and unavoidable impact, but the DEIR/EIS fails to mitigate these completely avoidable impacts; these impacts are not being avoided, and further they are not being mitigated. The DEIR/EIS acknowledges that water losses related to construction dewatering may not be replaced with supplies sufficient to meet the pre-existing demands or planned demands of the affected party but fails to mitigate those significant impacts on municipal and agricultural supplies in the Delta. In addition, the feasibility and effectiveness of phased actions to reduce salinity levels is uncertain, and are inadequate under CEQA and NEPA.	Senior water rights, including Delta water demands, are met under the Existing Conditions, the No Action Alternative, and Alternatives 1 through 9 prior to delivery of SWP and CVP water demands, as described in Chapter 5, Water Supply. The effects of changes in Delta water elevations are addressed in Chapter 14, Agricultural Resources, and Chapter 15, Recreation. The FEIR/EIS compares the conditions under Alternatives 1 through 9 as compared to the Existing Conditions and the No Action Alternative. Mitigation measures are available; however, the FEIR/EIS also must identify conditions that cannot be mitigated to a less than significant level, or not adverse. As described in Chapter 7, Groundwater, depending upon the location of the wells related to the dewatering wells, it may not be feasible to fully mitigate the drawdown of groundwater. During design, groundwater surveying and monitoring will be implemented to minimize groundwater impacts as described in Chapter 7.
1647	17	Water quality impacts to Delta water supplies include both an increase in dissolved organic carbon (affecting municipal supplies pumped from the Delta) and salinity	Alternative 4A, the preferred alternative, includes operational criteria to continue implementation of the Fall

DEIRS Ltr#	Cmt#	Comment	Response
		(affecting both agriculture and municipal supplies). Reduced Delta outflows as a result of the project operation will result in greater saltwater intrusion into the Delta and resulting impacts to water quality for Delta water users. The DEIR/EIS lists these impacts as significant and unavoidable, and the only mitigation suggested is a vague description of assistance that "may take the form of financial contributions, technical contributions or partnerships." There are many ways that these water quality impacts can and must be mitigated, including increasing (rather than decreasing) Delta outflows in drier months (especially in the fall).	X2 RPA action, such that there would be no changes in Fall outflow. The potential for water conveyance operations to affect salinity conditions in the Delta under existing conditions and future no action conditions, and with implementation of each project alternative (including conservation measures or environmental commitments), is assessed in detail in Chapter 8, Water Quality, of the EIR/EIS for the salinity-related parameters chloride (Impact WQ-7) and electrical conductivity (Impact WQ-11). Where impacts are deemed significant, mitigation is provided. Modeling results indicate that the implementation of the water conveyance facilities may positively or adversely affect in-Delta water quality, depending on a number of factors including location, time of year, and hydrologic conditions. See tables in Appendices 8E through 8N for specific results related to various water quality constituents (including bromide and chloride). An overview of the water quality impact assessment methodology and results is also provided in Master Response 14.
1647	18	Related to water impacts, the impact of invasive aquatic weeds (from both proposed subtidal habitat restoration and reoperation of the water export system with the proposed tunnels) is not adequately analyzed. Proposed Conservation Measure 13 discusses treatment for invasive aquatic weeds, but the acreage proposed for treatment appears to be inadequate for the potential new infestation areas likely to occur from extensive proposed subtidal habitat restoration.	Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP. 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 includes neither CM13, nor extensive subtidal habitat restoration. The analysis of Alternative 4 indicates that the changes in water velocity, and therefore suitability of habitat for IAV (specifically Egeria densa), were adjacent to ROAs and a result of restoration changing patterns of tidal flows. This analysis (in Appendix 5.F of the Public Draft BDCP) showed that within the ROAs depth would be the main limiting factor (as velocity would generally be low enough to facilitate IAV within the ROAs), and as such, design of restoration sites would be key. Because Alternative 4A, the preferred alternative, does not include largescale habitat restoration, changes in IAV are not expected because tidal flows would not be greatly different from baseline.
1647	19	The DEIR/EIS fails to include appropriate alternatives for analysis. All but one of the DEIR/EIS alternatives are variations of the preferred alternative. This narrow list of alternatives even ignores recommendations from DWR's own January 2008 "Risks and Options to Reduce Risks to Fishery and Water Supply Uses of the Sacramento/San Joaquin Delta" report, which identifies three scenarios with highest risk reduction potential, two of which are ignored in BDCP: Armored Pathway Through-Delta Conveyance and Seismically Improved Levees. The Commission's 2012 Economic Sustainability Plan (ESP) describes additional alternatives to ensure water supply reliability that were not considered; the ESP was peer-reviewed, approved by the Delta Protection Commission and largely incorporated into the Delta Plan. Analysis and consideration of the ESP and its recommendations should be incorporated into the EIR/EIS as an additional through-Delta alternative.	Please see Master Response 4 for more information regarding alternatives to the proposed project. The alternatives included in the EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. 15 alternatives and 3 new sub alternatives were analyzed in the FEIR/EIS respectively. Four major alignments have been included in the EIR/S: Through-Delta, East of the Sacramento River, West of the Sacramento River, and a Tunnel under the Delta. 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, FEIR/EIS. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS.
1647	20	The BDCP's characterization of the condition of Delta levees (Appendix 3E) is at odds with the description of Delta levees included in the Commission's Economic Sustainability Plan. Specifically, BDCP builds a case for an isolated conveyance facility based on the fragility of Delta levees, without adequate consideration to significant Delta levee improvements made over the past several decades through the Delta Levees Subvention Program. The BDCP documents further neglect to address Delta levee improvements still necessary to reduce risks to people, property and state interests in the Delta (as required in the Delta Plan by Ca1ifornia Water Code section 85305(a)), even though water exports would still rely in large part upon the existing water conveyance system.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. 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. Please see Chapter 2, FEIR/EIS for the BDCP/CWF purpose and need. Also, see Section 6A.6.2.1.3 for a discussion on DWR consistency with the State Plan of Flood Control (SPFC), and Section 6A.6.1.2 for information on project consistency with USACE, CVFPB, and DWR flood standards and regulations. Refer to Sections 6A.2 and 6A.3 for a discussion on existing levee improvement programs and funding mechanisms, which would not be affected by the BDCP/CWF. The BDCP/CWF EIR/EIS acknowledges existing levee programs that provide assistance towards levee improvement projects, while recognizing the risks of future catastrophic events, which could disrupt SWP and CVP water exports in the south Delta. Please see

DEIRS Ltr#	Cmt#	Comment	Response
			Section 5 for information on climate change, sea level rise, and seismic events, and their potential effects on the Delta.
1647	21	The Delta Protection Commission is concerned about the composition of the Authorized Entity Group (AEG) given its important role as the governance entity for the project, and supports equitable Delta membership on the AEG to ensure that the project is operated in a way that takes into account Delta concerns. As proposed in the BDCP Implementing Agreement, the AEG is given authority to make final decisions over how Conservation Measures 2-22 are handled. Public bond funding is anticipated to provide over half of the funding for Conservation Measures 2-22; it is appropriate to include more public participation in the AEG, especially given the significant impacts upon the people and landscape of the Delta region.	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 not an HCP and does not include an Implementing Agreement. Numerous comments were received that focused on various elements of the BDCP. 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. This is also the case for the IA, which is associated specifically with Alternative 4.
1647	22	A variation of the adaptive management contemplated for habitat restoration can and should be applied to socio-economic impacts to the Delta region. The project proponent should be responsible for monitoring project impacts and studying community impacts and regional economic impacts of the project to ensure that project actions are appropriately mitigated. For community and regional impacts, the project proponent could utilize the existing Delta Investment Fund established in the Delta Reform Act of 2009 (PRC section 29778.5) to advance regional economic sustainability and enhance Delta communities.	This EIR/EIS includes an evaluation of the socioeconomic effects and includes mitigation as appropriate. The Mitigation Monitoring and Reporting Program will be used to ensure implementation of the mitigation.
1647	23	For individuals directly impacted by BDCP construction, there should be a simpler claims process to address economic damages related to tunnel construction activity. A mitigation measure should be added to establish a "Delta Compensation Fund" funded by the project proponent and administered by an impartial and independent third party. Modeled after the British Petroleum Deepwater Horizon Disaster Victim Compensation Fund and with funding sufficient to address deleterious impacts created by completion of the BDCP Conservation Measures (especially the construction of the tunnels) placed into an escrow account, the administrator of the Delta Compensation Fund would make payments directly to affected parties. This would both provide an impartial means of addressing negative impacts and a prompt method to compensate those affected. These impacts and possible modifications are further described in the attached matrix. [ATT1:] We ask that the comments contained in both this letter and the attached matrix be considered as our comments on the BDCP and associated environmental documents.	The commenter's opinion related to the BDCP and Draft EIR/S is acknowledged. The commenter's suggestions will be considered in the project decision-making process. Responses to the comments in the matrix are provided below.
1647	24	From the Delta Protection Commission's perspective, the biggest positive change that BDCP could make to improve the unique cultural, recreational, natural resource and agricultural values of the Delta would be to fully analyze and study alternatives to the proposed 9000 cubic feet per second (cfs) isolated conveyance facility and significantly reduce the scale of the habitat restoration. We strongly urge that thorough analysis be conducted on all alternatives that would achieve the co-equal goals while accomplishing the objective inherent in achieving them - to protect and enhance the unique cultural, recreational, natural resource and agricultural values of the Sacramento-San Joaquin Delta.	See Master Response 24 for information on impacts on the Delta as a place, Master Response 9 for information on the analysis of cumulative impacts to Delta residents and Master Response 31 regarding compliance with the Delta Reform Act.
1647	25	ATT1: Table of Delta Protection Commission Comments on Proposed BDCP and EIR/EIS	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

DEIRS Ltr#	Cmt#	Comment	Response
			already addressed in the comment referencing the attachment or the Final EIR/EIS.
1647	26	ATT1: Comment 1 Impacts/Significance to Delta Protection Commission (DPC): Proponent proposes permanent impacts to Cosumnes River Preserve with access road, shaft location, reusable tunnel material (RTM) placement. The Cosumnes Preserve is an important location of the Pacific Flyway and is a critical component of the clustering of habitat, recreation and tourism resources, including The Nature Conservancy Staten Island property, State Park's Delta Meadows, Stone Lakes Natural Wildlife Refuge and the Legacy Communities. BDCP or EIR/EIS Reference: Chapter 15, Impact Rec-1; Permanent Displacement of Existing Well-Established Public Use or Private Commercial Recreation Facilities Available for Public Access as a Result of the Location of Proposed Water Conveyance Facilities, Page 15-255; Line 12-27. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendation: ESP, Page274, Place Based Strategies to capture future growth for Recreation and Toursim, including 1) Enhance Delta Waterways, 2) Develop Dispersed Points of Interest and Activity Areas, 3) Create Focal Point Destination Complexes with natural areas, parks, legacy communities, marinas, historic features, and trails, 4) Expand public access to Natural Habitat Areas, 5) Create recreation-oriented buffers at Delta urban edges; Page 276, Recommendations for Habitat and Ecosystem Improvements: 1) Emphasize strategies with little or no conflict with the Delta economy, 2) Include recreation facility development in habitat enhancement plans when possible, 3) Habitat restoration should start on State-owned land and only occur on private lands with willing sellers. Proposed Modifications to Project Conservation Measures: The established preserve should not be disturbed for the placement of Reusable Tunnel Material, when other publicly owned sites that don't have established habitat or agriculture would be better suited. If the Cosumnes River Preserve is disturbed at all, it should only be for essential aspects of the water conveyance facilities. Proposed Modifications to Mitigation Measures: DEIS/EIR states that no mitigation is required. However, consider that this is an established wildlife preserve on the Pacific Flyway for migratory birds. Mitigation should be required and implemented prior to disturbance of an existing and established wildlife preserve.	Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures 2-21. Aspects of Alternative 4 (i.e., CM 3,4, 6-12, 15, 16) are included in the preferred alternative as environmental commitments. Under Alternative 4A, no RTM would be placed on the Cosumnes River Preserve, although there would be placement of an RTM area to the north of the preserve and construction of an east-west permanent transmission line adjacent to the northern boundary of the preserve. Additionally, Alternative 4A includes the location of permanent tunnel shafts on the preserve, although they would not inhibit access to the preserve or affect areas formally used for recreation. Mitigation specific to migratory birds is included in Chapter 12. More information related to effects on sandhill crane is included in Master Response 17.
1647	27	ATT1: Comment 2 Impacts/Significance to Delta Protection Commission (DPC): Impacts to Clarksburg Boat Ramp (Yolo County) would adversely effect visitor recreation experience for 8 years, at minimum. According to the project proponent, construction of the intake in this area would be long term and would also substantially alter the recreation setting for views from the boat launch/fishing access site. Therefore, constructing the proposed water conveyance facilities would result in long term reduction of recreational opportunities or experiences. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of	As described in Chapter 15, Mitigation Measure REC-2 would include enhancement of nearby formal fishing access sites, including partnering with Yolo County to enhance the Clarksburg Fishing Access site on the west bank of the Sacramento River.

DEIRS Ltr#	Cmt#	Comment	Response
		Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Clarksburg Boat Launch, Page 15-257, Lines 39-43; and Page 15-258, Lines 1-13. Related DPC Land Use and Resources Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page273, General Recommendations for Economic Sustainability: 2) Compensate local governments for lost property taxes and assessments from habitat and development of facilities for export water supply. Poposed Modifications to Project Conservation Measures: Project proponents should consider setting aside funds to compensate public for unknown impacts to community resources. The Delta Investment Fund can act as a depository for distribution of compensation funds. Proposed Modifications to Mitigation Measures: Consider that for 8 years a public amenity will be all but unusable due to noise and visual impacts. Yolo County should be compensated for the period of time that the boat ramp is rendered unusable, and potentially the boat ramp site should be renovated when the construction period is complete. Also, consider that within the 8 year construction period the park installation and equipment will age/deteriorate, and the project proponent should update and renovate the park when construction is complete.	
1647	28	ATT1: Comment 3: Impacts/Significance to Delta Protection Commission (DPC): Proponent proposes permanent 230kv transmission line to be constructed on Cosumnes River Preserve disrupting scenic vistas and impacting Pacific Flyway. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Cosumnes River Preserve, Page 15-257; Line 21-24 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page 275, Recommendations for Infrastructure: Ensure that future development of infrastructure in the Delta is aligned with economic sustainability strategies. Proposed Modifications to Project Conservation Measures: Proponent's proposed permanent 230kv transmission line would be constructed on lands managed for ecological reserve. All transmission and utility lines proposed within the Legal Delta should be placed underground or under berms to reduce impacts to terrestrial wildlife, Pacific Flyway and to reduce visual impacts on Delta scenic vistas.	Please see response to comment 1647-26. Additionally, Mitigation Measure AES-1a would locate new transmission lines underground when feasible as further described in Chapter 12 and Appendix 3B in the Final EIR/EIS. Please see Master Response 17.
1647	29	ATT1: Comment 4: Impacts/Significance to Delta Protection Commission (DPC): All temporary transmission lines should be removed once construction is complete or undergrounded to preserve	Temporary transmission lines would be temporary, meaning they would be removed after construction is complete. Please also refer to Chapter 3 under Section 3.6.1.6, Power Supply and Grid Connections, and Chapter 17 Mitigation Measure AES-1a, Locate New Transmission Lines and Access Routes to Minimize the

DEIRS Ltr#	Cmt#	Comment	Response
		Delta scenic vistas; scenic vistas are a beneficial element of the Delta recreation economy. BDCP or EIR/EIS Reference:Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Cosumnes River Preserve, Page 15-257; Line 25-26. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page 275, Recommendations for Infrastructure: Ensure that future development of infrastructure in the Delta is aligned with economic sustainability strategies. Proposed Modifications to Project Conservation Measures: All temporary transmission lines proposed within the Legal Delta should be removed once construction is completed, or replaced with underground permanent transmission lines to reduce impacts to Pacific Flyway and to reduce visual impacts on Delta scenic vistas.	Removal of Trees and Shrubs and Pruning Needed to Accommodate New Transmission Lines and Underground Transmission Lines Where Feasible, which both address undergrounding permanent transmission lines.
1647	30	ATT1: Comment 5: Impacts/Significance to Delta Protection Commission (DPC): Construction of proposed transmission lines will cause significant noise and visual disturbance impacting Delta recreation and residents; construction noise should be limited to reduce impacts to recreation. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Cosumnes River Preserve, Page 15-257; Line 29-30 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: Proponent predicts that proposed transmission line construction will cause visual and noise disturbance to visitors for 3.5 years. How loud is the proposed noise level and why would the noise be generated for such an extended period of time, if only building transmission lines. How long does it take to build a transmission line? Proposed Modifications to Mitigation Measures: Construction noise should be limited to working hours, 8am-5pm during work week (Monday to Friday) to reduce impact on recreation and residents.	As described under Impact NOI-1, Mitigation Measures NOI-1a and NOI-1b would avoid and minimize adverse effects on noise levels during construction. Construction of transmission lines is transitory in nature, and at a given location construction would only occur for a short period of time. Worst case noise levels during transmission line construction are shown in Table 23-64. Noise levels would be up to 91 dBA at 50 feet, and would exceed the daytime threshold of 60 dBA at a distance of up to 800 feet, and would exceed the nighttime threshold of 50 dBA at a distance of up to 1,800 feet. DWR environmental commitments in Appendix 3B include measures to reduce noise levels during daytime hours. DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts.
1647	31	ATT1: Comment 6: Impacts/Significance to Delta Protection Commission (DPC): Proponent proposes to build temporary barge unloading facilities at Staten Island. Barge facilities should be placed where they are the least disruptive. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Cosumnes River Preserve, Page 15-257; Line 37-38 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3,	Mitigation Measure TRANS-1a will implement a site-specific construction traffic management plan, and Mitigation Measure AES-1d will restore barge unloading facility sites once decommissioned. Additionally, DWR will develop and implement a Barge Operations Plan as described in Appendix 3B. While not specifically focused on recreation, it will be consistent with the Coast Guard regulations.

DEIRS Ltr#	Cmt#	Comment	Response
		P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page 274, Recommendations for Economic Sustainability of Recreation and Tourism: Protect and enhance private enterprise-based recreation with support from state and local public agencies. Most of the economic activity related to recreation is generated by private enterprise. Public agencies can provide catalist settings, recreation facilities, and infrastructure to improve access, enhance and create settings for private development, and services. Proposed Modifications to Project Conservation Measures: Should provide a route of all barges to fully understand impacts. Proposed Modifications to Mitigation Measures: When feasible, temporary barge unloading facilities should be designed to be converted into boating recreational facilities when construction is completed. The material transport routes for barges should be shared with Delta stakeholder groups, including residents and recreationists, to reduce impacts. What is the route of the barge, where is it going, and what will it be carrying?	
1647	32	ATT1: Comment 7: Impacts/Significance to Delta Protection Commission (DPC): Proponent proposes construction activity Monday-Friday for up to 24 hours per day with dewatering activity 7 days per week, 24 hours per day. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Cosumnes River Preserve, Page 15-257; Line 44-45 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: Construction activity including noise and glaring lights should be restricted to the hours of 7am-5pm to relieve residents and wildlife of constant deluge of construction impacts. Proposed Modifications to Mitigation Measures: Excessive work lights after 6pm should be mitigated through screens, and constructions barriers to reduce visual impacts to resident and Pacific Flyway. Construction producing excessive noise and light glare should not be permissible during the weekend to give residents relief from non-stop construction activity.	The commenter's suggestions for modified mitigation measures will be considered in the project decision-making process. Please also refer to Chapter 17 of the DEIR/EIS. Impact AES-4 analyzes light and glare impacts, which first appears in the analysis for Alternative 1A on page 17-74. Page 17-75, lines 11-39, indicate that DWR will implement WREM No 30a. This measure indicates that "All artificial outdoor lighting is to be limited to safety and security requirements. All lighting is to provide minimum impact on the surrounding environment and is to be shielded to direct the light only towards objects requiring illumination. Lights shall be downcast, cut-off type fixtures with non-glare finishes set at a height that casts low-angle illumination to minimize incidental spillover of light onto adjacent properties, open spaces or backscatter into the nighttime sky. Lights shall provide good color rendering with natural light qualities with the minimum intensity feasible for security, safety and personnel access. All outdoor lighting will be high pressure sodium vapor with individual photocells. Lighting will be designed per the guidelines of the Illuminating Engineering Society (IES). Additionally, all lights shall be consistent with energy conservation and are to be aesthetically pleasing. Lights will have a timed on/off program or will have daylight sensors. Lights will be programmed to be on whether personnel is present or not." This measure helps to reduce light impacts during operation. In addition to the mitigation measures above and WREM 30a, mitigation measures are provided and detailed In Chapter 17 to address light and glare impacts. These include MM AES-4a, Limit Construction to Daylight Hours Within 0.25 Mile of Residents; MM AES-4b, Minimize Fugitive Light from Portable Sources Used for Construction; and MM AES-4c Install Visual Barriers along Access Routes, Where Necessary, to Prevent Light Spill from Truck Headlights toward Residences. The aforementioned mitigation measures would substantially reduce potential impacts to wildlife. Additional measures to protect sensitive wildlife from light and noise can be found in AMM 20 Greater Sandhill Crane.
1647	33	ATT1: Comment 8: Impacts/Significance to Delta Protection Commission (DPC): Construction of the proposed water conveyance facilities would reduce the amount of area available for wildlife viewing at Cosumnes River Preserve resulting in substantial long term reduction of recreation opportunities and experience. Given that recreation is a significant component	Please see response to comment 1647-26.

DEIRS Ltr#	Cmt#	Comment	Response
		of the Delta economy, impacts to recreation opportunities should be addressed prior to construction period. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Cosumnes River Preserve, Page 15-257; Page 15-258; Line 1-16 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: To compensate for the disruption to wildlife areas and the recreation economy, new wildlife areas should be established and enhanced prior to the start of construction, to reduce the impacts on the Pacific Flyway and wildlife habitat and to reduce impacts on wildlife viewing and recreation. Newly constructed wildlife and habitat areas should include recreation amenities to provide alternatives to recreation facilities disrupted during the construction period.	
1647	34	ATT1: Comment 9: Impacts/Significance to Delta Protection Commission (DPC): Wimpy's Marina is within the construction noise threshold for BDCP-related construction, and should be compensated for the projected economic disruption to their business. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Wimpy's Marina, Page 15-258; Line 26-27 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page 274, Recommendations for Economic Sustainability of Recreation and Tourism: Protect and enhance private enterprise-based recreation with support from state and local public agencies. Most of the economic activity related to recreation is generated by private enterprise. Public agencies can provide catalist settings, recreation facilities, and infrastructure to improve access, enhance and create settings for private development, and services. Proposed Modifications to Project Conservation Measures: The magnitude of the BDCP construction project will have economic impacts that few marinas may be able to weather. Given that even the short-term construction impacts are predicted to last for a minimum of 8 years, and BDCP predictions regarding noise and visual impacts, many marinas might not survive. Proposed Modifications to Mitigation Measures: The project proponents state that Wimpy's Marina is within the noise and visual disturbance impact area, and across the river from tunnel corridor and other project installations. Analysis should be conducted of economic impact to marinas and their visitation and clientele. Marinas should be compensated for construction impacts related to noise disruption, visual disruption and vehicle congestion. This will enable them to make necessary upgrades and adjustments in order to weather the economic impacts during the construction period.	The effects at Wimpy's Marina are described in Chapter 15, and include potential noise and visual effects for up to 2.5 years during geotechnical exploration of the tunnel alignment. Various mitigation measures are available to reduce noise and visual impacts, as described in Chapter 15, Recreation under Mitigation Measure REC-2.

DEIRS Ltr#	Cmt#	Comment	Response
1647	35	ATT1: Comment 10: Impacts/Significance to Delta Protection Commission (DPC): Construction impacting Wimpy's Marina ingress and egress should be scheduled to coincide with the marina's off season. Recreation is a significant component of the Delta economy and impacts to the recreation providers should be quantified and business owners should be compensated. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Wimpy's Marina, Page 15-258; Line 27-28 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: A mitigation measure should be added to establish a "Delta Compensation Fund" funded by the project proponent and administered by an impartial and independent third party, with funding sufficient to address deleterious impacts created by completion of the BDCP Conservation Measures (especially the construction of the tunnels) placed into an escrow account. The administrator of the Delta Compensation Fund would make payments directly to affected parties. This would both provide an impartial means of addressing negative impacts and a prompt method to compensate those affected. Proposed Modifications to Mitigation Measures: Road construction impacts adjacent to Wimpy's Marina ingress and egress should be scheduled during marina's least productive season to reduce adverse impact on the marina's business. Road construction should include new apron for marina entrance. Any construction of new road segments, or improvements to existing roads should consider incorporating Delta Trail segments (including Class I,II, III bicycle facilities) and refer to the Delta Trail master planning process for adopted alignments.	Mitigation Measure REC-2 includes Mitigation Measures TRANS 1a, 1b, and 1c to address site-specific traffic issues. The analysis of Alternative 4A indicates that there would not be a reduction in access to Wimpy's Marina as a result of the project. As stated in Chapter 15, "Access to the marina from West Walnut Grove Road will be maintained during geotechnical exploration and tunnel construction. On-water access to the marina and use of the marina's boating facilities would not be affected by geotechnical exploration or tunnel/pipeline construction activities."
1647	36	ATT1: Comment 11: Impacts/Significance to Delta Protection Commission (DPC): Anglers on river near Wimpy's Marina would experience noise and visual disturbances from construction. Recreation is a significant component of the Delta economy and impacts to the recreation providers should be quantified and business owners should be compensated. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Wimpy's Marina, Page 15-258; Line 31-32 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Angler fishing holes should be identified and their view corridors should be protected to the best extent possible, by maintaining vegetation and even screening work site construction and glare from lights. Night time fishing, including fishing at dusk and dawn, does occur in Delta, and the project proponents should research and identify fishing holes that would be impacted by glaring lights during these non-daylight hours.	As described in Alternative 4A, the preferred alternative, Wimpy's Marina will experience noise and visual disturbances for up to 2.5 years. Mitigation Measure REC-2: "Provide Alternative Bank Fishing Access Sites" would be implemented to compensate for the loss of informal fishing sites during construction. To do so, the lead agencies will enhance nearby formal fishing access sites, including partnering with Yolo County to enhance the Clarksburg Fishing Access site on the west bank of the Sacramento River, and with the Sacramento County Department of Regional Parks to enhance the Cliffhouse Fishing Access site on the east bank of the Sacramento River and the Georgiana Slough Fishing Access site east of the Sacramento River, and with Contra Costa County to enhance fishing sites near Clifton Court Forebay, as well as other nearby sites. Prior to construction of the proposed intakes, the lead agencies will ensure adequate signage will be placed at the informal sites that would be directly affected by construction of the intakes, directing anglers to the formal sites. Upgrading the existing fishing access sites will be completed prior to beginning construction of the intakes. Additionally, Chapter 17, Aesthetics and Visual Resources, Section 17.3.3.9, identifies a number of mitigation measures that would address construction-related visual effects on sensitive receptors via Mitigation Measures AES-1a, b, c, d, e, f, and g. Chapter 23, Noise, Section 23.4.3.9, discusses that construction noise effects could be addressed through mitigation measures that call for use of noise-reducing construction practices (NOI-1a) and implementation of a complaint/response tracking program (NOI-1b), and an environmental commitment requiring a noise abatement plan (Appendix 3B, Environmental Commitments).

DEIRS Ltr#	Cmt#	Comment	Response
1647	37	ATT1: Comment 12: Impacts/Significance to Delta Protection Commission (DPC): Project proponent's impacts to Westgate Landing Park (San Joaquin County) would adversely effect visitor recreation experience for 8 years. Also, the adjacent community of Terminous and the Stockton KOA Camp are within the construction noise threshold (2,800 foot distance referenced in DEIR/EIS Chapter 23-112, Lines 10-11) and are currently not considered in the noise and visual impacts of the project analysis. This is of particular concern given that residents living within the 2,800 foot diameter are impacted by 24 hour noise. Recreation is a significant component of the Delta economy. Impacts to the recreation facilities should be quantified and San Joaquin County Parks should be compensated for facilities deteriorated during the construction period. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Westgate Landing Park, Page 15-258; Line 33-41 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9;Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page273, General Recommendations for Economic Sustainability: 2) Compensate local governments for lost property taxes and assessments from habitat and development of facilities for export water supply. Proposed Modifications to Project Conservation Measures: Impacts to Westgate Landing Park have not been fully analyzed. Project proponents should consider setting aside funds to compensate public agencies for unknown impacts to community resources. The Delta Investment Fund can act as a depository for distribution of compensation funds. Proposed Modifications to Mitigation Measures: To mitigate for noise and visual impacts, it is suggested that a visual screen and noise barrier be provided on the west side of the park, such as planting a suitable row of trees at landside. Also, dust from Reusable Tunnel Material (RTM) may drift to the park. The vegetation barrier may also act as dust screen. If planting is not possible, trucking in large potted trees with a full canopy may also be suitable to act as a noise and dust screen. Consider that for 8 years a public amenity will be all but unusable due to noise, visual and potentially dust impacts. San Joaquin County should be compensated for the period of time that the park is rendered unusable, and potentially the park should be renovated when the construction period is complete. Also, consider that within the 8 year construction period the park facilities and equipment will age, and the project proponent should update and renovate the park when construction is complete.	Westgate Landing Regional Park is located north of SR 12 and would not be within the 1,400-foot noise and visual buffer of the project facilities under Alternative 4A. Therefore, it would not be affected from a noise, visual, or recreation perspective by the Preferred Alternative because no actions would be occurring in close proximity to the park and views toward the proposed activities on Bouldin Island would not be visible. Therefore, impacts to Westgate Landing Regional Park are not addressed in the visual or recreation analysis. The primary action associated with the Preferred Alternative proposed to take place near the Stockton KOA and adjacent community of Terminous would be RTM placement on the southernmost portion of Bouldin Island, which would be located approximately 0.15 mile south of the KOA's southernmost berth. Mature trees and shrubs are located between the KOA camp sites and along the levee on Terminous Tract in this area, between the camp sites and the berths, so that the berths facing southwest and towards Bouldin Island are the most likely to have views of construction activities. Because of the aforementioned trees and levee on Terminous Tract, it is not likely that views of the RTM disposal area would be visible from locations interior to the levee and to the majority of KOA or Terminous. In addition, a levee surrounds Bouldin Island and berths are at the water level, so potential views from the berths and Potato Slough are very limited. Appendix 17D discusses changes in views to Tower Park Marina Resort, which is how the Stockton KOA is labeled in Google Maps. As set forth in Chapter 22, Air Quality and Greenhouse Gases, the lead agencies have identified several environmental commitments (Appendix 3B, Environmental Commitments) to reduce emissions of construction-related criteria pollutants, including basic and enhanced fugitive dust control measures and measures for entrained road dust that would help to reduce the creation of dust clouds that would negatively affect short-range views. When required, DWR would provide compensation to property owners for economic losses due to implementation of the alternative. However, it is not anticipated that Westgate Landing Park would be affected by this alternative or would require compensation.
1647	38	ATT1: Comment 13: Impacts/Significance to Delta Protection Commission (DPC): CA State Parks owns Delta Meadows State Recreation Area, currently unstaffed but open to the public. However, it can be presumed that within the 8-10 year BDCP construction period, State Parks would generate the funds to staff Delta Meadows and make necessary improvements to the park. Delta Meadows is a key recreational resource outlined in the State Parks Recreation Proposal for the Sacramento-San Joaquin Delta and Suisan Marsh. Delta Meadow's vicinity to Locke, Walnut Grove, and other Legacy Communities makes it a key public	As described under Impact NOI-1, Mitigation Measures NOI-1a and NOI-1b would avoid and minimize adverse effects on noise levels during construction. DWR environmental commitments in Appendix 3B include measures to reduce noise levels during daytime hours. DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts. Additionally, as described in REC-3, BDCP proponents would assist in funding the expansion of state

DEIRS Ltr#	Cmt#	Comment	Response
		resource and an asset for economic development and Delta recreation and tourism. Alternative 4 proposes permanent noise and visual disturbances to park visitors rendering this site inappropriate for recreation or visitation. In addition, if permanent noise and visual impacts are expected for Delta Meadows, it can be assumed that the same noise and visual disturbances will impact Locke and Walnut Grove since they are adjacent to Delta Meadows, reducing their small town characteristics and making it less appealing for visitors. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Delta Meadows, Page 15-259; Line 1-13 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page273, General Recommendations for Economic Sustainability: 2) Compensate local governments for lost property taxes and assessments from habitat and development of facilities for export water supply. Proposed Modifications to Mitigation Measures: Temporary and permanent noise levels at Delta Meadows and surrounding Legacy Communities should not go above acceptable levels for residential communities. All temporary transmission lines proposed within the Legal Delta should be removed once construction is completed. Permanent transmission lines should be placed underground to reduce impacts to Pacific Flyway and to reduce visual Impacts on Delta scenic vistas.	recreation areas in the Delta as described in Delta Plan R13, funding that could be used for Delta Meadows-Locke Boarding House as described in Chapter 15. Also see response to comment 1647-29 regarding transmission lines.
1647	39	ATT1: Comment 14: Impacts/Significance to Delta Protection Commission (DPC): During tunnel construction, Bullfrog Marina users would be disturbed by noise and visual disruptions related to the construction activities. Anglers on the river between the marina and the construction area would experience noise and visual disturbances from construction. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-2, Result in Long-Term Reduction of Recreation Opportunities and Experiences as a Result of Constructing the Proposed Water Conveyance Facilities, Bullfrog Landing Marina, Page 15-259; Line 14-24. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page 274, Recommendations for Economic Sustainability of Recreation and Tourism: Protect and enhance private enterprise-based recreation with support from state and local public agencies. Most of the economic activity related to recreation is generated by private enterprise. Public agencies can provide catalyst settings, recreation facilities, and infrastructure to improve access, enhance and create settings for private development, and services. Proposed Modifications to Project Conservation Measures: In addition, Cruiser Haven Marina is located on Palm Tract along Old River across from the safe haven work area on Bacon Island and should also be considered for impacts to marinas and recreation similiar	Impacts to Bullfrog Landing Marina are described in Impact REC-2 under Alternative 4A, the preferred alternative. Mitigation Measures REC-2 includes measures to reduce impacts to Bullfrog Marina. Cruiser Haven Marina is more than 1 mile away from the MPTO alignment features (including the safe haven work area), which is the alignment for Alternative 4A, as shown in Mapbook Figure M15-4. The chapter uses an approximate 1,400-foot noise and visual buffer to determine whether recreational sites are within a close enough distance to be impacted by noise and visual disturbances. Therefore, noise and visual disturbances to Cruiser Haven Marina are not expected to occur.

DEIRS Ltr#	Cmt#	Comment	Response
		to Bullfrog Landing Marina; A mitigation measure should be added to establish a "Delta Compensation Fund" funded by the project proponent and administered by an impartial and independent third party, with funding sufficient to address deleterious impacts created by completion of the BDCP Conservation Measures (especially the construction of the tunnels) placed into an escrow account. The administrator of the Delta Compensation Fund would make payments directly to affected parties. This would both provide an impartial means of addressing negative impacts and a prompt method to compensate those affected. Proposed Modifications to Mitigation Measures: The magnitude of the BDCP construction project will have economic impacts that few marinas may be able to weather. Given that even the short-term construction impacts are predicted to last for 8 years and the BDCP predictions regarding noise impacts, many marinas may not survive. Economic impacts to marinas should be quantified and business owners should be compensated for impacts to their business. Angler fishing holes should be identified, especially non-daytime fishing holes, and their view corridors should be protected to the best extent possible, by maintaining vegetation and even screening construction and glare from work lights.	
1647	40	ATT1: Comment 15: Impacts/Significance to Delta Protection Commission (DPC): Recreational visitors to Clifton Court Forebay will experience a long term reduction of recreational opportunities and experiences as a result of the proposed water conveyance facilities. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure REC-2: Provide Alternative Bank Fishing Access Sites, Impact REC-2, Clifton Court Forebay, Page 15-259, Lines 26-44; and Page 15-260, Lines 1-11. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Coordinate with Clifton Court Forebay Fishing Facility (State Clearing House # 2013062041).	DWR is coordinating internally regarding the proposed CCF Fishing Facility and the construction activities at the CCF as a result of the project. Mitigation measure REC-2 includes a number of measures to address the recreational impacts at CCF.
1647	41	ATT1: Comment 16: Impacts/Significance to Delta Protection Commission (DPC): To compensate for impacts to informal fish access sites, proponent proposes to enhance formal fish access sites. However, three of the four sites that proponent proposes to enhance will be directly impacted and rendered less than usable due to the construction. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure REC 2: Provide Alternative Bank Fishing Access Sites, Page 15-263, Lines 19-39; page 15-272, Lines 23-24. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, Page273, General Recommendations for Economic Sustainability: 2) Compensate local governments for lost property taxes and assessments from habitat and development of facilities for export water supply. Proposed Modifications to Project Conservation Measures: Alternative bank fishing sites	As shown in Mapbook Figure M15-4, the Georgiana Slough Fishing Access area is more than one mile west of the modified pipeline tunnel (MPTO) alignment, which is the alignment for the preferred alternative, 4A. The Cliffhouse Fishing Access area is more than 7 miles west of the MPTO alignment. Fishing would still be possible during construction at the Clarksburg Fishing Access location, and near the Clifton Court Forebay, although noise and visual disturbances would occur. The Clifton Court Forebay fishing mitigation sites are described at a programmatic level of detail and are therefore not shown on the mapbook figures. As described in Impact REC-4, impacts related to a long-term reduction in fishing opportunities as a result of constructing the proposed conveyance facilities would be less than significant. Mitigation Measure AQUA-1a would avoid and minimize adverse effects on sport fish populations from impact pile driving. Mitigation Measures NOI-1a and NOI-1b and an environmental commitment to develop and implement a noise abatement plan (Appendix 3B, Environmental Commitments) would address construction noise effects. Additionally, specific noise-generating activities near recreation areas would be scheduled to the extent possible so as to avoid effects on passive recreation activities on- shore fishing. Further, anglers could move to other locations along the Sacramento River and throughout the Delta region. Although construction would occur for more than 2 years (the threshold for short-term versus long-term recreational impacts used in this EIR/S) and cause a long-term reduction in fishing opportunities at one recreational site, construction

DEIRS Ltr#	Cmt#	Comment	Response
		should provide safe and adequate parking and sanitation facilities. Any improvements should consider a financing mechanism for increased law enforcement, waste management, and emergency response during the construction period to lift the burden from the local jurisdiction. Any proposed fish access sites that require improvements to right of way should consider incorporating Delta Trail Master Plan improvements. Proposed Modifications to Mitigation Measures: There are inconsistencies in the mitigation measures. The proponent proposes to provide "formal" fishing access sites prior to the construction of the intakes to compensate for the "informal" fish access sites. However, three of the four proposed locations will be directly impacted by the construction of the intakes. For example, the Clarksburg Fishing Access site that the proponent proposes to enhance is directly across the Sacramento River from a proposed intake. Also, the Georgiana Slough Fishing Access site enhancements may be compromised by noise and visual disturbances due to its close vicinity to the construction of a proposed tunnel shaft. Also, enhancements at Clifton Court Forebay (CCF) will also be compromised for seven years given that CCF will be expanded (see page 15-259, lines 33-36). Enhancements at CCF may be possible since this site is not impacted by the conveyance construction; however, this site is not listed on the Recreation Facilities maps: Figure M15-2 (Sheets 1-7), and it should be. Any enhancements at these three Fishing Access sites (Clarksburg, Georgiana Slough and CCF) would be less than usable during the construction period. Instead, Fishing Access sites should be built that are not in the construction zone to compensate for the "informal' fishing access that will be unusable during the construction period. In addition, the Clarksburg, Georgiana Slough and CCF Fishing Access sites should be enhanced and upgraded once the conveyance construction is completed, given that these three sites are rendered unusable during the construction period.	of the proposed water conveyance facilities would not disperse fishing opportunities throughout the Delta. Please refer to Appendix 3B of the Recirculated Draft EIR/Supplemental Draft EIS for more information regarding the effectiveness of mitigation measures, environmental commitments, and conservation measures.
1647	42	ATT1: Comment 17: Impacts/Significance to Delta Protection Commission (DPC): In order to accommodate transmission lines and access routes, tree and shrub removal is proposed in addition to pruning. The removal of vegetation may have an impact on recreational opportunities. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-1a: Locate New Transmission Lines and Access Routes to Minimize the Removal of Trees and Shrubs and Pruning Needed to Accommodate New Transmission Lines and Underground Transmission Lines Where Feasible, Page 15-264, Line 1-5; Page 15-273, Line 25-28; Page 15-283, Line 37-41; Page 15-289, Line 5-9. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: All proposed tree and shrub removal should be reviewed and the line of sight should be analyzed prior to assess visual impacts. Proposed Modifications to Mitigation Measures:A stakeholder group (consisting of recreational users) should be convened to review the vegetation removal and pruning plan to assess impacts to recreational boating and fishing, and make recommendations on how to reduce impacts to user groups. In addition, new fishing facilities should be provided if there are substantial impacts to fishing. Boating and fishing stakeholders	The analysis included in Chapter 17 includes consideration of changes in aesthetics, including tree removal and alterations in views. The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. Mitigation Measure AES-1b will minimize views of construction work areas by sensitive receptors (i.e., residents and recreational areas). WREM No 30a requires coordination and an architectural review process with local agencies. Also see Master Response 10 regarding significant and unavoidable impacts.

DEIRS Ltr#	Cmt#	Comment	Response
		should also be informed of the new facilities and times of operation.	
1647	43	ATT1: Comment 18: Impacts/Significance to Delta Protection Commission (DPC): Construction activity that is not screened will have visual and noise impacts to visitors and recreational users. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-1b: Install Visual Barriers between Construction Work Areas and Sensitive Receptors, Page 15-264, Line 6-9; Page 15-273, Line 6-7; Page 15-284, Line 37-41; Page 15-289, Line 10-13. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Infrastructure P1 Proposed Modifications to Mitigation Measures: A stakeholder group (recreational users) should be convened to review the proposed plans and location for construction screens, to assess if screens provide an adequate amount of coverage from construction work.	Please see response to comment 1647-42.
1647	44	ATT1: Comment 19: Impacts/Significance to Delta Protection Commission (DPC): There are large surface areas along the BDCP tunnel alignment that are being proposed to store spoils and borrow materials. Most of these surface areas are currently being used for agricultural purposes. Reusable Tunnel Material areas should not be located on agricultural land of high value or privately owned agricultural land. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-1c: Develop and Implement a Spoil/ Borrow and Reusable Tunnel Material Area Management Plan, Page 15-264, Line 10-13; Page 15-273, Line 10-11; Page 15-284, Line 5-8; Page 15-289, Line 14-17. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Agriculture P2, P3, P4, P5, P7, P9 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP, page 274, Recommendations for the Economic Sustainability of Agriculture; 1. Maintain and enhance the value of Delta agriculture; 2. Limit the loss of highly productive farmland to urbanization, habitat, and flooding to the greatest practical extent Proposed Modifications to Mitigation Measures: All management plans should be reviewed by a stakeholder group (consisting of agriculture and recreational interests) to ensure that the spoil/borrow material removal and transport does not impact agriculture operations and recreational activities, or at minimum to involve stakeholders who can provide input on how the transfer of spoil materials can be conducted while sustaining agriculture and recreational economies. Reusable Tunnel Material Areas should refrain from converting agricultural land to non-agriculturally-oriented uses. If this is to occur, project proponent should ensure that conversion of agriculturally-oriented land happens on public land rather than on land in private ownership. Conversion of agricultural land should occur first where productivity and agricultural values are the lowest.	Agricultural impacts are evaluated in Chapter 12. Mitigation Measure AG-1 includes the development of 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. Please refer to Master Response 22 regarding agriculture impacts and mitigation and Master Response 12 regarding the use of the RTM. RTM locations can be found in the mapbook volume of the EIR/EIS. Please also see Master Response 18 regarding agricultural impacts mitigation.
1647	45	ATT1: Comment 20: Impacts/Significance to Delta Protection Commission (DPC): Barges are proposed to transfer large amounts of spoil and borrow materials. In some cases barges will transfer	Please see response to comment 1647-31.

DEIRS Ltr#	Cmt#	Comment	Response
		materials on waterways from island to island. Barge traffic could impact recreational boating and fishing. Also, unloading facilities will need to be constructed and later decommissioned when project is complete. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-1d: Restore Barge Unloading Facility Sites Once Decommissioned, Page 15-264, Line, Page 15-264, Line 14-16; Page 15-273, Line 14-16; Page 15-284, Line 9-11; Page 15-289, Line 18-20. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: Consider converting barge unloading facilities into recreational amenities, such as boating facilities, once construction is completed. Proposed Modifications to Mitigation Measures: The path of travel and times for the barges should be scheduled and coordinated with a recreation stakeholder group to ensure that barge activities have the least possible impact on recreational travel and economies. Barge unloading facilities should be designed with adaptive reuse in mind, to be converted to recreational boating and fishing purposes when construction is complete.	
1647	46	ATT1: Comment 21: Impacts/Significance to Delta Protection Commission (DPC): Water intake facilities are industrial-type structures proposed in an agricultural setting with surrounding legacy communities. The exterior design of the water conveyance facilities has the potential to deteriorate scenic river views for residents and visitors. Part of preserving the historic quality of the Delta is also perserving the cultural landscape of the Delta. Recreational boating is a significant part of the Delta economy and scenic views are one of the reasons visitors come to the Delta. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the Extent Feasible, Page 15-264, Line 17-20; Page 15-273, Line 17-20; Page 15-284, Line 12-15; Page 15-289, Line 21-24. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Infrastructure P1; Agriculture P1, P2, P3, P9; Natural Resources P1, P6, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will change the setting of the existing Legacy Communities. Together, these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination (ESP, page 191); ESP, Overarching Implementation Strategies for Legacy Communities (page 245): Historic Preservation - Legacy Communities offer a unique sense of place and history that should be preserved for future generations. However, as structures age and communities decline, reinvestment and new investment in real estate assests is critical to economic sustainability. Development projects that are consistent with the existing community fabric should be encouraged, particularly as a strategy to retain and recruit business in the Legacy Communities.	The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. Mitigation Measure AES-1e will apply aesthetic design treatments to all structures to the extent feasible and includes evaluating similar, local well-designed water conveyance structures, including those with historic value and use these features as design precedent to develop designs for project feature and reference to the Freeport Regional Water Project intake facility. WREM No 30a requires coordination and an architectural review process with local agencies.

DEIRS Ltr#	Cmt#	Comment	Response
		Proposed Modifications to Project Conservation Measures: Intake screens should be designed to simulate or complement the scenery of the Delta environment. This could include simulated riparian vegetation. Buildings visible from the river's edge should be designed with aesthetics in mind to reduce the visual impacts. Proposed Modifications to Mitigation Measures: The three water intake facilities proposed for Alternative 4 will have a permanent impact on the scenic and visual quality of the Sacramento River from Clarksburg, Hood and Courtland. The three water intakes are industrial- type facilities in an agricultural setting. The design and siting for the water intake facilities should consider its surrounding context and the architectural aesthetics of the adjacent legacy communities of Clarksburg, Hood and Courtland. The exterior of all water intake facilities should be designed to the appropriate scale, massing and proportions and should be set back from levees and river views. The exterior should incorporate appropriate architectural exterior materials, finishes and treatments. The exterior design of the Freeport water intake should be used as an example of the quality exterior expected.	
1647	47	ATT1: Comment 22: Impacts/Significance to Delta Protection Commission (DPC): Concrete batch plants and fuel stations will be a fixed structure for the construction period (8 years and potentially longer). During this period batch plants and fuel stations will have an impact on Delta visual and scenic resources. Construction of concrete batch plants and fuel stations are proposed as part of the water conveyance project, and could potentially be situated in the line of sight for recreational boating and fishing users. Once facilities are removed riparian areas may need to be restored to original state. Prominently located facilities should be designed with the vernacular architectural style of agricultural building types to fit into the Delta landscape. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-1f: Locate Concrete Batch Plant and Fuel Stations Away from Sensitive Visual Resources and Receptors and Restore Sites upon Removal of Facilities, Page 15-264, Line 21-24; Page 15-273, Line 21-24; Page 15-284, Line 16-19; Page 15-289, Line 25-28. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Infrastructure P1; Agriculture P1, P2, P3, P9; Natural Resources P1, P6, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will change the setting of the existing Legacy Communities. Together these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination (ESP, page 191); ESP, Overarching Implementation Strategies for Legacy Communities (page 245): Historic Preservation - Legacy Communities offer a unique sense of place and history that should be preserved for future generations. However, as structures age and communities decline, reinvestment and new investment in real estate assests is critical to economic sustainability. Development projects that are consistent with the existing community fabric should be encouraged, particularly as a strategy to retain and recruit business in the Legacy Communities. Proposed Modifications to Mitigation Measures: Construction of concrete batch plants	The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. Mitigation Measure AES-1f is in place to ensure that concrete batch plants and fuel stations would be sited to reduce the visual impacts on residents and recreation/tourism economies. Furthermore, Mitigation Measure AES-1e: Apply Aesthetic Design Treatments to All Structures to the Extent Feasible, is in place to address the aesthetics of project features. Mitigation Measure AES-1f has been revised to include reference to Mitigation Measure AES-1e to address concrete batch plants and fuel stations aesthetics. WREM No 30a requires coordination and an architectural review process with local agencies. This applies to concrete batch plants and fuel stations.

DEIRS Ltr#	Cmt#	Comment	Response
		and fuel stations should be sited to reduce the visual impacts on residents and recreation/tourism economies. A stakeholder group (comprised of residents and recreation users) should determine if batch plant and fuel station siting and appearance have significant visual impacts to warrant vegetative screening or building facade enhancements. If so, proposed temporary structures should be screened from view; if not feasible, construction-related structures should be designed to simulate existing Delta architectural building types and vernacular architecture. After construction period ends, building sites should be restored to their original conditions. When feasible, buildings should be considered for adaptive reuse into recreational facilities. Batch plants and fuel stations will have impacts on the riparian area of rivers and impact to recreational fishing, and the post-construction restoration of these area will also have impacts on recreational fishing. Construction of concrete batch plants and fuel stations should be sited to reduce the impact on recreational fishing.	
1647	48	ATT1: Comment 23: Impacts/Significance to Delta Protection Commission (DPC):Project proponent proposes to remove vegetation that is in conflict with construction footprint and proposes the implementation of a post-construction landscape plan to restore vegetation, habitat, and viewsheds. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-1g: Implement Best Management Practices to Implement Project Landscaping Plan, Page 15-264, Line 25-28. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: Recreational and habitat stakeholder group should review landscaping plan to provide input on how to reduce impacts to recreation and habitat restoration. Proposed Modifications to Mitigation Measures: Best management practices related to new landscaping or vegetation restoration should take into account the impacts on residents, recreational and tourism economies, including fishing. Any landscape plan should be reviewed by a stakeholder group comprised of recreation users and local stakeholders.	Mitigation Measures AES-1g is set forth to restore and maintain local character, improve aesthetics, and reduce the visual scale of the proposed water conveyance elements in the study area and would implement best management practices to implement a project landscaping plan. WREM No 30a requires coordination and an architectural review process with local agencies. This would include landscaping plans.
1647	49	ATT1: Comment 24: Impacts/Significance to Delta Protection Commission (DPC): Project proponent proposes to limit construction to daylight hours within a 1/4 mile of residents. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-4a: Limit Construction to Daylight Hours within 0.25 Mile of Residents, Page 15-264, Line 29-32. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will	The visual analysis determined a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. WREM No 30a requires coordination and an architectural review process with local agencies (page 17-75, lines 15-18 of the DEIR/EIS). Mitigation Measure AES-1a has been revised to increase the distance from 0.25 to 0.5 mile. With regard to noise effects, as stated in Appendix 3B, DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts. The noise section of the appendix also includes environmental commitments to reduce noise levels where exceedances are anticipated to occur. Environmental commitments in Appendix 3B indicate that noise-reducing measures will be taken where project construction noise causes ambient noise levels to increase to levels above daytime or nighttime noise limits. Such measures are not limited to receptors within a certain distance from the source.

DEIRS Ltr#	Cmt#	Comment	Response
		change the setting of the existing Legacy Communities. Together these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination (ESP, page 191); LURMP, Utilities and Infrastructure, Policy P1, Page 32; Utilities shall consult with communities early in the planning process for the purpose of creating an appropriate buffer from residences, schools, churches, public facilities, and inhabited marinas. Proposed Modifications to Mitigation Measures: In agricultural settings, visual glare and noise impacts travels beyond a .25 mile area. A quarter-mile is not sufficient to mitigate for these impacts. Project proponent should increase minimum to .5 mile, and limit construction to daylight hours a half mile away from residents.	Above-ground noise generating construction activities will be limited to daytime hours (7 a.m. to 7 p.m.) wherever possible. However, in certain situations, regular nighttime work will be required, as in the case of tunnel construction. Although tunneling work would be done underground and generally would not be audible above the ground, some equipment noise may be audible at tunnel boring launch pads and tunnel shaft sites. Since certain types of construction work are required to be done during nighttime hours, and time limitations are not feasible in all cases. In addition to the measures described above, project proponents will employ best practices to reduce construction noise levels at noise-sensitive land uses. As shown in Chapter 23, Mitigation measures NOI-1a and NOI-1b are available to reduce the effects of noise during construction. Mitigation NOI-3 is available to reduce the effects of noise during operation. However, the analysis in the EIR/EIS acknowledges that environmental commitments and mitigation measures will not necessarily reduce noise impacts to a less than significant level in all cases. Therefore impacts from noise during construction under worst-case conditions are significant and unavoidable.
1647	50	ATT1: Comment 25: Impacts/Significance to Delta Protection Commission (DPC): Proponent's construction activity will create fugitive lighting, which will have potential negative impact on Delta residents, and recreational and tourism economies, including fishing and boating. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-4b: Minimize Fugitive Light from Portable Sources Used for Construction, Page 15-265, Line 1-4; Page 15-284, Line 24-27; Page 15-289, Line 33-36 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will change the setting of the existing Legacy Communities. Together these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination (ESP, page 191);LURMP, Policy P1, Page 32; Utilities shall consult with communities early in the planning process for the purpose of creating an appropriate buffer from residences, schools, churches, public facilities, and inhabited marinas. Proposed Modifications to Mitigation Measures: Fugitive light from portable sources used for construction will have negative impacts on recreational and tourism economies. Construction protocols should make every possible effort to screen any fugitive light from residential communities and high traffic roads. Fugitive light from portable sources used for construction could have negative impacts on nighttime fishing. Construction protocols should make every possible effort to screen any fugitive light.	The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. As written, Mitigation Measure AES-4b, establishes that the project proponent and its contractor will ensure light and glare will be “minimized to the maximum extent feasible, given safety considerations” so that each portable lighting source is evaluated independently to avoid a one-size fits all approach that could actually result in greater light and glare impacts. The measure does specify, however, that portable lights will be raised to a height no greater than 20 feet. Note that “extent feasible” is used in correlation with “given safety considerations.” This language is set forth to acknowledge that construction areas must be lit in a manner to protect its workers, which may include residents local to the project area.
1647	51	ATT1: Comment 26: Impacts/Significance to Delta Protection Commission (DPC): Fugitive lights from trucks traveling to construction sites at night have the potential to disturb Delta residents in addition to recreational and tourism economies, including boating and fishing users. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure AES-4c: Install Visual Barriers	The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. Mitigation Measure AES-4c is set forth to screen any fugitive light. Mitigation is established to lessen visual impacts as much as possible but cannot completely mitigate for every scenario, which is why impacts have been found to be significant and unavoidable. In addition, mitigation must be balanced with not creating impacts that would greatly compound project impacts. For example, Mitigation Measure AES-4c

DEIRS Ltr#	Cmt#	Comment	Response
		along Access Routes, Where Necessary, to Prevent Light Spill from Truck Headlights toward Residences, Page 15-265, Line 5-8; Page 15-284, Line 28- 29; Page 15-290, Line 1-4 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Infrastructure P1; Agriculture P1, P2, P3, P9; Natural Resources P1, P6, P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will change the setting of the existing Legacy Communities. Together these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination (ESP, page 191) Proposed Modifications to Mitigation Measures: Fugitive light from vehicular travel during nighttime construction could have negative impacts on nearby residents and nighttime fishing. Construction protocols should make every possible effort to screen any fugitive light behind visual barriers. In fact, recreational stakeholders should assist in identifying nighttime construction vehicular traffic routes to reduce impacts to recreational fishing. Information on nighttime vehicle traffic should be publicized to inform nearby residents and recreational interests of possible user impacts.	does not propose installing a large wall that is 12-feet tall or higher because while such a wall would act to limit more fugitive light, such a feature being in place for 9 years would negatively compound visual effects because of the visual intrusion such a wall would create. However, Mitigation Measure AES-4c has been revised to include coordinating with local recreational stakeholders to protect sensitive nighttime recreational resources, such as nighttime fishing spots.
1647	52	ATT1: Comment 27: Impacts/Significance to Delta Protection Commission (DPC): Project proponent is proposing a Site Specific Construction Traffic Management Plan to address increased construction traffic impacts. This plan will mitigate for traffic impacts on roadways and waterways. Increased truck traffic will impact Delta residents in addition to agriculture and recreational/ tourism economies. Delta residents and recreation users, including recreational boating users and marina owners, should have input on the Traffic Management Plan to ensure that traffic impacts are minimized. Attenuation Devices will be used to reduce noise generated from pile driving and other construction related underwater noise. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure TRANS-1a: Implement Site-Specific Construction Traffic Management Plan, Page 15-265, Line 9-12; Page 15-270, Line 35-38; Page 15-284; Line 32-35; Page 15-290, Line 5-8 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Delta stakeholders should be made aware of construction routes and construction hours to mitigate transporation impacts. Provide windows of time when there is no truck traffic and farmers can move their farm equipment at these times. The proposed Mitigation Measure TRANS-1a Traffic Management Plan should be reviewed by recreation stakeholders (in particular recreational boating users and marina owners) to make recommendations on how to mitigate for traffic impacts, barge routes and barge schedules. Given that the proposed barge schedule runs from June 1- October 31 during the high season for boating in the Delta, the schedule should be modified to Monday to Thursday from 6am to 5pm, as this would allow recreational boaters to use the waterways for three days without barge	Regarding barge traffic, please see response to comment 1647-31. Construction traffic is discussed in Impact REC-2, and also in Chapter 19, Transportation, Section 19.3.3.2. Mitigation Measure TRANS-1a would involve preparation of site-specific construction traffic management plans that would address potential public access routes and provide construction information notification to local residents and recreation areas/businesses. Additionally, DWR would provide and publicize alternative modes of access to affected recreation areas as an environmental commitment. Where construction impedes access around or near existing recreation areas (e.g., Clifton Court forebay), the project proponents would provide clear pedestrian, bicycle, and vehicular routes around or across construction sites. These would be designed to be safe, pleasant and would integrate with opportunities to view the construction site as an additional area of interest. These physical facilities would be combined with public information, including sidewalk wayfinding information that would clearly indicate present and future opportunities for access. Mitigation Measure TRANS-1b would limit construction hours or activities and prohibit construction vehicle trips on congested roadway segments and Mitigation Measure TRANS-1c would implement measures to enhance capacity of congested roadway segments.

DEIRS Ltr#	Cmt#	Comment	Response
		traffic.	
1647	53	ATT1: Comment 28: Impacts/Significance to Delta Protection Commission (DPC): Recreational boating and fishing users will be impacted by increased construction traffic. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure TRANS-1b: Limit Hours or Amount of Construction Activity on Congested Roadway Segments, Page 15-265, Line 13-20; Page 15-284, Line 1-4; Page 15-285, Line 9-12 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Construction traffic management plans should consider the roads that are used by recreational fishing users and the management plan should reduce traffic impacts to recreational users.	Please see response to comment 1647-52.
1647	54	ATT1: Comment 29: Impacts/Significance to Delta Protection Commission (DPC): Recreational boating and fishing users will be impacted by increased construction traffic. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure TRANS-1c: Make Good Faith Efforts to Enter into Mitigation Agreements to Enhance Capacity of Congested Roadway Segments, Page 15-265, Line 17-20; Page 15-285, Line 5-8; Page 15-285, Line 13-16 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Construction traffic management plans should consider the roads that are used by recreational fishing users and the management plan should reduce traffic impacts to recreational users.	Please see response to comment 1647-52.
1647	55	ATT1: Comment 30: Impacts/Significance to Delta Protection Commission (DPC): Recreational boating and fishing users will be impacted by increased noise. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure NOI-1a: Employ Noise-Reducing Construction Practices during Construction, Page 15-265, Line 21-23; Page 15-285, Line 13-16; Page 15-285, Line 17-19. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P12, Infrastructure P1, Agriculture P3, P9; Natural Resources P1,P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will change the setting of the existing Legacy Communities. Together these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination	As described under Impact REC-4, Mitigation Measures AQUA-1a and AQUA-1b would avoid and minimize adverse effects on sport fish populations from impact pile driving. Additionally, anglers could move to other locations along the Sacramento River and throughout the Delta region and REC-2 would provide anglers with alternative bank fishing access sites further removed from areas affected by construction. As described under Impact NOI-1, Mitigation Measures NOI-1a and NOI-1b would reduce effects on noise levels during construction, although depending on the construction activity and proximity to the sensitive receptor, it may not be possible to reduce noise levels below the thresholds used in the evaluation. DWR environmental commitments in Appendix 3B include measures to reduce noise levels during daytime hours. DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts. Please also see Master Response 24 regarding how the EIR/EIS addresses the Delta as a Place.

DEIRS Ltr#	Cmt#	Comment	Response
		(ESP, page 191) Proposed Modifications to Mitigation Measures: Construction noise will have an impact on recreational fishing. In general, construction noise should be reduced to less then significant levels to reduce impacts to residents and recreational users.	
1647	56	ATT1: Comment 31: Impacts/Significance to Delta Protection Commission (DPC): A complaint/response tracking system is being proposed to receive complaints from recreational boating and fishing users. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure NOI-1b: Prior to Construction, Initiate a Complaint/Response Tracking Program, Page 15-265, Line 24-26; Page 15-272, Line 36-37; Page 15-285, Line 12-14; Page 15-290, Line 20-22; Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P12, Infrastructure P1, Agriculture P3, P9; Natural Resources P1,P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will change the setting of the existing Legacy Communities. Together these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination (ESP, page 191) Proposed Modifications to Mitigation Measures: A complaint and response tracking system should involve stakeholders, such as residents and recreationists, including recreational fishing stakeholders, to ensure the tracking program is developed to take into account their concerns, including nature of complaints, how complaints were resolved, response time and number of callers raising the same issues. Any complaint/response tracking program should also be coordinated with the County Sheriff's Department, appropriate Board of Supervisors offices, local community advisory councils, and stakeholder groups. The response tracking program coordinator should be required to report complaints/resolutions on a monthly basis to the stakeholder group and provide complaint intake notes. This would help ensure that complaints are being addressed appropriately and in a timely manner.	Mitigation Measure NOI-1b includes initiating a complaint/response tracking program regarding noise prior to construction. For more information regarding Delta as a place please see Master Response 24.
1647	57	ATT1: Comment 32: Impacts/Significance to Delta Protection Commission (DPC): Construction noise impacts will include impact pile driving which will disrupt residents as well as recreational and fishing users. BDCP or EIR/EIS Reference: Chapter 15, Impact REC-3: Result in Long-Term Reduction of Recreational Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-265, Line 27-28 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P12, Infrastructure P1, Agriculture P3, P9; Natural Resources P1,P8 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: The	As described under Impact REC-4, Mitigation Measures AQUA-1a and AQUA-1b, NOI-1a and NOI-1b would reduce noise effects. The Final EIR/EIS fully addresses the potential for noise effects on sensitive receptors. DWR environmental commitments (Appendix 3B.5) include measures to reduce noise levels during daytime hours. DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts. These plans will vary by location. Additional options to reduce noise to acceptable levels will be considered on a case-by-case basis.

DEIRS Ltr#	Cmt#	Comment	Response
		pumping intake stations will introduce an "industrial" quality along approximately five to ten miles of the Sacramento River, creating significant visual impacts to this rural, scenic stretch of river. In addition, the sound and night lighting related to these facilities will change the setting of the existing Legacy Communities. Together these features will reduce the Delta-as-Place character and the value of the Delta as a tourism destination (ESP, page 191) Proposed Modifications to Mitigation Measures: Impact Pile Driving should be restricted to daylight work hours from Monday through Friday (7am-4pm) and prohibited on weekends. If impact pile driving is utilized, every effort should be made to inform residents and recreational boating and fishing users of the dates and times of noise impacts, through their means of communication.	
1647	58	ATT1: Comment 33: Impacts/Significance to Delta Protection Commission (DPC): There will be a reduction of navigation opportunities for recreational boating as a result of constructing proposed water conveyance facilities. Alternative 4 depicts an operable barrier at Old River, per Figure M3-4, Sheet 15 of 15. BDCP or EIR/EIS Reference: Impact REC-3: Result in Long-Term Reduction of Recreation Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-265, Lines 27-36. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Recreational boaters have access rights to navigable waters of the United States, and there should be assurance that any proposed control structures, such as gates or barriers whether temporary or permanent, shall not prohibit navigation through Delta waterways. Any proposed boat locks should be always staffed so not to prohibit recreational access to navigable Delta waterways. Also, any proposed operable boat locks/barriers should be installed, maintained and operated without any cost or expense to recreational boaters.	For operable gate sites, construction would be phased, allowing for at least half of the waterway to remain open at any one time. In this way, use of the waterway for recreational navigation would be allowed to continue during construction. Additionally, design of the proposed head of Old River gate includes a boat lock, and the Georgiana Slough non-physical barrier designs would allow boat passage as has been done during past implementation. The proposed project would result in temporary impacts to boaters and on-water recreationists. However, the project includes plans to reduce those impacts as much as feasible with implementation of environmental commitments to prepare and implement a water navigation plan and provide notification of construction and maintenance activities in waterways (Appendix 3B, Environmental Commitments). Additionally, Mitigation Measure TRANS-1a would reduce impacts on marine navigation by development and implementation of site-specific construction traffic management plans, including specific measures related to management of barges and stipulations to notify the commercial and leisure boating communities of proposed barge operations in the waterways.
1647	59	ATT1: Comment 34: Impacts/Significance to Delta Protection Commission (DPC): Construction of Alternative 4 would lead to obstructions and associated boat traffic delays. Intake construction would involve installation of cofferdams in waterways, the use of barges, barge mounted cranes, or other large waterborne equipment, including barge unloading facilities, and siphons that would effect navigation for recreation users. This will make the Delta a less desirable place for recreational boating, fishing and water activities. BDCP or EIR/EIS Reference: Impact REC-3: Result in Long-Term Reduction of Recreation Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-265, Lines 29-36. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Recreational boaters have access rights	Please see response to comment 1647-58.

DEIRS Ltr#	Cmt#	Comment	Response
		to navigable waters of the United States, and there should be assurance that any proposed control structures, such as gates or barriers whether temporary or permanent, shall not prohibit navigation through Delta waterways. Any proposed boat locks should be always staffed so not to prohibit recreational access to navigable Delta waterways. Also, any proposed operable boat locks/barriers should be installed, maintained and operated without any cost or expense to recreational boaters.	
1647	60	ATT1: Comment 35: Impacts/Significance to Delta Protection Commission (DPC): Cofferdams would be constructed within the river channel at intake locations. Cofferdams would range from 740-2440 feet in length and extend into the river up to 120 feet depending on location. The river is approximately 500-700 feet wide near proposed intakes, which would leave approximately 380-580 feet open for boat passage. BDCP or EIR/EIS Reference: Impact REC-3: Result in Long-Term Reduction of Recreation Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-266, Lines 2-10. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Restricted boat passage, including reduced speed zones, will cause reduced access and delays to boat passage at intake sites along the Sacramento River. Marina and boat launch sites north of the intakes will have reduced usage since it will be easier to store/launch boats south of construction sites rather than travel through the construction zone which will have reduced speed and no-wake restrictions. Project proponents should compensate marinas and launch sites for loss of revenue streams during the construction period.	Boat passage would remain open in the Sacramento River over the duration of construction, although boat speeds would be reduced. Mitigation Measure TRANS-1a would reduce impacts on marine navigation by development and implementation of site-specific construction traffic management plans, including specific measures related to management of barges and stipulations to notify the commercial and leisure boating communities of proposed barge operations in the waterways. For more information regarding socioeconomic impacts please see Chapter 16 of the RDEIR/SDEIS.
1647	61	ATT1: Comment 36: Impacts/Significance to Delta Protection Commission (DPC): Water-based recreational activities would be severely impacted at the vicinity of the intakes for the duration of construction period (up to 4 years at each intake location). At least 2 intakes will be constructed simultaneously. The project proponent should clarify how many of the intakes will be built simultaneously to understand the magnitude of construction impacts. BDCP or EIR/EIS Reference: Impact REC-3: Result in Long-Term Reduction of Recreation Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-266, Lines 23-35. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Lines 26 through 27 state that " Water-based recreational activities such as waterskiing, wakeboarding, tubing, or fishing are also low, but effectively would be eliminated in the vicinity of the intakes for the duration of construction (up to 4 years at each intake location)." Based on this information, it seems that all three intakes could be constructed simultaneously to meet the project timeline. Potentially, boaters traveling south on the Sacramento River would be restricted to a 5 mile-per-hour no-wake zone from Intake 2 to Intake 5. This is a 5-7	The construction schedule is included in Appendix 3C, Construction Assumptions. Table 3C-1 states that all intakes would be constructed simultaneously. However, the areas between the intakes would not necessarily have restricted speeds. Rather, Mitigation Measure Trans-1 would develop site-specific measures.

DEIRS Ltr#	Cmt#	Comment	Response
		mile stretch of river from approximately south of Clarksburg to South of Walnut Grove. It is not clear from the project proposal if two or more Intakes will be built at the same time, which is important to understand the magnitude of the noise, traffic and visual impacts.	
1647	62	ATT1: Comment 37: Impacts/Significance to Delta Protection Commission (DPC): Construction of 2 siphons associated with Alternative 4 would result in temporary obstruction of boat passage and may cause boat traffic delays and navigation hazards to boaters. Boating is a significant component of the recreational economy in the Delta and marinas should be compensated for loss in revenue due to construction activities. BDCP or EIR/EIS Reference: Impact REC-3: Result in Long-Term Reduction of Recreation Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-267, Lines 17-29. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: A mitigation measure should be added to establish a "Delta Compensation Fund" funded by the project proponent and administered by an impartial and independent third party. With funding sufficient to address deleterious impacts created by completion of the BDCP Conservation Measures (especially the construction of the tunnels) placed into an escrow account, the administrator of the Delta Compensation Fund would make payments directly to affected parties. This would both provide an impartial means of addressing negative impacts and a prompt method to compensate those affected. Proposed Modifications to Mitigation Measures: Italian Slough Siphon construction will impact the Lazy M. Marina and associated boat users through reductions in recreational navigation opportunities. An economic assessment should be conducted to better understand how construction activities will impact the marina economically. Impacted marinas should be compensated for loss of economic revenue during construction of Italian Slough Siphon or other siphons.	Please see response to comment 1647-60.
1647	63	ATT1: Comment 38: Impacts/Significance to Delta Protection Commission (DPC): Proponent proposes building 5 temporary barge unloading facilities at riverbanks near the tunnel alignment. Facilities would be used to transfer pipeline construction equipment and materials to and from construction sites. BDCP or EIR/EIS Reference: Impact REC-3: Result in Long-Term Reduction of Recreation Navigation Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-267, Lines 31-43, and Page 15-267, Lines 1-41. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: The proposed project does not specify the size of the barge facilities at each of the 5 locations. For the Old River	Please see response to comment 1647-31. Additionally, the size of each barge loading facility is shown in the mapbook in Chapter 3.

DEIRS Ltr#	Cmt#	Comment	Response
		barge description, there is an indication that the barge facility is 1000 feet by 200 feet, but it is not specified. The size of all 5 barge facilities should be indicated to further assess full impacts on Delta waterways and navigation. Proposed Modifications to Mitigation Measures: Given that recreation is a significant component of the Delta economy and marina infrastructure in the Delta is in need of infrastructure upgrades, any barge facilities infrastructure that is built should be designed for adaptive reuse as recreational facilities once construction is completed. The proposed Mitigation Measure TRANS-1a Traffic Management Plan should be reviewed by residents and recreation stakeholders (in particular recreational boating users and marina owners) to make recommendations on how to mitigate for traffic impacts, including barge routes and barge schedules. Given that the proposed barge schedule runs from June 1- October 31 during the high season for boating in the Delta, the barge schedule should be modified to Monday to Thursday from 6am to 5pm, as this would allow recreational boaters access to waterways for three days without barge traffic.	
1647	64	ATT1: Comment 39: Impacts/Significance to Delta Protection Commission (DPC): Project will impact fishing activities in the Delta. BDCP or EIR/EIS Reference: IMPACT REC-4: Result in Long-Term Reduction of Recreational Fishing Opportunities as a Result of Constructing the Proposed Water Conveyance Facilities, Page 15-270, Lines 39-43. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: Project proponents should consider project impacts to subsistence fishing in the Delta. There needs to be a comprehensive study of subistence fishing in the Delta to fully understand baseline conditions of subsistence fishing that will be impacted by Alternative 4 construction. Making enhancements at existing fishing access sites is not sufficient if there is little understanding of subsistence fishing activities. Also, there should be a comprehensive study of economic impacts to bass habitat and tournaments.	Subsistence fishing is discussed in Chapter 28, Environmental Justice. Effects on striped bass are described in Chapter 11. For more information, please see Cumulative Impact Analyses in Chapter 11, Fish and Aquatic Resources and Chapter 12, Terrestrial Biological Resources. See also Appendix 3B Environmental Commitments, AMMs, and CMs.
1647	65	ATT1: Comment 40: Impacts/Significance to Delta Protection Commission (DPC): Project proponent proposes alternative bank fishing sites to compensate for informal bank fishing along project stretch. However, several of the sites the project proponent proposes to enhance are located in vicinity of construction and already are impacted by the construction project. New fish access sites away from the construction areas should be proposed. BDCP or EIR/EIS Reference: Chapter 15, Mitigation Measure REC-2 Provide Alternative Bank Fishing Access Sites, Page 15-272, Line 23-24 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P52 Proposed Modifications to Project Conservation Measures: Alternative bank fishing sites should provide safe and adequate parking and sanitation facilities. Any improvements	Please see response to comment 1647-41.

DEIRS Ltr#	Cmt#	Comment	Response
		should consider a financing mechanism for increased law enforcement, waste management, and emergency response during the construction period to lift the burden from the local jurisdiction. Any proposed fish access sites that require improvements to right of way should consider incorporating Delta Trail Master Plan improvements. Proposed Modifications to Mitigation Measures: Project proponents should conduct a detailed study of informal fishing activities including subsistence and bank fishing along the entire stretch of the project site, including area of water conveyance intakes to assess full impact to informal and subsistence fishing and to determine the level of displacement that will occur and how much mitigation is necessary to eliminate the impact. In regards to the proposed enhancements of existing fishing sites, ensure that sites selected are not being impacted by construction activities, otherwise it does not compensate.	
1647	66	ATT1: Comment 41: Impacts/Significance to Delta Protection Commission (DPC): Construction noise impacts will include impact pile driving which will disrupt recreational and fishing users, as well as residents. BDCP or EIR/EIS Reference: EIS/EIR, Chapter 15, Mitigation Measure AQUA-1a: Minimize the Use of Impact Pile Driving to Address Effects of Pile Driving and Other Construction-Related Underwater Noise, Page 15-272, Line 25-28; Page 15-285, Line 15-18 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: The time schedule of pile driving and other underwater noise activities should be reviewed by a stakeholder body comprised of Delta recreation, boating, and fishing stakeholders to make suggestions on how construction impacts can be minimized by managing construction hours. Impact pile driving should be restricted to daylight work hours from Monday through Friday (7am-4pm) and prohibited on weekends in order to reduce noise impacts to residents and recreational boating and fishing users. If impact pile driving is utilized, every effort should be made to inform recreational boating and fishing users of the dates and times of noise impacts, through their means of communication. Proposed Modifications to Mitigation Measures: Pile driving and other construction-related underwater noise will have a negative impact on boating, fishing and water recreation. Underwater construction noise including pile driving should be scheduled when there will be the least impact to recreational activities. This would mean conducting these types of construction activities from 7am to 3pm Monday to Thursday and not conducting these type of activities from Friday through Sunday. This would allow recreational activities to resume during the weekend period, including Friday. This is especially important during summer and warm- weather months when recreational activities tend to occur. Recreational activities contribute to the Delta economy, so it is essential to ensure that construction impacts do not deter recreational users.	Please see responses to comments 1647-52 and 1647-57. As described under Impact REC-4, Mitigation Measures AQUA-1a and AQUA-1b would avoid and minimize adverse effects on sport fish populations from impact pile driving. DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts. These plans will vary by location. DWR environmental commitments (Appendix 3B.5) include measures to reduce noise levels during daytime hours. Among the commitments is a limitation of pile driving to daytime hours of 7 a.m. to 7 p.m. Additional options to reduce noise to acceptable levels will be considered on a case-by-case basis.
1647	67	ATT1: Comment 42: Impacts/Significance to Delta Protection Commission (DPC): Pile driving and other	Please see response to comment 1647-66.

DEIRS Ltr#	Cmt#	Comment	Response
		construction-related underwater noise has the potential to impact fish species and recreational fishing near construction sites. Attenuation device will be used to reduce noise generated from pile driving and other construction related underwater noise. BDCP or EIR/EIS Reference: EIR/EIS, Chapter 15, Mitigation Measure AQUA-1b: Use an Attenuation Device to Reduce Effects of Pile Driving and Other Construction-Related Underwater Noise, Page 15-272, Line 29-30 and 33-34; Page 15-285, Line 19-22 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Mitigation Measures: A stakeholder body comprised of Delta recreation, boating, and fishing stakeholders should be established to make suggestions on how construction impacts can be minimized. This would include reviewing the attenuation device to have a better understanding of how it will reduce pile driving and construction-related underwater noise.	
1647	68	ATT1: Comment 43: Impacts/Significance to Delta Protection Commission (DPC): Recreational boating and fishing are a significant part of the Delta economy. Economic impacts to recreational boating and fishing should be heavily considered as they have an impact on the Delta economy including marinas, restaurants, boating supplies, bait shops, and fishing tournaments and festivals. BDCP or EIR/EIS Reference: Impact REC-5: Result in Long-Term Reduction of Recreational Fishing Opportunities as a Result of the Operation of the Proposed Water Conveyance Facilities, Page 15-273, Line 29-35 and Page 15-274, Line 1-6. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8	Boating and fishing are already considered in the analysis in Chapter 15, Recreation, particularly in Impacts REC-3, 4, 5, 9, and 10, as well as in the analysis in Chapter 16, Socioeconomics in Impacts ECON-5, 11, and 17.
1647	69	ATT1: Comment 44: Impacts/Significance to Delta Protection Commission (DPC): A stretch of Sacramento River would be subject to recreational-use restrictions during maintenance and repair of proposed water conveyance facilities (i.e., any fish screens, water intakes, pumping mechanisms). According to the BDCP Document and CEQA conclusion, these impacts are less than significant and do not require mitigation measures. BDCP or EIR/EIS Reference: Impact REC-7: Result in Long-Term Reduction in Water-Based Recreation Opportunities as a Result of Maintenance of the Proposed Water Conveyance Facilities, Page 15-276, Lines 9-35 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: Safety protocols should be implemented during maintenance periods to allow for safe passage of recreational vessels and recreation water users to prevent conflicts with maintenance and repair work, even if only temporary. Proposed Modifications to Mitigation Measures: Safety protocols should be implemented	As described in Appendix 3B, before maintenance activities begin in waterways, project proponents will ensure information regarding the maintenance of any in-water project facilities (e.g., intakes for the water conveyance facility) is posted at nearby affected Delta marinas and public launch ramps. This information will include maintenance site location(s), maintenance schedules, speed limits, and identification of no-wake zone and/or detours, where applicable. Information on detours would include site-specific details regarding any temporary partial channel closures, including contacting the U.S. Coast Guard, boating organizations, marina operators, city or county parks departments, and California Department of Parks and Recreation (DPR), where applicable.

DEIRS Ltr#	Cmt#	Comment	Response
		during maintenance periods to allow for safe passage of recreational vessels and recreation water users to prevent conflicts with maintenance and repair work, even if work is only temporary. Also, signage should identify water conveyance facilities (i.e. fish screens, water intakes, pump mechanisms, gates) and risks to recreational users (i.e. identifying changes in water flow, such as undertow currents for users on non-motorized vessels). Recreational river users will not know how to interact with these large water conveyance facilities and signage should be installed informing recreational water users of how to interact with water conveyance facilities on the river course.	
1647	70	ATT1: Comment 45: Impacts/Significance to Delta Protection Commission (DPC): All water conveyance facilities should incorporate public infrastructure upgrades at facility locations, which may include road upgrades (Class II and III bike lanes); recreational trails (Class I bike lanes); water trail launch sites; bank fishing; observation points; visitor parking, rest stops and public bathrooms. Any maintenance of water conveyance facilities may impact recreation infrastructure during the maintenance period. BDCP or EIR/EIS Reference: Impact REC-8: Result in Long-Term Reduction in Land-Based Recreation Opportunities as a Result of Maintenance of the Proposed Water Conveyance Facilities, Page 15-276-77, Line 38-42 and Line 1-6. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P7, P8 Proposed Modifications to Project Conservation Measures: All water conveyance facilities should incorporate public infrastructure upgrades at facility locations, which may include road upgrades (Class II and III bike lanes); recreational trails (Class I bike lanes); water trail launch sites; bank fishing; observation points; visitor parking, rest stops and public bathrooms. Any maintenance of water conveyance facilities may impact recreation infrastructure during the maintenance period. Proposed Modifications to Mitigation Measures: Safety protocols should be implemented during maintenance periods to reduce impacts to recreation facilities and recreational users at any water conveyance facility site.	Please see response to comment 1747-69 above. As described in Impact REC-8, maintenance activities for these facilities would be conducted within the individual facility right-of-way, which does not include any recreation facilities or recreation use areas.
1647	71	ATT1: Comment 46: Impacts/Significance to Delta Protection Commission (DPC): Soils-2, Construction of conveyance facilities would involve irreversible removal, overcovering, and inundation of topsoil over extensive areas, resulting in substantial loss of topsoil. This is of significance to the DPC as this loss could have negative impacts to Delta agriculture, habitat, recreation and other Delta land uses which the DPC strives to protect. BDCP or EIR/EIS Reference: Loss of topsoil from excavation, overcovering, and inundation as a result of water conveyance facility construction. Chapter 10, Page 10-90 and 10-91, lines 33-35 and 1. Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU P-6, AG P-1, AG P-8, NR P-1 Proposed Modifications to Project Conservation Measures: The EIR should clarify what	Appendix 3B describes measures to stockpile and restore topsoils that would minimize impacts related to its disturbance.

DEIRS Ltr#	Cmt#	Comment	Response
		impact this loss of topsoil will have on Delta agriculture, habitat and recreation. Additionally, it should clarify if this could increase subsidence on Delta islands. Proposed Modifications to Mitigation Measures: The topsoil management plan should incorporate mitigation for negative impacts to Delta agriculture, habitat, and recreation and other Delta land uses; and ensure that topsoil loss does not exacerbate soil subsidence.	
1647	72	ATT1: Comment 47: Impacts/Significance to Delta Protection Commission (DPC): LU-3, Construction activities under alternative 4 would be located around Hood. A permanent power line and new road would be constructed through the eastern section of the community, and construction and the long-term placement of intakes 3 and 5 would be built about 1/4 mile north and 1/2 mile south of Hood, respectively, and would substantially alter the lands to the north and south of the community. This is of significance to the DPC as the Delta Protection Act of 1992 finds and declares that the cities, towns, and settlements within the Delta are of significant historical, cultural, and economic value and that their continued protection is important to the economic and cultural vitality of the region. BDCP or EIR/EIS Reference: Create physical structures adjacent to and through a portion of an existing community as a result of constructing the proposed Water Conveyance Facility. EIR/EIS Chapter 13, Page 13-114, Line 12-19 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, NR-8, UI-1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Delta Trail; ESP 12.4 (Bullet 2); Delta Plan DP-R3, DP R-9 Proposed Modifications to Project Conservation Measures: As a staging area for construction (consisting of parking areas, offices, and more) will be established adjacent to Hood, direct commerce activities (restaurants for construction workers, etc.) to Hood so community members can realize the financial benefits. Ensure that development for Hood's construction area will have long term sustainable, multi-beneficial uses beyond the BDCP (e.g., visitor parking/staging area, or parking for Hood's visitor facilities such as the Packing Shed which is being converted into a Visitor Center). Incorporate community participation into decision making process. Road improvements within and surrounding Hood should include Class II Trails connecting the Capital Southeast Connector Project to Stone Lakes National Wildlife Refuge to the Hood riverfront for future use after BDCP construction; A mitigation measure should be added to establish a "Delta Compensation Fund" funded by the project proponent and administered by an impartial and independent third party, with funding sufficient to address deleterious impacts created by completion of the BDCP Conservation Measures (especially the construction of the tunnels) placed into an escrow account. The administrator of the Delta Compensation Fund would make payments directly to affected parties. This would both provide an impartial means of addressing negative impacts and a prompt method to compensate those affected. Proposed Modifications to Mitigation Measures: Conduct socioeconomic impacts assessment for the town of Hood before, during, and after construction. Utilizing socioeconomic adaptive management, direct funding from Delta Investment Fund to mitigate for adverse impacts that the physical structures cause to Hood from changes in	When required, DWR would provide compensation to property owners for economic losses due to implementation of the alternative. While the compensation to property owners would reduce the severity of economic effects related to the loss of agricultural land, it would not constitute mitigation for any related physical impact. Please see the revised Socioeconomic Impact Analysis for the project. Impact ECON-1 describes expected increased spending in the vicinity of construction activities during construction. Mitigation measures have been included in the report wherever and whenever feasible to lessen impacts related to aesthetics, noise, recreation, and transportation that could affect tourism in the Delta.

DEIRS Ltr#	Cmt#	Comment	Response
		community demographics, real estate/businesses, employment and aesthetic quality of the community.	
1647	73	ATT1: Comment 48: Impacts/Significance to Delta Protection Commission (DPC): AES-1, Alteration of existing visual quality/character from the construction of north Delta intake facilities along the Sacramento River Channel, construction affiliated with the new 40 acre intermediate forebay north of Twin Cities Road and expansion of the Clifton Court Forebay, large spoil/borrow storage area near Clarksburg, and other sites including reusable tunnel material areas, shaft sites, docks and barge traffic, access roads, concrete batch plants and fuel stations, and the construction of the head of the Old River Operable Barrier. This is of significance to the DPC's numerous program areas and policies which aim to enhance the Delta's recreational and tourism economies, as these alterations will cause blight throughout the Delta's landscape, making it less attractive for tourism/recreation. BDCP or EIR/EIS Reference: Substantial alteration in existing visual quality or character during construction. Chapter 17, page 17-183, Line 24-38 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Delta Trail; ESP 12.4 (Bullet 2); Delta Plan DP-R2, DP-R3, DP-R9 Proposed Modifications to Project Conservation Measures: Consideration must be made in all improvements and mitigation to consider the "Delta as an Evolving Place". Due to unforeseen future conditions, not all impacts can be predictable, and therefore adaptive management must be incorporated into socioeconomic improvements and mitigation. Proposed Modifications to Mitigation Measures: Conduct socioeconomic impacts assessment for Clarksburg and the other communities impacted by construction before, during and after construction. Utilizing socioeconomic adaptive management, direct funding from Delta Investment Fund to mitigate for adverse impacts that the physical structures cause to Clarksburg and the other communities from changes in community demographics, real estate/businesses, employment and aesthetic quality of the community.	Please see response to comment 1647-72. Also see Master Response 24 regarding the Delta as a Place.
1647	74	ATT1: Comment 49: Impacts/Significance to Delta Protection Commission (DPC): AES-2, Intake structures, pumping plants, surge towers, large-scale borrow/spoil and RTM area landscape effects, shaft sites, and transmission lines would result in significant impacts on scenic vistas. This is of significance to the DPC's numerous program areas and policies which aim to enhance the Delta's recreational and tourism economies, as these alterations will cause blight throughout the Delta's landscape, making it less attractive as a haven for tourism/recreation. BDCP or EIR/EIS Reference: Permanent effects on a Scenic Vista from Conveyance Facilities. Chapter 17, Page 17-194, Line 33-40 Related DPC Land Use and Resource Management Plan (LURMP) Policy: NR-8, UI-2 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Delta Trail; ESP 12.4 (Bullet 2); Delta Plan DP-R3	Note that as part of the visual analysis Mitigation Measure AES-6c, Implement a Comprehensive Visual Resources Management Plan for the Delta and Study Area, is proposed. While proposed under Impact AES-6, Substantial Alteration in Existing Visual Quality or Character during Implementation of CM2–CM21, this visual resources management plan would apply to the Delta as a whole once in place and "provide a strategy for the protection of the unique visual landscape of the Delta."

DEIRS Ltr#	Cmt#	Comment	Response
		Proposed Modifications to Mitigation Measures: Develop an adaptive design plan.	
1647	75	ATT1: Comment 50: Impacts/Significance to Delta Protection Commission (DPC): AES-3, Permanent Damage to Scenic Resources along State Scenic Hwy 160 from Construction. This is of significance to the DPC, as the Delta Plan recommends the DPC nominate Highway 160 as a National Scenic Byway. Damage to such resources could weaken Highway 160's eligibility for this nomination. Additionally, such damage could eliminate potential future Delta Trail alignments making it difficult for the DPC to meet SB 1556, which mandated the DPC to develop a regional recreational trail system that crosses all five Delta counties and connects the San Francisco Bay Trails to planned and proposed Sacramento River Trails in Sacramento and Yolo Counties. In addition to hurting the Delta's recreation and tourism economy, this damage could negatively impact the Delta's sense of place that is held by local community members. BDCP or EIR/EIS Reference: Permanent Damage to State Scenic Resources along a State Scenic Highway. Chapter 17, Page 17-197 Lines 9-13 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, NR-8, RA-4, UI-1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Delta Trail, ESP 12.4 (Bullet 2); Delta Plan DP R-2, DP R-3, DP R-9 Proposed Modifications to Mitigation Measures: BDCP proponents should consult with Caltrans to ensure that Highway 160 remains in compliance with the State Scenic Highway Program, as Caltrans has authority under state law to revoke a scenic highway designation. If Highway 160 is delisted from the State Scenic Highway Program as a result of BDCP developments, then mitigation should ensure that local communities recover any economic losses from declines in tourism/recreation that result from the delisting. BDCP proponents should also consult with the U.S. Department of Transportation to ensure that any changes to the scenic resources of Highway 160 would not yield it ineligible for National Byway Nomination. Proponents should also consult with the DPC about funding the construction of potential Delta Trail alignments that could help the DPC meet its mandate of developing a regional recreational trail system which connects the SF Bay Trail with the Sacramento River Trail, bypassing any BDCP-developed areas but still taking advantage of the remaining scenic, historical, and natural resources of the Delta which the Delta Trail was intended to connect with.	Chapter 17 analyzes impacts to scenic roadways under Impact AES-3. Under NEPA/CEQA, these impacts apply to state scenic highways (i.e., those that are currently officially designated). Therefore, while the Delta Plan recommends that Highway 160 be nominated as a National Scenic Byway, this nomination has not yet occurred and this nomination may or may not occur in the future. Per the FHWA Scenic Byways coordinator, Gary Jensen, MAP-21 did not include language in the authorization and did not provide funding for the National Scenic Byways Program. Therefore, FHWA will not be moving forward with another round of designations of America's Byways in the foreseeable future. Without that funding the FHWA is unable to move forward with designations. Therefore, the analysis of what may happen in the future in regards to SR 160 being nominated as a National Scenic Byway would be speculative. However, the analysis does address how the current state and locally designated scenic route would be affected by the proposed project and its alternatives and concludes that there will be significant and unavoidable impacts to the scenic route because of the negative visual effects that would occur. Even if the realignment was not proposed, impacts would still be significant and unavoidable due to the intake facilities that would require tree removal and the introduction of built structures that would negatively affect views from the scenic route. These actions alone could affect the scenic highway designation without a realignment of SR 160. Therefore, the only way to ensure SR 160 remains in compliance with the State Scenic Highway Program would be if these changes (i.e., the proposed project) did not occur. As such, the proposed mitigation measure modification supplied in this comment to ensure that SR 160 remains in compliance with the State Scenic Highway Program is not feasible because it negates the proposed project. Similar to the potential National Scenic Byway nomination, the visual analysis cannot speculate on the potential future Delta Trail alignments. Such alignments could be affected by a number of factors, in particular available funding. Also, safety and the feasibility of trail alignments would come in to play. Currently, SR 160 cannot accommodate a separate trail/bike lane and cyclists currently use the roadway travel lanes. To accommodate a separate bike path on SR 160 would require roadway widening that would also impact scenic resources along the corridor (e.g., mature trees and shrubs). Per Chapter 15, Recreation, project proponents would work with regional and local efforts to design proposed restoration areas to be compatible with and complement the goals of creating the Great California Delta Trail where feasible (RDEIR/SDEIS page 15-302, lines 33-39). Also, Caltrans is already being consulted as part of the project per Chapter 19, Transportation, and is aware of the proposed changes to SR 160. However, as detailed in Chapter 1, Introduction, an encroachment permit for the realignment of SR 160 would be required under separate consultation. This would require additional analysis through a Caltrans Visual Impact Assessment following production of roadway design plans. Therefore, additional consultation would occur if the proposed changes to SR 160 move forward. Please also see response to comment 1647-74, related to AES-6c, which would aid in setting up a mechanism to protect scenic routes.
1647	76	ATT1: Comment 51: Impacts/Significance to Delta Protection Commission (DPC): AES-4, Development/construction would result in a new light source/glare which would adversely affect views. Facilities would also increase amount of nighttime lighting in the Delta. This is of significance to the DPC as such impacts could detract from the Delta's sense of place which could have negative impacts on the Delta's recreational and tourism economies, as well as the well-being of local Delta residents in the communities which the	Please refer to Impact REC-2 for impacts regarding visual effects on recreation from construction of the conveyance facilities. Also see Impact AES-4 and associated mitigation measures.

DEIRS Ltr#	Cmt#	Comment	Response
		DPC strives to protect. BDCP or EIR/EIS Reference: New light source/glare would result from construction/operation of conveyance facilities that would affect views, Chapter 17, Page 17-199, line 16-20 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, NR-8, RA-4, UI-1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Delta Trail, ESP 12.4 (Bullet 2); Delta Plan DP R-3	
1647	77	ATT1: Comment 52: Impacts/Significance to Delta Protection Commission (DPC): CUL-1, Recorded searches and inventory efforts have identified 10 archaeological sites in this alternative's footprint, many of which are deposit sites associated with prehistoric habitation and residence activities. There has been no single unified prehistoric chronology for the Delta and therefore many research questions remain unresolved, which these sites could help clarify. This is of significance to the DPC due to LURMP policies and program areas which intend to preserve and recognize the Delta's unique history and heritage in public/private facilities. BDCP or EIR/EIS Reference: Construction Impacts on archaeological sites (identified), Chapter 18, Page 18-124: Line 13-19 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, UI-1 Proposed Modifications to Project Conservation Measures: Develop a unified prehistoric chronology for the Delta, utilizing artifacts excavated from these sites.	The relationship of the DPC's LURMP to potential significant impacts on identified archaeological sites (DEIR/S Section 18.3.5.9 Impact CUL-1) is acknowledged. Mitigation Measure CUL-1 for this impact consists of archaeological data recovery that includes a report to contain a summary of the data recovery results relative to regional research questions. Research questions associated with regional chronologies are commonly included in such investigations.
1647	78	ATT1: Comment 53: Impacts/Significance to Delta Protection Commission (DPC): CUL-2, Construction Impacts on archaeological sites that have not yet been identified. These sites may include valuable prehistoric and historic archaeological resources which may be useful in DPC's efforts to preserve and recognize the Delta's heritage and history in public/private facilities. BDCP or EIR/EIS Reference: Effects on archaeological sites to be identified through future inventory efforts. Chapter 18, Page 18-127, Line 41-44, Page 18-128, Line 1-4 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, UI-1 Proposed Modifications to Mitigation Measures: The treatment plan should be incorporated into socioeconomic mitigation activities. Treatment activities (e.g., historical preservation, documentation, etc.) should have direct economic development benefits to the communities (e.g., museums, businesses, etc. which preserve/interpret local history, while providing economic benefits to the communities through stimulation of cultural tourism).	Please see response to comment 1647-77. The purpose of the mitigation measures for impacts to cultural resources is to address the physical harm posed by construction activities. Any economic benefit that may be gained by such treatments is a secondary benefit but is not an appropriate requirement.
1647	79	ATT1: Comment 54: Impacts/Significance to Delta Protection Commission (DPC): CUL-3, Construction Impacts	The relationship of the DPC's LURMP to potential significant impacts on buried human remains is acknowledged in Impact CUL-4. Please see response to comment 1647-77.

DEIRS Ltr#	Cmt#	Comment	Response
		on archaeological sites (that may not be identified). These sites may include valuable prehistoric and historic archaeological resources which may be useful in DPC's efforts to preserve and recognize the Delta's heritage and history in public/private facilities. BDCP or EIR/EIS Reference: Effects on archaeological sites that may not be identified through inventory efforts. Chapter 18, Page 18-131, Line 27-32 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, UI-1	
1647	80	ATT1: Comment 55: Impacts/Significance to Delta Protection Commission (DPC): CUL-4, The project area is sensitive for buried human remains, and the ground breaking construction work may damage previously unidentified buried human remains. This is of potential relevancy to the DPC's efforts to preserve and recognize the Delta's heritage and history in public/private facilities. BDCP or EIR/EIS Reference: Effects on Buried Human Remains damaged during construction. Chapter 18, Page 18-133, Line 19 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, UI-1	The relationship of the DPC's LURMP to potential significant impacts on archaeological resources that may not be identified through inventory efforts is acknowledged in Impact CUL-3. Please see response to comment 1647-77.
1647	81	ATT1: Comment 56: Impacts/Significance to Delta Protection Commission (DPC): Cul-5, Possible effects to eighteen built environment/architectural resources, including possible demolition and possible changes to the setting; yielding inability to convey significance BDCP or EIR/EIS Reference: Construction effects on built environment/architectural resources, Chapter 18, Page 18-135, Line 16-20 Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, NR-8, UI-1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP 12.4 (Bullet 2) Proposed Modifications to Mitigation Measures: The built environment treatment plan should be incorporated into socioeconomic mitigation activities. Treatment relevant to historical preservation, documentation, etc. should have direct economic development benefits to the communities (e.g., museums, businesses, etc. which preserve/interpret local history, while providing economic benefits to the communities through stimulation of cultural tourism).	Please see response to comment 1647-78.
1647	82	ATT1: Comment 57: Impacts/Significance to Delta Protection Commission (DPC): Cul-6, Possible effects on historical/built environment resources from construction activities that have not yet been identified, as a majority of areas are legally inaccessible BDCP or EIR/EIS Reference: Direct/indirect effects from construction activities on unidentified/unevaluated historic resources. Chapter 18, Page 18-138, Line 30-36	The relationship of the DPC's LURMP and ESP to potential significant impacts on unidentified and unevaluated architectural/built environment resources is acknowledged in Impact CUL-6. Please see response to comment 1647-77.

DEIRS Ltr#	Cmt#	Comment	Response
		Related DPC Land Use and Resource Management Plan (LURMP) Policy: LU-1, UI-1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP 12.4 (Bullet 2)	
1647	83	ATT1: Comment 58: Impacts/Significance to Delta Protection Commission (DPC): Trans-1, Alternative 4 would exacerbate unacceptable Levels of Service (LOS) for 13 roadway segments from increased construction vehicle trips. This is of significance to the DPC due to negative implications that traffic congestion would have on the Delta's economy and quality of life. BDCP or EIR/EIS Reference: Increased construction vehicle trips resulting in unacceptable LOS. Chapter 19, Page 19-173, Line 1-4 Related DPC Land Use and Resource Management Plan (LURMP) Policy: AG-1, NR-8, RA-1, UI-1, UI-5 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP 12.3 (Bullet 1 and 4), 12.4 (Bullet 1), Delta Trail; Delta Plan DP-R2, DP R3, DP R-9 Proposed Modifications to Mitigation Measures: Develop traffic management plan for public review prior to project commencement. Incorporate adaptive traffic control into a traffic management strategy to reduce potential unforeseen traffic impacts. Have residents and other stakeholders provide input in developing the traffic management plan.	The lead agencies acknowledge this input and will record it for inclusion in traffic management plans. For more information regarding the preferred alternative and its impacts and associated mitigation measures on transportation, please see Chapter 19. Traffic management plans will be prepared specific to each site as described in Mitigation Measures TRANS-1.
1647	84	ATT1: Comment 59: Impacts/Significance to Delta Protection Commission (DPC): Trans-2, Construction would lead to further deterioration of roadway pavement conditions at 42 locations throughout study area. This is of significance to the DPC due to LURMP policies which intend to promote maintenance of Delta roadways for agricultural, commercial, recreational, and residential uses. BDCP or EIR/EIS Reference: Increased construction vehicle trips exacerbating unacceptable pavement conditions. Chapter 19, Page 19-181 Line 10-17 Related DPC Land Use and Resource Management Plan (LURMP) Policy: AG-1, NR-8, UI-1, UI-5 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP 12.3 (Bullet 1 and 4), 12.4 (Bullet 1), Delta Trail; Delta Plan DP-R2, DP R3, DP R-9 Proposed Modifications to Project Conservation Measures: Project proponents should assess conditions of levees and levee roads to see if both can handle the increase in truck traffic with heavy loads and the increase in traffic frequency. Levees that are deficient should be upgraded to support heavy loads and increased frequecy. This assessment should be done prior to the traffic management plan. Proposed Modifications to Mitigation Measures: All affected roadways should be improved from preconstruction conditions following construction (not just returned to existing conditions as described in Mitigation Measure Trans-2c). To the extent possible,	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. Please see Section 6A.6.3.2 in Appendix 6A, FEIR/EIS, 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. The CalWater Fix proponents acknowledge that truck traffic may degrade the physical condition of the roadway segments as discussed in Chapter 19. The proponents are committed to minimizing and remedying such damage. The CalWater Fix proponents also acknowledge your concerns about transportation impacts on Delta and other local roads and agree with the desire to avoid further deterioration of these roads. Mitigation Measures TRANS-2a, b, and c seek to eliminate or reduce traffic on those segments or to improve the condition of those pavement Sections if use cannot be avoided. However, the proponents realize that this may not be feasible for all segments. Mitigation Measure TRANS-2c also includes remediation of roads to their condition prior to BDCP/CWF construction, or better. Mitigation Measure TRANS-2c also includes coordination with affected agencies to accomplish this objective.

DEIRS Ltr#	Cmt#	Comment	Response
		consider DPC Resolution 02-12 which supports the incorporation of bicycle lanes as improvements are made to State Routes (4,12 and 160) in the Delta to support the Delta Trail.	
1647	85	ATT1: Comment 60: Impacts/Significance to Delta Protection Commission (DPC): Trans-3, Increase in safety hazards throughout Study Area, including interference with emergency routes due to an increase in amount of trucks using transportation system. Traffic on Byron Highway would also need to be rerouted, thus interfering with emergency services. This is of significance to the DPC as such interference could have detrimental effects on Delta residents and communities which the DPC strives to protect, thus impacting its economy, sense of place, vitality. Delta recreation could also be negatively impacted. BDCP or EIR/EIS Reference: Increase in Safety Hazards, including interference with Emergency Routes during construction. Chapter 19, Page 19-183, Lines 17-22 Related DPC Land Use and Resource Management Plan (LURMP) Policy: AG-1, UI-1, UI-5 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Emergency Response; Delta Plan DP R2, DP R3 Proposed Modifications to Mitigation Measures: Emergency plans must be developed to ensure that local residents are not negatively impacted by the interference. This may include, but is not limited to the development of emergency evacuation routes with local training and guidance on emergency evacuation, the development of temporary local emergency support facilities (e.g., hospitals, fire stations, etc.), increased training for local residents on CPR, fire protection, emergency preparedness, etc. to minimize emergencies.	Mitigation Measure TRANS-1a would address the issue of potentially delayed emergency response time or interference with emergency services due to traffic as a result of implementing the project.
1647	86	ATT1: Comment 61: Impacts/Significance to Delta Protection Commission (DPC): Trans-10, Increased traffic volumes during Habitat Restoration construction and maintenance activities such as placement of fill material, levee construction, infrastructure construction and removal, vegetation planting and management, and levee maintenance throughout Delta for projects CM2-CM22. This is of significance to the DPC as such impacts could negatively impact agricultural operations, and recreational activities which the DPC strives to protect. BDCP or EIR/EIS Reference: Chapter 19, Page 19-192, Line 5-11 Related DPC Land Use and Resource Management Plan (LURMP) Policy: AG-1, NR-8, UI-1, UI-5 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Delta Plan DP R2, DP R3	The new preferred alternative, 4A, does not include an HCP. It does include environmental commitments that include habitat restoration, but the acreages of restoration are substantially less than the previous preferred alternative, 4. Impacts from habitat restoration related to agriculture are described in detail under each alternative in Impact AG-3 in Chapter 14, Agriculture. Impacts from habitat restoration related to recreation are described in detail under each alternative in Impacts REC- 11 in Chapter 15, Recreation.
1647	87	ATT1: Comment 62: Impacts/Significance to Delta Protection Commission (DPC): AQ-9, Constructions emissions would exceed Sacramento Air Quality Management District's daily mono Nitrogen Oxide thresholds between 2016 -2022.	The commenter has identified air quality impacts and applicable DPC LURMP policies. As discussed in Chapter 22, Air Quality and Greenhouse Gases, the project will implement Mitigation Measures AQ-2a, 2b, 3a, 3b, 4a, and 4b to offset construction-related nitrogen oxides (Nox) and reactive organic gases (ROG) to net zero for emissions in excess of applicable General Conformity de minimis thresholds or to below local air district thresholds for other pollutants. All offsets purchased through Mitigation Measures AQ-2a, 2b, 3a, 3b,

DEIRS Ltr#	Cmt#	Comment	Response
		BDCP or EIR/EIS Reference: Generation of pollutants in excess of federal minimum standards. Chapter 22, Page 22-229, Line 22-27 Related DPC Land Use and Resource Management Plan (LURMP) Policy: UI-1	4a, and 4b must achieve a 1:1 reduction with construction emissions to ensure claimed offsets meet the required performance standard. All offsite reductions must also be quantifiable, verifiable, enforceable, and satisfy the basic criterion of additionality (i.e., the reductions would not happen without the financial support of purchased offset credits). These requirements will be outlined in the Mitigation Monitoring Report Protocol (MMRP) and considered a condition of project approval. With implementation of Measures AQ-2a, 2b, 3a, 3b, 4a, and 4b, construction-related Nox emissions generated in the Sacramento Metropolitan Air Quality Management District will be reduced to less than significant.
1647	88	ATT1: Comment 63: Impacts/Significance to Delta Protection Commission (DPC): AQ-11, exposure of sensitive receptors to health threats (cancer risk) BDCP or EIR/EIS Reference: Chapter 22 Related DPC Land Use and Resource Management Plan (LURMP) Policy: UI-1	Construction of Alternative 4A would exceed SMAQMD's health based threshold for PM10. Exceedances of the threshold would occur at 10 receptor locations near intakes, tunnels, transmission lines, and highway reconstruction. The exceedances would be temporary and occur intermittently due to soil disturbance. No other locations along the project alignment would exceed adopted air district thresholds, and as such, would not expose receptors to adverse health risk. While SMAQMD's PM10 threshold would be exceeded, Mitigation Measure AQ-9 outlines a tiered strategy to reduce PM concentrations and public exposure to significant health hazards. Implementation of Mitigation Measure AQ-9 would reduce PM10 concentrations at the maximum exposed receptor to below SMAQMD thresholds. Accordingly, this impact would be less than significant.
1647	89	ATT1: Comment 64: Impacts/Significance to Delta Protection Commission (DPC): AQ-13, construction would involve operation of diesel fuel construction equipment in close proximity to sensitive receptor near Byron highway, BDCP or EIR/EIS Reference: Chapter 22, Page 22-252, Line 21-29 Related DPC Land Use and Resource Management Plan (LURMP) Policy: UI-1	As discussed in Chapter 22, Section 22.1.2.1, air pollutants are classified as either regional or local depending on the scale of their impact. For example, nitrogen oxides (NOx) and reactive organic gases (ROG) are precursors to ozone, which is considered a regional pollutant because it does not form at the exact point where ROG and NOx are released. Rather, ozone can appear over 50 miles from the pollutant source. Pollutants such as carbon monoxide, on the other hand, are considered to be local pollutants as they tend to accumulate in the air close to the pollutant source. Particulate matter is considered to be both a local and a regional pollutant because it can affect air quality in both settings. Mitigation Measures AQ-3a and AQ-3b represent offsite mitigation to reduce regional pollutants, including ROG, NOX, and regional PM. Localized emissions impacts from onsite air pollution are addressed through a different set of aggressive environmental commitments and mitigation. With respect to localized PM2.5 and DPM impacts, a revised HRA was completed for the RDEIR/SDEIS based on additional construction information and engineering details. In the DEIR/EIS analysis, BAAQMD's cancer risk threshold was exceeded at one sensitive receptor located near the southern portion of the Alternative 4A alignment along Byron Highway. This receptor is located in close proximity to the canal work area, and the calculated risk was primarily driven by the emissions at this nearby source. In the RDEIR/SDEIS, although overall mass emissions for Alternative 4A increased, the construction emissions associated with canal components decreased. Because the risk at this receptor was mainly influenced by the construction emissions at the nearby canal component, the decrease in canal construction emissions resulted in a decrease in calculated health risk below BAAQMD's cancer risk threshold. Accordingly, additional mitigation is not required.
1647	90	ATT1: Comment 65: Impacts/Significance to Delta Protection Commission (DPC): AQ-18, Construction/operation impacts generate criteria pollutants, BDCP or EIR/EIS Reference: Chapter 22, Page 22-267, Line 27-31 Related DPC Land Use and Resource Management Plan (LURMP) Policy: UI-1	The commenter has identified air quality impacts and applicable DPC LURMP policies. As discussed in Impact AQ-24, the project proponents will develop an Air Quality Mitigation Plan (AQMP) prior to the commencement of any construction, operational, or other physical activities associated with CM2–CM11 that would involve adverse effects to air quality.
1647	91	ATT1: Comment 66: Impacts/Significance to Delta Protection Commission (DPC): AQ-19,	The commenter has identified air quality impacts and applicable DPC LURMP policies. As discussed in Impact AQ-27, the project proponents will prepare a land use sequestration analysis to evaluate GHG flux associated with implementation of CM2–CM11. In the event that the land use analysis demonstrates a net

DEIRS Ltr#	Cmt#	Comment	Response
		Restoration/enhancement could lead to cumulative greenhouse gas emissions, BDCP or EIR/EIS Reference: Chapter 22, Page 22-269, Line 3-6 Related DPC Land Use and Resource Management Plan (LURMP) Policy: UI-1	positive GHG flux, feasible strategies to reduce GHG emissions will be undertaken. However, as indicated in Impact AQ-27, this impact would be significant and unavoidable. For additional information regarding climate change and greenhouse gas emissions, please see Master Response 19.
1647	92	ATT1: Comment 67: Impacts/Significance to Delta Protection Commission (DPC): NOI-1, Exposure of noise-sensitive land uses to noise from construction of conveyance facilities, intakes, truck trips/commutes, power transmission lines, earthmoving activities. This is of significance to the DPC because of negative effects on Delta residents which the DPC represents, and Delta communities and economies which the DPC seeks to protect and enhance. BDCP or EIR/EIS Reference: Exposure of Noise-Sensitive Land Uses to Noise from Construction of Water Conveyance Facility. Chapter 12, Pages 23-110 to 23-121 (NEPA) Related DPC Land Use and Resource Management Plan (LURMP) Policy: NR-8, RA-4, UI-1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP 12.3 (Bullet 2); Delta Trail, Delta Plan DP R2 Proposed Modifications to Mitigation Measures: Prior to construction, develop a noise management plan for public review in the affected areas, which ensures that noise is minimized geographically and temporally. Also incorporate mitigation for economic losses from decline in tourism/recreation that would result from noise pollution.	The proposed project includes plans similar to the commenter's suggestion. As discussed in Appendix 3B, DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts. This section also includes environmental commitments to reduce noise levels where exceedances are anticipated to occur. Socioeconomic impacts related to recreation and tourism are discussed in Chapter 16, Socioeconomics, under Impacts ECON-5, 11, and 17.
1647	93	ATT1: Comment 68: Impacts/Significance to Delta Protection Commission (DPC): NOI-2, Exposure of sensitive receptors to vibration and ground borne noise from pile driving at intake sites and construction of water conveyance facilities. BDCP or EIR/EIS Reference: Exposure of sensitive receptors to vibrations or groundbourne noise from construction. Chapter 23, Page 23-123, Line 21-27. Related DPC Land Use and Resource Management Plan (LURMP) Policy: NR-8, RA-4, UI-2 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP 12.3 (Bullet 2); Delta Trail, Delta Plan DP R2 Proposed Modifications to Mitigation Measures: Prior to construction, develop a noise management plan for public review in the affected areas, which ensures that noise is minimized geographically and temporally. Also incorporate mitigation for economic losses from decline in tourism/recreation that would result from noise pollution.	The disclosure of potential vibration impacts reflects a worst-case condition based on locations of pile driving activity relative to residential structures. Although vibration is expected to affect land uses including residential-zoned parcels, vibration impacts would only occur where impact pile driving occurs within 70 feet of structures. Depending on drilling locations, such a condition may not occur during intake construction. Where construction plans indicate that piles would be driven within 100 feet of a residence, Mitigation Measure NOI-2 (discussed under Alternative 1A) would reduce the effect. Please also see response to comment 1647-92.
1647	94	ATT1: Comment 69: Impacts/Significance to Delta Protection Commission (DPC): NOI-4, Exposure to noise sensitive land uses to noise from restoration activities (Yolo Bypass, Tidal Habitat Restoration, Floodplain Restoration, Channel Margin Habitat Enhancement, Riparian Habitat Restoration, and more) could impact residences within 1,200 feet of an active	Please see response to comment 1647-92.

DEIRS Ltr#	Cmt#	Comment	Response
		restoration work area during the day and 2,800 feet at night. BDCP or EIR/EIS Reference: Exposure of noise-sensitive land uses to noise from proposed restoration implementation. Chapter 23-130, Line 5-13. Related DPC Land Use and Resource Management Plan (LURMP) Policy: NR-8, RA-4, UI-3 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP 12.3 (Bullet 2); Delta Trail, Delta Plan DP R3 Proposed Modifications to Mitigation Measures: Prior to construction, develop a noise management plan for public review in the affected areas, which ensures that noise is minimized geographically and temporally. Also incorporate mitigation for economic losses from decline in tourism/recreation that would result from noise pollution.	
1647	95	ATT1: Comment 70: Impacts/Significance to Delta Protection Commission (DPC): CM2, CM4, CM5, CM6, and CM7 do not include sufficient access opportunities for recreational fishing to compensate for impacts to existing recreational fishing. In addition, CM20 proposes a boat inspection program that will limit boating access to Delta waterways to specific points of entry, hindering recreational boating access. BDCP or EIR/EIS Reference: Impact REC-9: Result in Long-Term Reduction in Fishing Opportunities as a Result of Implementing Conservation Measures 2-21. Page 15-277-15-283; Impact REC-10: Result in Long-Term Reduction in Boating-Related Recreation Opportunities as a Result of Implementing Conservation Measure 2-21, Page 15-285 -15-289 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Recreation P1,P3, P4,P7,P12; Infrastructure P1,P5,P7; Agriculture P2, P3, P9; Natural Resources P1, P6, P8 Proposed Modifications to Project Conservation Measures: CM2, CM4, CM5, CM6, and CM7 do not include sufficient access for fishing, boating , wildlife viewing or other types of recreation. These measures should compensate for impacts to current recreation opportunities by including new recreation opportunities and providing the recreation infrastructure necessary to accommodate users, such as access, trail heads, boat docks, interpretive kiosks, visitor parking and outdoor restrooms. Proposed Modifications to Mitigation Measures: Regarding CM2 -- There may be impacts to boating recreation on the Sacramento River and other connected waterways, if proposed changes to Yolo Bypass management increases the frequency, duration and magnitude of flood plain inundation and as a result decreases the water elevation in the Sacramento River and connected waterways. Changes in water elevation in Sacramento River was one affect showed by BDCP modeling and was not analyzed for impacts to boating recreation and it should be; Regarding CM20 -- Boat inspections at entry points are unrealistic and will have a detrimental impact on the recreational boating economy. It will also change and reduce the number of visitor days and vessel launches into the Delta, since boaters will need to take into account a 30 minute or longer wait time at inspection stations when planning a recreational trip. This may reduce the number of boaters who recreate for 3-4 hours, in particular boaters who recreate after a work day and want to spend the evening in the Delta. An inspection program may deter recreationists who go	Alternatives 1A-8 presented in this Final EIR/EIS include Yolo Bypass improvements as Conservation Measure 2 of the BDCP conservation strategy. The Lead Agencies acknowledge the commenter's opinion about the potential effects of the Conservation Measures on recreation. The preferred alternative is now Alternative 4A and no longer includes an HCP or conservation measures. For the preferred alternative, these improvements are assumed instead under the No Action Alternative, and they are currently being planned through a separate process with separate environmental review. The preferred alternative also does not include any inspection facilities. The proposed restoration sites included in the preferred alternative have not been identified or designed. The extent to which recreational opportunities can be included in these sites will be determined on a site-by-site basis. Recreational impacts are mitigated as described in Chapter 15.

DEIRS Ltr#	Cmt#	Comment	Response
		out for 3-4 hours or less. In addition, any comprehensive inspection program should be modeled after an inspection program of similiar size that covers the same number of square miles as the Legal Delta, the same number of marinas as are in the Legal Delta, and that generates 12 million visitor days and 6.5 millon boater days a year, as the Delta does. By making a comparison at the correct scale, the project proponent can come to a logical conclusion of the number of inspections stations needed to meet the user demand in the Delta. Currently, the BDCP proponents propose 7 stations, which is much less than other water recreation areas of similiar size (or even smaller). In addition, any inspection program should differentiate and provide streamlined access for Delta-only boats with special tags to reduce the number of boats that have to wait at inspections stations. Also, any inspection program proposal should work with an advisory group that includes boating recreation stakeholders.	
1647	96	ATT1: Comment 71: Impacts/Significance to Delta Protection Commission (DPC): Delta recreation spending underestimated by $76 million ($236 million in BDCP EIS/EIR, $312 million in DPC's Economic Sustainability Plan) BDCP or EIR/EIS Reference: Chapter 16, page 16-22 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP Chapter 8 (Recreation), section 3.5	The differences in agricultural production value are most likely due to differences in the methodologies and data used to estimate values in the Economic Sustainability Plan and the EIR/EIS. Based on a review of the Economic Sustainability Plan, production values were estimated by multiplying 2009 acreage (or possibly 2010 acreage) by 2009 average crop yields and values. Additionally, the estimates in the Economic Sustainability Report included the value of production on some farmland in Alameda County. The production value estimates shown in the EIR/EIS were estimated using 2007 crop acreages and crop yields and prices averaged over the 2005-2007 period, with dollars adjusted to 2007, as described in the EIR/EIS. Additionally, the EIR/EIS estimate of total production value did not include production on Alameda County farmlands. As a result of the differences in data used to produce value estimates, the production values estimated for the Economic Sustainability Report and the EIR/EIS differ. It should be noted that production values in the Delta differ from year to year based on several factors, including changes in crop mixes, harvested crop acreage, average yields, and crop prices, so the production value estimates are not feasibly comparable.
1647	97	ATT1: Comment 72: Impacts/Significance to Delta Protection Commission (DPC): Table 16-21 underestimates impacts to Delta agriculture from CM-1 construction by showing only an annual impact and not the aggregate impact over the span of the entire construction period. BDCP or EIR/EIS Reference: Chapter 16, page 16-62 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP Chapter 7 (Agriculture), section 2.4	The crop acreage impacts shown in Table 16-21, Crop Acres and Value of Agricultural Production in the Delta during Construction (Alternative 1A), Chapter 16, Socioeconomics, EIR/EIS, represent the total amount of crop acreage that would be permanently displaced by proposed project construction over the construction period. Thus, the acreage impacts in the table capture all agricultural acreage converted by construction under the proposed project and do not underestimate impacts to Delta agriculture.
1647	98	ATT1: Comment 73: Impacts/Significance to Delta Protection Commission (DPC): Agricultural production value in the Delta is underestimated by $98 million ($687 million in BDCP EIS/EIR, $795 million in DPC's Economic Sustainability Plan) BDCP or EIR/EIS Reference: Chapter 16, page 16-24 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP Chapter 7 (Agriculture), section 2.4	Please see response to comment 1647-96.
1647	99	ATT1: Comment 74: Impacts/Significance to Delta Protection Commission (DPC): Agricultural impacts of	Please note that the preferred alternative is now Alternative 4A, which substantially reduces the impacts to agricultural acreage from habitat restoration. As discussed in Master Response 2, a program EIR (akin to a programmatic EIS under NEPA) is appropriate

DEIRS Ltr#	Cmt#	Comment	Response
		Conservation Measures 2-22 are not included in Chapter 16 (Socioeconomics). BDCP or EIR/EIS Reference: Chapter 16, page 16-75 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP Chapter 7 (Agriculture), section 2.4 Proposed Modifications to Mitigation Measures: The EIS/EIR does not make any attempt to quantify economic impacts from agricultural land loss from Conservation Measures 2 through 22. It is almost assured that the negative economic effects to Delta agriculture from habitat restoration (especially tidal marsh restoration) would greatly exceed the negative effects from tunnel construction. The DPC's Economic Sustainability Plan estimated that habitat conversions would reduce agricultural output in the Delta by between $32 million and $132 million annually, with the majority of the loss stemming from BDCP restoration of 65,000 acres of tidal marsh.	when a series of actions (e.g., habitat restoration projects or aquatic species conservation measures) are related geographically (e.g., the statutory Delta), in connection with the issuance of a plan (e.g. an HCP) or where individual activities will be carried out under the same authorizing statutory or regulatory authority. The BDCP has several characteristics that make program level analysis suitable for CMs 2-21. For example, locations for restoration and preservation actions within the conservation zones have not been specifically identified at this time. Hence, the broad environmental effects of the overall BDCP conservation strategy were evaluated at a program level of analysis. As a result, adequate detail was not available to quantify the economic effects of agricultural land retirement attributable to implementation of all the CMs. Please note, however, that for informational purposes, two studies of the regional economic effects of the CMs were conducted for DWR in 2013, including the Bay Delta Conservation Plan Statewide Economic Report and the Employment Impacts for Proposed Bay Delta Water Conveyance Facility and Habitat Restoration report. Both studies developed various assumptions for assessing the effects of the CMs on agricultural production, resulting in differing results, although the general conclusions regarding effects were similar. Both studies are available for review for more information on the regional agricultural economic effects of the CMs.
1647	100	ATT1: Comment 75: Impacts/Significance to Delta Protection Commission (DPC): Ag water quality and quantity impacts from proposed CM 1. Specifically, the BDCP states that these impacts remain significant and unavoidable after implementation of mitigation measures because (i) replacement water supplies associated with losses attributable to construction dewatering activities may not meet the preexisting demands or planned land use demands of the affected party, and (ii) the feasibility and effectiveness of phased actions to reduce EC levels is uncertain. BDCP or EIR/EIS Reference: Chapter 14, page 14-125, lines 12-15 Related DPC Land Use and Resource Management Plan (LURMP) Policy: Agriculture P1, Water P1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP Chapter 7 (Agriculture), section 6.1 Proposed Modifications to Mitigation Measures: The BDCP lists these impacts as significant and unavoidable. The project proponent should ensure that there are no adverse impacts to water as a result of their project.	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. None of the operations-related water quality effects would be significant for Alternative 4A. Additionally, as described in Appendix 3B, the BDCP proponents have incorporated a separate other commitment to address the potential increased water treatment costs that could result from EC effects on agricultural water purveyor operations. For more information regarding significant and unavoidable impacts please see Master Response 10.
1647	101	ATT1: Comment 76: Impacts/Significance to Delta Protection Commission (DPC): Municipal and industrial water quality impacts from proposed Conservation Measure 1 (salinity) and Conservation Measures 2-22 (dissolved organic carbon) BDCP or EIR/EIS Reference: Appendix 3B, pages 42 (lines 27-41) and page 43 (lines 1-10) Related DPC Land Use and Resource Management Plan (LURMP) Policy: Water P1 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP Chapter 9 (Infrastructure), Section 5.1	Please see response to comment 1647-100.

DEIRS Ltr#	Cmt#	Comment	Response
		Proposed Modifications to Mitigation Measures: The BDCP lists these impacts as significant and unavoidable. The project proponent should ensure that there are no adverse impacts to water as a result of their project. It is not enough to rely upon assistance that "may take the form of financial contributions, technical contributions, or partnerships."	
1647	102	ATT1: Comment 77: Impacts/Significance to Delta Protection Commission (DPC): The DEIR/EIS describes agriculture and recreation as the key sectors of the Delta economy and focuses its assessment of socio-economic impacts on these two (2) areas. The primary zone of the Delta also serves as a critical infrastructure hub (transportation, energy, and water) for the regional economy. The DEIR/EIS makes a few notes about natural gas wellheads that could be disrupted by the BDCP, but does not offer an adequate acknowledgement or assessment of socioeconomic impacts to other Delta infrastructure. BDCP or EIR/EIS Reference: Chapter 16, page 16-4 Related DPC Land Use and Resource Management Plan (LURMP) Policy: UI-5 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: ESP Chapter 9 (Infrastructure)	The focus on the agricultural and recreation/tourism sectors in the description of the Delta economy was not meant to imply that other sectors are not important contributors to the Delta Region economy. While Chapter 16, Socioeconomics, does not address the socioeconomic effects related to potential impacts on Delta transportation, energy, and water infrastructure, the physical and environmental impacts are addressed in several chapters of the EIR/EIS, including chapters 5 (Water Supply, 6 (surface water), 8 (water quality), 19 (transportation), and 21 (energy).
1647	103	ATT1: Comment 78: Impacts/Significance to Delta Protection Commission (DPC): Increased mosquito populations due to habitat restoration and standing water would create a public nuisance impacting legacy communities and residents/visitors that may further spread to urban areas in the secondary zone. This potential public nuisance could have an effect on resident/visitor quality of life, recreational activities, and potentially have a negative impact on the Delta economy. Also there may be an increase in vector-borne diseases as a result of implementing Conservation Measures CM2, CM7, CM10, and CM11. BDCP or EIR/EIS Reference: Chapter 25, page 25-109, Lines 34-37; page 25-111, Lines 21-23; Chapter 25, page 25-123, Lines 34-37 Related DPC Land Use and Resource Management Plan (LURMP) Policy: NR-P10 Related DPC Economic Sustainability Plan (ESP) or other Program Recommendations: Increase in mosquito populations could generate a decline in property values, diminishment of recreational areas and opportunities, and increased human discomfort creating both a nuisance and decreased economic sustainability of the Delta region. The increase in habitat restoration could breed mosquito populations causing both an increased risk of vector borne disease and reducing the quality of life for Delta residents by generating a public nuisance where residents and visitors will not want to be outdoors. This public nuisance effect will have a detrimental impact on legacy communities and their efforts to diversify the Delta economy through promoting recreation and agri-tourism. Proposed Modifications to Project Conservation Measures: Habitat restoration should be analyzed for the potential to increase mosquito populations and should be designed and managed to reduce nuisance impacts on residential communities.	Please note that the preferred alternative is now Alternative 4A, which does not include a HCP, and therefore it does not include CM2, CM7, CM10 or CM11. The lead agencies are currently undergoing ESA Section 7 and CESA Section 2081(b) consultation with the fish and wildlife agencies. The amount of tidal restoration proposed for Alternative 4A is substantially less than the restoration included in Alternative 4. Each of these sites would include site-specific design and management plans, as described in the BA. Public nuisance effects were not intended to be discussed in the Public Health chapter. The significance criterion in that chapter related to mosquito-borne diseases is as follows: Substantial increase in the public's risk of exposure to vector-borne diseases. For purposes of this analysis, "substantial increase" is evaluated qualitatively, depending on the location of the alternative, in accordance with Section 15064(b) of the State CEQA Guidelines (see footnote 4, Section 25.3.1.1, Vectors). To minimize the potential for any impacts related to increasing suitable vector habitat within the study area, DWR would consult and coordinate with the appropriate mosquito vector control districts (MVCDs) and prepare and implement mosquito management plans (MMPs). Best management practices (BMPs) to be implemented as part of the MMPs would help control mosquitoes, thereby reducing the need for local MVCDs to increase abatement activities in response to BDCP operations. These BMPs would be consistent with practices presented in the California Department of Public Health's Best Management Practices for Mosquito Control in California. Because MMPS and BMPs would be implemented, substantial increases in mosquito populations are not anticipated.

DEIRS Ltr#	Cmt#	Comment	Response
		Proposed Modifications to Mitigation Measures: BDCP should provide funding to Vector Control Districts to compensate for additional treatments needed to manage mosquito population increases as a result of BDCP actions. The Project proponent states that they will work with local Vector Control Districts, but there is no mention of compensation and the increased resources that the Districts will need to accomplish this role. The Districts will be responsible for covering increased land area and resources should be direct towards them to accomplish this task.	
1647	104	ATT1: Comment 79: Impacts/Significance to Delta Protection Commission (DPC): Expose substantially more people to transmission lines generating new sources of Electric Magnetic Fields (EMF) as a result of the construction and operation of the water conveyance. BDCP or EIR/EIS Reference: Chapter 25, page 25-120, Lines 1-41. Related DPC Land Use and Resource Management Plan (LURMP) Policy: Infrastructure-P1 Proposed Modifications to Mitigation Measures: In order to reduce public exposure to Electric Magnetic Fields, all permanent transmission lines should be undergrounded. Doing so will avoid public health exposure and eliminate visual impacts to the landscape. The proposed measure to increase the height of transmission towers to reduce public health exposure will increase the visual impacts to the Delta's scenic vistas. The other proposed measure to widen the right of way for transmission lines to reduce public health exposure consumes more productive agricultural land.	Mitigation Measure AES-1a includes locating new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible, and AES-6a includes underground new or relocated utility lines where feasible.
1647	105	ATT1: Comment 80: Impacts/Significance to Delta Protection Commission (DPC): Substantial increase in recreationist's exposure to pathogens as a result of implementing the restoration Conservation measures. BDCP or EIR/EIS Reference: Chapter 25, page 25-123, Lines 5-26. Related DPC Land Use and Resource Management Plan (LURMP) Policy: NR-P8 Proposed Modifications to Project Conservation Measures: The DEIR/EIS indicates there will be limited public access to ROAs due to exposure to pathogens; instead, there should be mitigation measures to minimize the risk of pathogen transmission. To the greatest extent possible, Restoration Opportunity Areas (ROAs) should be open to recreation and tourism.	The impact the commenter is referring to, Impact PH-6, does not indicated that public access to ROAs would be limited due to exposure to pathogens. Rather, the text states that “land acquisition that would exclude public recreational use would decrease opportunities for these activities, thus limiting recreationists’ potential exposure to pathogens.” The level of recreational access would be subject to that granted by management plans, and habitat restoration and enhancement. As discussed for all action alternatives in EIR/EIS Chapter 25, Public Health, there would not be a substantial increase in recreationist’s exposure to pathogens as a result of implementing the restoration conservation measures, thus this impact is considered less than significant.
1648	1	Imported water supplies support many beneficial uses in Santa Clara County, and are critical to prevent the return of historic groundwater overdraft and land subsidence in San Jose and adjacent cities. The Santa Clara Valley Water District's Central Valley Project ("CVP") and State Water Project ("SWP") supplies conveyed through the Delta are the primary sources of supply for its three drinking water treatment plants, and provide, on average , half the water delivered to the groundwater recharge system . During dry and critically dry years, such as this year, more than 90 percent of Santa Clara County's surface water supply must be imported. On October 9, 2012 , the District Board of Directors adopted a Water Master Plan to	This comment is consistent with the Project Objectives and Purpose and Need for the project (see Chapter 2 in the EIR/EIS). No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.

DEIRS Ltr#	Cmt#	Comment	Response
		achieve long-term water supply reliability in Santa Clara County through 2035 . The plan's "Ensure Sustainability" strategy has three key elements: (1) secure existing water supplies and infrastructure that comprise the baseline system ; (2) optimize the use of existing supplies and infrastructure ; and (3) expand recycled water and conservation . The Water Master Plan calls for doubling current levels of conservation from 56,000 acre-feet/year to 99,000 acre-feet/year , and doubling the amount of recycled water use from 23 ,000 acre-feet/year to over 50,000 acre- feet/year over the next fifteen years, as well as other investments that will reduce reliance on the Delta by 10 percent. All future growth in county water needs will be met through water conservation and recycling. However, the county will still be depending on current long-term average Delta-conveyed supplies of about 170,000 acre-feet per year (AFY) to meet approximately 30 percent of its water needs. The District has determined that continuing to rely on existing conditions of through-De lta conveyance for the District's imported water supplies is not acceptable because of the instability of existing Delta levees, underlying seismic risks, increasing threats of altered hydrology and sea level rise due to climate change, and ongoing regulatory uncertainty and concerns over the environmental health of the Delta. To address these concerns, the District has joined with other public water agencies1 and State and federal agencies to pursue a Delta solution to achieve the coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem, all in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place. The District's desired outcome is a cost-effective, comprehensive, and reliable long-term solution for the Delta that meets the water supply, water supply reliability, and water quality needs of Santa Clara County while balancing other beneficial uses and providing a sustainable Delta ecosystem. It is within this context that the District reviews the BDCP and its EIR/EIS. 1 Public water agencies are State Water Project and Central Valley Project water contractors, including Alameda County-Zone 7 Water Agency, Kern County Water Agency, Metropolitan Water District of Southern California, Santa Clara Valley Water District, San Luis & Delta-Mendota Water Authority, and Westlands Water District.	
1648	2	The goals of the BDCP are to restore the health of the Delta ecosystem and the reliability of water supplies conveyed through the Delta, and it includes major investments in habitat restoration, measures to address environmental stressors such as predation and invasive species, and new diversion and conveyance facilities to help restore natural flow patterns and reduce impacts of SWP and CVP operations on the Delta ecosystem. The comprehensive, large-scale ecosystem improvements and flexible, science-based management provided by the BDCP proposed project constitute an effective framework for protection and recovery of threatened and endangered fish and wildlife, and creation of a sustainable Delta environment for the future. In addition to these environmental benefits, the BDCP proposed project would significantly stabilize and protect both the quantity and quality of imported water supplies for Santa Clara County. Benefits include: (1) reduced regulatory risk and improved long-term average water supply reliability (or avoided loss of long-term average water supply); (2) reduced risk of a prolonged imported water supply interruption due to seismic events and climate change; (3) improved quality of imported water conveyed through the Delta; and (4) reduced salt loading to the groundwater basin. Those BDCP alternatives that allow relatively more water to be diverted from northern intakes of a	The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. For information on adaptive management and monitoring, as noted by the commenter, refer to Master Response 33. Information on the operational criteria is discussed in Master Response 28, along with operational aspects of the Decision Tree in Master Response 44.

DEIRS Ltr#	Cmt#	Comment	Response
		new isolated conveyance facility compared to existing southern Delta intakes would provide greater risk reduction and water quality benefits to Santa Clara County, as well as greater flexibility to restore natural flow patterns in the Delta for fishery benefit.	
1648	3	The District supports and incorporates by reference the detailed comments submitted by the State Water Contractors and the San Luis and Delta-Mendota Water Authority.	See Response to Comments to the State Water Contractors (Letter 1568) and the San Luis and Delta-Mendota Water Authority (Letter 1665).
1648	4	The District appreciates that, in response to public input, the Draft EIR/EIS endeavors to recognize the "Delta as a Place," especially in Chapter 16 (Socioeconomics). We note that the California Department of Water Resources (DWR) has, in response to public input, continually revised the preferred alternative to substantially reduce the effects of the project on Delta residents and the Delta environment. We encourage these efforts to continue and expand.	The issue raised by the commenter addresses the merits of the project and does not raise any issues with the environmental analysis provided in the EIR/S.
1648	5	Funding: The Santa Clara Valley Water District supports the concept of beneficiaries pay, with the cost of CM1 funded by public water agencies and the additional public benefits of habitat restoration and reduction of other stressors funded through State and federal sources. We understand that public funding is largely expected to flow from California Bay-Delta Restoration appropriations and anticipated State bond measures. As described in Chapter 8 of the Draft BDCP, since California Bay Delta Authority was established in 1995, more than $1.4 billion of state and federal funds have been spent for restoration activities, which demonstrates a significant level of commitment to support ecosystem and species restoration in the Delta. The Draft BDCP assumes that Bay Delta Restoration appropriations will continue at the same level as fiscal year 2011 appropriations through year 40 of the permit term, comprising more than $3 billion of the $7.9 billion public share of funding for the BDCP. The Draft BDCP also observes that water bonds have been approved by voters at a frequency of one in every 4 years on average, and therefore infers that future water bonds that would partially fund the public benefit portions of BDCP are also likely to occur during the permit term. These are reasonable assumptions. However, because the fish and wildlife agencies will need to make a finding that such funding is reasonably certain to occur before they issue permits, the document should provide a more focused discussion regarding the limitations and likelihood of public funding, including further discussion of how public funding is made available to support other large Habitat Conservation Plans. In particular, Section 8.4 should be expanded to provide a discussion on the reliability of projected public funding sources.	Please see Master Response 5 for a discussion of project funding. Numerous comments were received that focused on various elements of the BDCP. 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. 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.
1648	6	Alternatives: The Santa Clara Valley Water District appreciates the range of alternatives considered in the Draft EIR/EIS to meet the project objectives, purpose, and need, as required by CEQA and NEPA. The Draft EIR/EIS comprehensively describes and evaluates 15 action alternatives, with a wide range of conveyance facility, operating scenarios, and conservation measure components. The alternatives recognize that Delta ecosystem restoration requires a comprehensive approach to address multiple stressors and restoration opportunities, and that Delta ecosystem restoration cannot be achieved by focusing simply on flow alone. Several entities submitted proposals, such as the "Portfolio-Based BDCP Conceptual Alternative" by the Natural Resources Defense Council and others, which include additional actions such as increasing water recycling and conservation. While the District agrees with and is actively implementing a number of the elements in the Portfolio-Based Alternative, we believe these elements are more appropriately included in the State's Water Action Plan and ongoing programs currently being implemented by the State and federal governments, and we agree with the assessment in Appendix 3A, that many of these actions are beyond the scope of a	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.

DEIRS Ltr#	Cmt#	Comment	Response
		Delta-focused Habitat Conservation Plan/Natural community Conservation Plan.	
1648	7	The Santa Clara Valley Water District observes that the Draft EIR/EIS, as well as the Draft BDCP and the appendices to both documents, provide adequate analyses to support assumptions and conclusions that conservation measures requiring habitat restoration are likely to achieve the desired biological benefits. Real world examples, such as the successful habitat usage in Liberty Island by delta smelt, illustrate the potential benefit of habitat creation. In addition, habitat usage by longfin smelt in the Island Ponds in South San Francisco Bay demonstrates the direct benefit to listed species from the addition of restored habitat and the food production this can create (Jim Hobbs, UC-Davis, unpublished data). Some commenters have and will continue to question the Draft BDCP and EIR/EIS technical analysis of habitat restoration benefits, but this does not mean there is not sufficient evidence to take action now, nor does it make the EIR/EIS inadequate.2 2 A lead agency may adopt the conclusions reached by experts that prepare an EIR, even though others may disagree with the underlying data, analysis, and conclusions. Laurel Heights Improvement Ass'n v Regents of Univ. of California (1988) 47 Cal. 3d 376, 408. Also, a lead agency can make reasonable assumptions based on substantial evidence about future conditions without guaranteeing that those assumptions will remain true. Environmental Council of Sacramento v City of Sacramento (2006) 142 Cal.App.4th 1018, 1036.	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.
1648	8	Given the complex dynamics of the Delta and the incomplete understanding of how fish interact with the habitat, the current approach of using the best available scientific literature and best professional judgment to analyze potential project impacts is reasonable. The integrated management structure and resources proposed in the Draft BDCP would establish a viable framework to improve scientific understanding over time, and further, to expedite actions that benefit covered species through a robust and reactive adaptive management plan. The Decision Tree process is a reasonable approach to resolve the existing scientific uncertainty associated with the benefits of various outflow scenarios to Delta and longfin smelt. The EIR/EIS should properly characterize the uncertainty and conflicting expert opinions associated with these outflow scenarios.	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. Please see responses to comment letter 1448 for a comprehensive response to comments from the Independent Scientific Review Panel.
1648	9	The Santa Clara Valley Water District believes the Draft BDCP lays out a strong framework and process for adaptive management that meets the requirements for an Habitat Conservation Plan/Natural community Conservation Plan. We look forward to additional detail that will be provided in the Final BDCP, including procedures for scoping monitoring and research work, staffing roles and responsibilities, and additional detail on how the Adaptive Management Team will function.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. 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.
1648	10	The Santa Clara Valley Water District observes that the Draft EIR/EIS provides sufficient detail on the environmental setting of Delta properties to perform adequate impact	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		analyses for geologic, biological, cultural and other resources. Although access to some private properties for BDCP environmental studies was not available, a detailed parcel-specific inventory of environmental resources is not necessary to understand impacts of the BDCP alternatives.3 3 Under CEQA Guidelines Section 15125(a), the environmental setting description shall be no longer than necessary to understand the impacts of a proposed project and its alternatives.	
1648	11	For some impacts, the relevant impact significance criteria were not used to judge impact significance before and/or after mitigation, resulting in overly-conservative findings of impact significance. Examples include certain surface water, groundwater, recreation, and aesthetics impacts. The specific significance criteria described in each chapter should be used for significance determinations. See Attachment A [Att 1] for detailed comments.	The commenter references criteria for determining significant impacts on surface water, groundwater, recreation and aesthetic The commenter provides no evidence or specific examples of how the listed impact criteria were different than what was applied in the impact analyses of these resource areas. Regarding the opinion that impact conclusions were overly conservative, this was, for the most part, intentional. Using the recreational resources impact analysis as an example, the commenter, in Attachment A, indicated that for Impact REC-2 the conclusion is overly conservative and does not use "the REC-2 significance criterion" (i.e., substantial long-term reduction of recreational opportunities and experiences. In Ch. 15, Recreation, it is explained that an alternative would result in a substantial long-term reduction of recreation opportunities and if implementation of the alternative would result in loss of public access to or public use of well-established recreation facilities or activities lasting for more than 2 years. It is also noted that the analysis takes into consideration visual effects attributable to construction and operation activities associated with the proposed water conveyance facilities. In the analysis for Impact REC-2, reasons are provided for why project implementation would result in a substantial long-term reduction of recreational opportunities at several locations in the study area and describes mitigation measures, avoidance and minimization measures, and environmental commitments that would help reduce the severity of impacts on recreation within the study area. However, because there is uncertainty as to whether these measures would reduce the impact to a less-than-significant level in all instances such that there would be no reduction of recreational opportunities or experiences over the entire study area, the impact is considered significant and unavoidable. We agree that this may be considered a conservative conclusion. In other words, "significant and unavoidable" simply means that the lead agencies could not be certain that the proposed mitigation will succeed in mitigating an impact to a level below significance. The EIR/EIS takes a conservative approach regarding the level of significance identified for many impacts. Labeling an impact significant and unavoidable does not mean that adverse effects would definitely occur; rather, such labeling often indicates that such effects cannot be ruled out on the basis of current knowledge. After recognizing the uncertainty of certain impacts and mitigation, the EIR/EIS conservatively concludes that certain impacts are significant and unavoidable. By taking this conservative approach, the EIR/EIS likely overstates the project's eventual actual environmental impacts.
1648	12	The Draft EIR/EIS does not provide a detailed assessment of the BDCP's impact on San Luis Reservoir (SLR) storage levels and water deliveries. Summary information presented in the Draft EIR/EIS indicates that the projected SLR storage levels are significantly lower under some action alternatives, particularly those that assume high outflow requirements (e.g., Alternatives 4 (High Outflow Scenario H4), 7, and 8) than under no project. The Draft EIR/EIS (p. 5-24) briefly recognizes that if San Luis Reservoir is drawn down too low, the reliability and water quality of deliveries to the San Felipe Division, which includes the Santa Clara Valley Water District, are adversely affected. When SLR storage levels drop below an elevation of 369 feet, about 300,000 acre-feet (AF) in storage or the "low point", algal blooms occurring during the summer can enter the lower intake of the Pacheco Pumping Plant and deliveries of the District's CVP supplies can be adversely affected; water quality within the algal blooms is not suitable for municipal and industrial water users relying on existing water treatment facilities in Santa Clara County. Deliveries to the San Felipe Division may be severely or completely interrupted when storage levels are	With climate change, the minimal San Luis Reservoir storage elevation would be less than 300 feet under the action alternatives and the No Action Alternative as compared to the Existing Conditions. Changes in San Luis Reservoir storage due to implementation of the action alternatives without the effects of climate change and sea level rise are shown in Tables C-5-14 through C-5-25 of Appendix 5A, Section C, Modeling Results. The BDCP EIR/EIS does not include mitigation measures specifically for the changes in SWP and CVP water supplies. As noted in the comment letter, algal blooms currently occur during the summer months in San Luis Reservoir. The assessment in Chapter 8, Water Quality, addressed the potential for increased nitrogen compounds (Impacts WQ-1 and WQ-2 for ammonia and Impacts WQ-15 and WQ-16 for nitrate) and phosphorus (Impacts WQ-23 and WQ-24) to occur in water exported to the SWP/CVP export service area, which includes San Luis Reservoir. These assessments concluded that all project alternatives would have less than significant impacts to these constituents. Thus, the operation of the new conveyance facility would not be expected to cause substantial increased concentrations of ammonia, nitrate, or phosphorus relative

DEIRS Ltr#	Cmt#	Comment	Response
		drawn down such that there is insufficient hydraulic head to effectively operate Pacheco Pumping Plant. The EIR/EIS should provide more detail on the existing low point issue, and existing Reclamation operational protocols designed to minimize low point conditions. It should also provide greater analysis and detail on the impacts of the action alternatives on SLR levels, and on the District's water supplies due to low point conditions. In addition, the operational priorities for the Annual Delta Operations Plan (described in Draft BDCP Section 6.3.2) should be amended to specifically include minimizing the frequency of San Luis Reservoir low point conditions, potentially by meeting requirements for high outflow by securing additional water supplies rather than reducing deliveries to storage in San Luis Reservoir. See Attachment A [Att 1] for detailed recommended revisions to the Draft EIR/EIS to address the low point issue. See Attachment B [Att 2] for further technical background on the low point issue.	to Existing Conditions or the No Action Alternative in exported water that would contribute to increased algae production. Based on water quality at the north and south Delta intake pumps, the operation of the new conveyance facility would not be expected to contribute to an increased algal bloom in San Luis Reservoir.
1648	13	As with water supply impacts, the Draft EIR/EIS does not analyze the water quality impacts associated with increased frequency of low point conditions under some of the action alternatives. The available information in the EIR/EIS indicates that the frequency of low point conditions would significantly increase under some action alternatives, particularly those that require high outflow conditions, adversely affecting the Santa Clara Valley WaterDistrict's municipal and industrial beneficial use of water stored at San Luis Reservoir. Concentrations of algae (as measured by chlorophyll-a) that are not suitable for existing water treatment facilities would increase at the District's water supply intake. The water quality impact analysis should include this impact. Because the increased frequency of low point conditions could increase District operational and water treatment costs as well as impair the ability to utilize its CVP supplies, the EIR/EIS should include a new "non-environmental" commitment to offset these impacts through adjustments to the Annual Operations Plan, implementing water management agreements and/or other acceptable options, including compensation for increased costs to the extent they are actually incurred. This commitment should be analogous to commitments (as described in Section 3B.2.1) for other water purveyors whose water quality is adversely affected by BDCP operations.	Changes in San Luis Reservoir storage due to implementation of the Action Alternatives without the effects of climate change and sea level rise would occur more frequently than under the No Action Alternative shown in Tables C-5-14 through C-5-25 of Appendix 5A, Section C, Modeling Results. The BDCP EIR/EIS does not include mitigation measures specifically for the changes in SWP and CVP water supplies. The effects of changes in water supplies are addressed in the related environmental resources, including Water Quality (Chapter 8).
1648	14	Appendix 31A should clarify that the substantial evidence (not fair argument) test would be used to determine whether future changes to the conveyance facilities require an EIR/EIS. See Attachment A [Att 1] for detailed comments	CEQA Appendix 31A was written as part of the Draft EIR/EIS, in which not only the BDCP HCP alternative (4) but all of the other "action alternatives" were analyzed with a mixture of "project level" analysis (for BDCP Conservation Measure 1 and the facilities and operations associated with it) and "program level" analysis (for BDCP Conservation Measures 2 through 22). Appendix 31A was to be used in connection with future agency actions associated with CMs 2 through 21. The intention behind the appendix was to create a vehicle by which the agencies implementing the BDCP would determine whether, for a particular activity implementing the BDCP, the EIR/EIS contained sufficient detail to satisfy CEQA and NEPA or whether additional analysis, in the form of an activity-specific negative declaration, mitigated negative declaration, or EIR, was required. For NEPA, the parallel options would be an activity-specific Finding of No Significant Impact (FONSI), Mitigated FONSI, or EIS. Appendix 31A would not be used for the new sub-alternatives (2D, 4A, and 5A) addressed in the Partially Recirculated Draft EIR/Supplement to the Draft EIR, as those proposals do not include any programmatic elements. In the future, if DWR or a state responsible agency such as the California Department of Fish and Wildlife or the State Water Resources Control Board, were considering discretionary actions to implement one of these sub-alternatives, the question of whether the Final EIR/EIS remained sufficient would be governed by Public Resources Code section 21166 and CEQA Guidelines section 15162 et seq., under which the "substantial evidence" test and not the "fair argument" test apply. (See State CEQA Guidelines, §§ 15162[c], 15064[f][7].) Although some sort of checklist might be an appropriate vehicle for determining whether a subsequent or supplemental EIR might be required, the checklist would not include the same

DEIRS Ltr#	Cmt#	Comment	Response
			questions found in Appendix 31A. Rather, the questions would track the inquiries set forth in subdivision (a) of State CEQA Guidelines section 15162. Because the original alternatives set forth in the DEIR/EIS remain under consideration, however, the more complex approach to considering how to proceed with "later activities" under CMs 2 through 21 is worth explaining. In general, when relying on a previously certified program EIR, a CEQA lead agency must examine subsequent activities in the light of the program EIR to determine whether additional environmental review is required. (State CEQA Guidelines, §§ 15168[c].) If there is detailed analysis in a program EIR, "many subsequent activities could be found to be within the scope of the project described in the program EIR, and no further environmental documents would be required." (Id., subd. [c][5]; Concerned Dublin Citizens v. City of Dublin (2013) 214 Cal.App.4th 1301, 1316; Citizens for Responsible Equitable Environmental Development v. City of San Diego Redevelopment Agency (2005) 134 Cal.App.4th 598, 609-615.) If impacts are adequately analyzed in the program EIR, they do not need to be analyzed again in subsequent EIRs. (See State CEQA Guidelines, § 15168[d][3] [Program EIR can be used to "[f]ocus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before"]; id. at subd. [c][2] ["[i]f the agency finds that pursuant to Section 15162, no new effects could occur or no new mitigation measures would be required, the agency can approve [a subsequent] activity as being within the scope of the project covered by the program EIR, and no new environmental document would be required"] [italics added]; id., § 15152[d] [where a program EIR has been certified for a plan, the lead agency for a later project pursuant to or consistent with the plan should limit the EIR on the later project to effects which were not examined in the prior EIR].) Under section 15168, a later EIR need not revisit significant effects previously included in a program EIR. One of the stated benefits of preparing a program EIR is that "[t]he program EIR can … [f]ocus an EIR on a subsequent project to permit discussion solely of new effects which had not been considered before." (§ 15168[d][3].) Thus, "[i]f a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared leading to either an EIR or a Negative Declaration." (Id., subd. (c)(1) [italics added].) This language makes it clear that the only potentially significant effects that must be addressed in the later EIR are those that are "new" in that they "were not examined in the program EIR." Where truly new effects are present, the "fair argument" test applies to the question of whether such new effects should be addressed in a negative declaration, mitigated negative declaration, or EIR. (Id., §§ 15168 [c][1], 15168[d][1]; Sierra Club v. County of Sonoma (1992) 6 Cal.App.4th 1307, 1319.) The State CEQA Guidelines specifically advise that agencies should use an Initial Study to determine whether the environmental effects of the later project were adequately covered in the program EIR. (State CEQA Guidelines, § 15168[c][4]; Latinos Unidos de Napa v. City of Napa (2013) 221 Cal.App.4th 192, 203 [upholding use of Initial Study to determine whether environmental impacts of later activity were adequately analyzed in previously certified program EIR]; Santa Teresa Citizen Action Group v. City of San Jose (2003) 114 Cal.App.4th 689 [same]; Concerned Dublin Citizens v. City of Dublin (2013) 214 Cal.App.4th 1301, 1316 [describing process for determining scope of analysis of project within the context of a previously certified program EIR]; Citizens for Responsible Equitable Environmental Development v. City of San Diego Redevelopment Agency (2005) 134 Cal.App.4th 598, 609-617 [upholding agency's determination that impacts of hotel project were adequately addressed in previously certified program EIR].)
1648	15	Water quality modeling in Chapter 8 indicates that several action alternatives, including the preferred alternative , will result in greater exceedances of Water Quality Control Plan (WQCP) standards and concludes that these are significant and unavoidable effects. The Draft EIR/EIS should explain that the SWP and CVP will be operated to meet all WQCP standards as a highest priority, and that the apparent increase in exceedances is likely due	Please refer to Master Response 14, which discusses the additional sensitivity analyses conducted to identify whether exceedances were modeling artifacts or due to the action alternatives.

DEIRS Ltr#	Cmt#	Comment	Response
		to model limitations that do not allow for real-time operational decisions based on daily flow conditions	
1648	16	Att 1: Attachment A Santa Clara Valley Water District Detailed Public Review Draft BDCP EIR/EIS Comments	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 comment referencing the attachment or the Final EIR/EIS.
1648	17	[Att 1] On page 3B-44 Line 18, the text reads "The commitments for water purveyors whose water quality is adversely affected by BDCP does not include a commitment to offset water quality impacts associated with increased low point conditions at San Luis Reservoir.". Recommended Change: Because the increased frequency of low point conditions could increase District costs for water treatment, operations or alternative water supplies, the EIR/EIS should include a new "non-environmental" commitment to offset these impacts through adjustments to the Annual Operations Plan, implementing water management agreements, and/or other acceptable options, including compensation for increased costs to the extent they are actually incurred . This commitment should be analogous to commitments (as described in Section 3B.2.1) for other water purveyors whose water quality is adversely affected by BDCP operations.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) is being considered. 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.
1648	18	[Att 1] On page 5-14Lines 41-45, 5-15 Lines 1-2, the text reads "Minor clarifications are needed to better characterize the San Felipe Division system. The Santa Clara Tunnel is located between the Pacheco Conduit and Santa Clara Conduit, and the three segments together equal 30 miles, but that is not clear from reading the existing text. Recommended Change: Revise the text to state that water is then pumped into the San Luis Reservoir and diverted through the 1.8- mile-long [delete of] Pacheco Tunnel [delete inlet] to the Pacheco Pumping Plant. Twelve 2,000- horse-power pumps lift [insert the water] a maximum [delete of 490 cfs a] height [delete varying from 85 feet to 300] [insert of 240] feet to the 5.3-mile-long Pacheco Tunnel. The water then flows through the tunnel and without additional pumping, through [delete 29 insert 30] miles of concrete, high- pressure pipeline, varying in diameter from 10 feet to 8 feet, [delete and the mile-long Santa Clara Tunnel]. In Santa Clara County, the pipeline terminates at the Coyote Pumping Plant, which is capable of pumping water [inert directly to the treatment plants, local streams, or groundwater recharge facilities, or] [delete to] into Anderson Reservoir or Calero Reservoir for [delete further, insert future] distribution [delete at insert to] treatment plants or groundwater recharge.	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	19	[Att 1] On page 5-24 Lines 12-19, the text reads "The text provides an overly-general description of the "low point" issue. It does not provide technical explanations, or explain existing Reclamation operational protocols designed to minimize low point conditions. Recommended Change: Revise the text to provide a more detailed, technical explanation of the low point issue; Attachment B to this letter can be used as an information source. Explain operational protocols that Reclamation uses to manage SLR levels to minimize low point conditions.	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	20	Att 1] On page 5-61 Lines 3-15, the text reads "The text describes changes in reservoir	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		storage under the No Action Alternative. It does not mention changes in San Luis Reservoir storage, and how the frequency of low point conditions would change. Recommended Change: Revise the text to describe changes in SLR storage under the No Action Alternative, and how the frequency of low point conditions would change.	
1648	21	[Att 1] On page 5-74 Lines 1-14, the text reads "Global comment for all action alternatives: The text discusses impacts on CVP south of Delta municipal and industrial deliveries in general. It does not specifically discuss impacts of the action alternatives on San Luis Resveroir storage and reservoir levels, the frequency of low point conditions, and resulting impacts on San Felipe Division and District water supplies. Recommended Change: For each action alternative, add a section discussing impacts of the action alternatives on SLR storage and reservoir levels, the frequency of low point conditions, and resulting impacts on San Felipe Division and District water supplies.	The text in the Draft EIR/EIS referred to in this comment related to the description of San Luis Reservoir storage and elevations has been modified in the Final EIR/EIS. Additional details related to the San Felipe Division or Santa Clara Valley Water District have not been included because this would be inconsistent with the level of detail related to other SWP or CVP water users.
1648	22	[Att 1] On page 5A-B12, Lines 13-19, the text reads "The text describes CALSIM II model assumptions for San Luis operations. These assumptions do not take into account existing Reclamation operational protocols designed to minimize San Luis Resveroir low point conditions. Recommended Change: Revise the text to explain that CALSIM II model assumptions do not take into account existing Reclamation operational protocols designed to minimize SLR low point conditions	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS. Numerous comments were received that focused on various elements of the BDCP. 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.
1648	23	[Att 1] On page 6-59 Impact SW-4, the text reads "Global comment on Impact SW-4: The impact adversity/significance judgments do not use the significance threshold listed on page 6-45 to judge the adversity/significance of this impact (a substantial alteration of drainage pattern or a substantial increase in runoff). Recommended Change: Use the Impact SW-4 threshold to judge the adversity/significance of Impact SW-4.	As described in Chapter 6, Surface Water, of the EIR/EIS, the analysis considered that any change in peak flow patterns or quantities of runoff would be significant. Therefore, the Mitigation Measure SW-4 would require the project proponents to demonstrate no-net-increase in runoff due to construction activities during peak flows.
1648	24	[Att 1] On page 6-62 Line 41 through 6- 63 Line 14, the text reads "Global comment on Impact SW-8: The impact adversity/significance judgments do not use the significance threshold listed on page 6-45 to judge the adversity/significance of this impact (exposure to a significant risk) Recommended Change: Also, to improve defensibility, use the Impact SW-8 threshold to judge the adversity/significance of Impact SW-8	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the 2013 Draft BDCP and 2013 Draft EIR/EIS which included large-scale habitat restoration. Within the Draft EIR/EIS, the effects of Conservation Measures 2 through 11 (referred to under Impact SW-8) are considered in a programmatic manner. Implementation of these conservation measures would not occur until site-specific engineering and environmental analyses were completed to address flood and sediment issues. Please see Master Response 2 regarding programmatic level of analyses. Alternative 4 remains a viable alternative and Alternatives 2D and 5A are being considered to provide modified conveyance facilities for the SWP and CVP and do not include large-scale habitat restoration. Please see Master Response 5 related to the status of the BDCP and Master Response 8 related to analysis of Alternative 4A.
1648	25	[Att 1] On page 7-21 Lines 23-25, the text reads "Although Hetch Hetchy water is used in Santa Clara County, these contracts are between San Francisco Public Utilities District and individual retailers in the County and not with Santa Clara Valley Water District. Recommended Change: The most heavily used basins that receive imported water from the Delta [insert] Watershed include Santa Clara Valley, Napa Valley, and Livermore Valley groundwater basins. Santa Clara [delete Valley WD, insert County] water supplies include SWP water via the South Bay Aqueduct, CVP water via the San Felipe Division of the CVP, and water from SFPUC's Hetch Hetchy [delete Aqueduct, insert Regional Water	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		System].	
1648	26	[Att 1] On page 7-21 Lines 26-28, the text reads Santa Clara Valley Water District does not have water level data back to 1900, and permanent subsidence occurred beyond 1960. Recommended Change: The Santa Clara Subbasin has historically experienced [delete decreasing groundwater level trends.] [insert long-term groundwater overdraft, resulting in large water level declines and up to 13 feet of unrecoverable land subsidence between 1915 and 1969 (Santa Clara Valley Water District 2012)4] [Delete between 1900 and 1960, water level declines of more than 200 feet from groundwater pumping have induced unrecoverable land subsidence of up to 13 feet (Santa Clara Valley Water District 2011).] Importation of surface water via the Hetch Hetchy and South Bay Aqueducts [insert and the San Felipe Division], and the development of an artificial recharge program have [delete favored, insert resulted in] the rise of groundwater levels since 1965. 4. 4 Source: 2012 Groundwater Management Plan, available at: http://www.valleywater.org/Services/Clean_Reliable_Water/Where_Does_Your_Water_Come_From/Groundwate r/2012_Groundwater_Management_Plan.aspx	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	27	[Att 1] On page 7-22 Lines 11-13, the text reads "SANTA CLARA VALLEY WATER DISTRICT maintains an active recharge program in Santa Clara County to avoid long-term overdraft. Recommended Change: In the southern San Francisco Bay Area, [insert SCVW D maintains an active recharge program in Santa Clara County to avoid overdrafting of the groundwater basin and resulting land subsidence.] Groundwater and surface water are connected through in-stream and off-stream artificial recharge projects., [delete in which surface water is delivered to water bodies that permit the infiltration of water to recharge overdrafted aquifers.] Natural groundwater recharge also occurs from [insert rainfall and] stream seepage during the wet season.	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	28	[Att 1] On page 7-22 Lines 19-20, the text reads "Hardness is fairly common in groundwater due to naturally occurring deposits of calcium and magnesium, regardless of the proximity to the ocean or areas of intrusion. Recommended Change: In basins located near the ocean or where seawater intrusion has occurred, TDS [delete and hardness are, insert is an] issues.	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	29	[Att 1] On page 7-22 Lines 20-21, the text reads "Salt water intrusion through tidal creeks occurred historically in the northern Santa Clara Valley. Impacts are primarily limited to shallow aquifers near San Francisco Bay and no significant impacts to deeper drinking water aquifers are observed. (Source 2012 SANTA CLARA VALLEY WATER DISTRICT Ground Water Management Plan p. 2-9.) Recommended Change: Seawater intrusion [delete is prevalent, insert has been observed] in groundwater basins near San Francisco Bay, northern Santa Clara Valley, and Napa Valley.	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	30	[Att 1] On page 7-22 Lines 24-26, the text reads "While there are several hundred contaminant release sites in Santa Clara County, there have been very limited impacts to drinking water aquifers.	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		Recommended Change: Contaminated groundwater from industrial and agricultural chemical spills, underground and above ground storage tank and sump failures, landfill leachate, septic tank failures, and chemical seepage is also [delete an issue, insert a potential threat to groundwater aquifers] in the Bay Area (California Department of Water Resources 2009a).	
1648	31	[Att 1] On page 7-22 Lines 29-31, the text reads "Correct quantity of groundwater pumped annually. Recommended Change: In Santa Clara County, approximately [delete 160,000, insert 149,000] acre-feet of groundwater is pumped annually by local water suppliers and private well owners to meet municipal, domestic, agricultural, and industrial water needs (Santa Clara Valley Water District [delete 2011, insert 2012 Ground Water Management Plan p. 2-14).]	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	32	[Att 1] On page 7-23 Lines 5-14, the text reads "Correct factual information on SCVWD's groundwater management operations. Recommended Change: The Santa Clara Valley Water District, SCVWD) operates [insert 10 surface water reservoirs and] an extensive system of in-stream and off-stream artificial recharge facilities to replenish the groundwater basin and provide more flexibility to manage water supplies. [delete Eighteen major recharge systems allow] [insert SCVWD releases] local reservoir water and imported water [delete to be released in more than 30 local creeks and 71 percolation ponds] [insert through more than 390 acres of recharge ponds and over 90 miles of creeks] for artificial recharge to the groundwater basin. Artificial recharge amounts to approximately [delete 157,000. insert 100,000] acre-feet annually (Santa Clara Valley Water District [delete 2011, insert 2012]). Recharge in this subbasin occurs naturally along streambeds and artificially in in-stream and off-stream managed basins. The operational storage capacity in the basin was estimated with a groundwater flow model at 350,000 acre-feet, [delete and the rate of withdrawal from the basin is a controlling function; pumping should not exceed 200,000 acre-feet in any single year,] [insert which accounts for the avoidance of adverse impacts such as inelastic land subsidence and salt water intrusion.] (Santa Clara Valley Water District [delete 2001:27] [insert 2012 Source: 2012 ground water management plan p AP-20]).	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	33	[Att 1] On page 7-23 Lines 18-20, the text reads "Correct factual information on SCVWD's groundwater management operations. Recommended Change: Alameda County Water District, Santa Clara Valley Water District, and Zone 7 Water Agency currently [delete have, insert participate in] groundwater banking programs. SCVWD reached an agreement with Semitropic WSD to bank up to 350,000 acre-feet in [delete their, insert Semitropic WSD's] storage facilities. As of [delete 2001, insert January 1, 2014, SCVWD's storage balance in the Semitropic banking program was about 263,000 acre-feet] [delete SCVWD had stored about 140,000 acre-feet in the water banking program (Santa Clara Valley Water District 2001:26)] (Santa Clara Valley Water District. 2010. Urban Water Management Plan 2010. San José, CA).	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS in accordance with reports prepared by the Santa Clara Valley Water District.
1648	34	[Att 1] On page 7-23 section starting with Line 22, the text reads "This section should be updated to note that the Central Coast Region includes portions of Santa Subbasin (DWR Subbasin 3.3-01). Recommended Change: [Insert Groundwater provides over 90% of the water supply for	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		areas overlying the] Clara County, namely the [insert Llagas Subbasin and is the sole source]	
1648	35	[Att 1] On page 7-23 Lines 34-36, the text reads Santa Clara Valley Water District operates the Uvas and Chesbro Reservoirs to recharge the Llagas Subbasin. Managed SCVWD recharge in the Llagas Subbasin is approximately 24,000 acre-feet per year (Santa Clara Valley Water District GWMP p. 2-14). Recommended Change: Groundwater recharge is achieved through the operation of several reservoirs: [insert Uvas Reservoir, Chesbro Reservoir,] Hernandez Reservoir, Twitchell Reservoir, Lake San Antonio, and Lake Nacimiento	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	36	[Att 1] On page 7-24 Lines 7-8, the text reads The water budget for the Llagas Subbasin from 2002 to 2011 shows inflows and outflows are generally balanced (Santa Clara Valley Water District GWMP 2012, p. 2- 19) Recommended Change: Other basins are in equilibrium due to management of the basin through conjunctive use by local water districts. [Insert For example, the water budget for the Llagas Subbasin from 2002 to 2011 shows inflows and outflows are generally balanced (Santa Clara Valley Water District Ground Water Master Plan 2012, p. 2-19).]	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	37	[Att 1] On page 7-24 Lines 29-30, the text reads The statement made about Santa Barbara County is also true in the Llagas Subbasin in Santa Clara County (and other portions of the Central Coast Region like Salinas). Recommended Change: State MCLs for nitrates have been exceeded in some areas of Santa Barbara County, [insert Santa Clara County, and other portions of the Central Coast Region (e.g., Salinas),]	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	38	[Att 1] On page 7-31 Lines 4-5, the text reads While the Santa Clara Valley Water District Act provides broad authority to manage water resources, there is no specific language limiting groundwater extraction. Recommended Change: For example, the Orange County Water District [delete and SCVWD have, insert has] been granted Special Act 1 District authorities. In general, the specific authority of [delete these, insert this] districts includes two general categories. Limiting export and extraction of groundwater in their jurisdictions (upon evidence of overdraft or threat of overdraft).	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	39	[Att 1] On page 7-47 Lines 34-38 and 7-110 Lines 19-21, the text reads Global comment on Mitigation Measures GW-1, 5, and 7: The conclusions that these mitigation measures may not reduce impacts to less-than- significant appears overly-conservative, and do not use the relevant impact significance criterion. Recommended Change: Use the relevant impact significance criterion to decide whether MMs GW-1, 5 and 7 reduce impacts to less-than- significant levels.	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	40	[Att 1] On page 7-119 Lines 1-2, the text reads Update reference Recommended Change: [delete Santa Clara Valley Water District. 2001. Santa Clara Valley Water District Groundwater Management Plan. July.] The recommended changes reference our current Groundwater Management Plan, adopted by the District Board of	The text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		Directors in July 2012. The plan is available Santa Clara Valley Water District's website.	
1648	41	[Att 1] On page 7-119 Lines 3-4, the text reads Update reference: this webpage has been updated since March 2011, and no longer contains many of the values referenced. Suggested edits within the text reference the Santa Clara Valley Water District's 2012 Ground Water Master Plan. Recommended Change: Delete link from references.	e text in the Draft EIR/EIS referred to in this comment has been modified in the Final EIR/EIS.
1648	42	[Att 1] On page 8-298. Line 12, the text reads The Draft EIR/EIS does not analyze the water quality impacts associated with increased frequency of low point conditions under some of the action alternatives, particularly those that assume high outflow requirements. As mentioned in the water supply comments, the increased frequency of low point conditions would adversely affect the District's municipal and industrial beneficial use of water stored at San Luis Reservoir. Concentrations of algae (as measured by chlorophyll-a) that are not suitable for existing water treatment facilities would increase at the District's water supply intake. Recommended Change: The water quality impact analysis should include this impact by adding a new Impact WQ-32 for each alternative. For those alternatives that increase the frequency of low point conditions, reference a new "non- environmental" commitment as described in comment #9 in the main body of this letter, (See also comment on p. 3B-45.) Summarize the new commitment in the text in a format similar to that on page 8-238, lines 33- 43 (bromide non-environmental commitment for in-Delta water purveyors).	Additional information is included under Impact WQ-32 (a&b) and WQ-33 under each project alternative.
1648	43	[Att 1] On page 11-110, the text reads Table 11-2. SWP/CVP Export Service Area Reservoirs is incomplete. Recommended Change: Lake Del Valle, Bethany Reservoir, Calero Reservoir, and San Justo Reservoir should also be included.	Operations of Lake Del Valle, Bethany Reservoir, Calero Reservoir, and San Justo Reservoir are dependent upon specific operations of the SWP and CVP water users in Alameda and Santa Clara counties which balance storage of surface water and groundwater with direct use of surface water, and are not analyzed with the CALSIM II models. Changes in availability of water for storage in these reservoir are related to water deliveries in the "San Francisco Bay Hydrologic Region" presented in Tables C-13-1-1 through C-13-22-1 in Appendix 5A, Section C, Modeling Results, in the Draft BDCP EIR/EIS.
1648	44	[Att 1] On page 15-263 Lines 11-17, the text reads Global Comment on Impact REC-2: The text states that REC-2 impacts are significant and unavoidable. The conclusion appears overly- conservative, and does not use the REC-2 significance criterion of "substantial long-term reduction of recreational opportunities and experiences." Recommended Change: Use the REC-2 significance criterion to decide whether REC-2 impacts can be reduced to less-than-significant levels.	As described in Section 15.3.2 of the 2013 Public Draft BDCP EIR/EIS, for purposes of this analysis, the long-term loss of recreation opportunities and experiences is defined as circumstances in which construction or operations and maintenance activities would result in loss of public access to or public use of well-established recreation facilities or activities lasting for more than 2 years.
1648	45	[Att 1] On page 15-270 Lines 28-31, the text reads Global comment on REC-3: The text states that REC-3 impacts are long-term, and therefore considered significant and unavoidable. The conclusion appears overly-conservative, and does not use the REC-3 significance criterion of "substantial long-term reduction of recreational opportunities and experiences." Recommended Change: Use the REC-3 significance criterion to decide whether REC-3 impacts can be reduced to less-than-significant levels.	As described in Section 15.3.2 of the 2013 Public Draft BDCP EIR/EIS, for purposes of this analysis, the long-term loss of recreation opportunities and experiences is defined as circumstances in which construction or operations and maintenance activities would result in loss of public 18 access to or public use of well-established recreation facilities or activities lasting for more than 2 years.

DEIRS Ltr#	Cmt#	Comment	Response
1648	46	[Att 1] On page17-183 Line18 through 17-184 Line 16; 17-184 Lines 8-16, the text reads Global comment Impact AES-1: The applicable significance criterion (substantial alteration of visual quality) is not used to determine whether impacts are adverse or significant, pre- and post- mitigation. The finding that Impact AES-1 is significant and unavoidable appears overly conservative. The same comment applies globally to Impacts AES-2, 3, 4, 5 and 6, and to cumulative aesthetic impacts. Recommended Change: Use the AES-1 significance criterion (substantial alteration of visual quality) to determine whether impacts are adverse or significant, pre- and post-mitigation. The same recommendation applies globally to Impacts AES-2, 3, 4, 5 and 6, and to cumulative aesthetic impacts.	The impact statement is not limited to the visual quality but also includes "a substantial alteration in the existing visual character". The lines being referenced (page17-183, Line18-44, and page 17-184, Lines 8-16) summarize the findings. The preceding analysis on pages 17-170 through 17-182 describe how each project feature would affect the visual quality and character, which is also supported by the use of simulations. Please also refer to Section 17.3.1, Methods for Analysis, and Section 17.3.2, Determination of Effects, which provide more information on how impacts were evaluated. Please also refer to the last paragraph of each mitigation measure, which indicates how implementation of the measure would affect visual resources post-mitigation.
1648	47	[Att 1] On page 30-99 Lines 14-16, the text reads Under the growth inducement section, the language makes it seem as if SCVWD has a higher proportion of deliveries, when it appears that this statement is based on allocation multiplied by contract amount. Also, SCVWD's deliveries will not necessarily increase, as described in the following sentences. Language should be consistent with other contractors' benefits. Recommended Change: Delete the following sentence: Among M&I contractors SCVWD is projected to receive the second greatest increase in deliveries (following MWD) under the BDCP alternatives.	The text is consistent with the other contractors: the text states the contractors receiving the greatest increases in deliveries, and states that SCVWD receives the second greatest increases, but also states the first and third greatest increases as well. As the text does not affect the impact conclusions, it will remain unchanged.
1648	48	[Att 1] On page 30B-31, the text reads The EIR/EIS analysis of water deliveries only presents results for the low outflow scenario (H1) creating a misleading representation of potential benefits. Recommended Change: Include results of analyses for all four Alternative 4 operational scenarios (H1-H4), or at a minimum, present the range from the bookends of the low outflow and high outflow scenarios, H1 and H4.	This text has been removed from Appendix 30B and Chapter 30 considers all four Alternative 4 operational scenarios (H1-H4).
1648	49	[Att 1] On page 31A-2 the text reads Appendix 31A (future environmental compliance) is unclear on whether the appendix environmental checklist should apply to future changes to conveyance facilities (as well as to CM2-22), and on what standard of review should apply. Since CEQA/NEPA compliance for the conveyance facilities is at the project level, any future changes should be evaluated under Public Resources Code [Section] 21166 (need for a Supplemental or Subsequent EIR/EIS), which employs the deferential substantial evidence (not fair argument) standard of review. Recommended Change: The appendix should clarify that the substantial evidence (not fair argument) test would be used to determine whether future changes to the conveyance facilities require an EIR/EIS. The appendix environmental checklist should be limited to future activities related to CM 2-22.	See the Response to Comment 1648-14.
1648	50	Att 2: Attachment B Additional Information on San Luis Reservoir Low Point	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 comment referencing the attachment or the Final EIR/EIS.
1648	51	[Att 2] page 5-24, lines 12-19: With the existing facility configuration, the operation of the San Luis Reservoir could impact the water quality and reliability of water deliveries to the San Felipe Division if San Luis Reservoir is drawn down too low. Reclamation has an obligation to address this condition and may solicit cooperation from DWR, as long as changes in SWP operations to assist with providing additional water in San Luis Reservoir	The text in the Draft EIR/EIS referred to in this comment related to the description of San Luis Reservoir storage and elevations has been modified in the Final EIR/EIS. Alternative 4A, the proposed project, will maintain compliance with Delta outflow regulatory requirements for all water years with the use of the North Delta intakes, as described in Chapter 5, Water Supplies, and Chapter 6, Surface Water. A detailed discussion of the specific Delta outflows under a range of seasons and water year types is contained in

DEIRS Ltr#	Cmt#	Comment	Response
		(beyond what is needed for SWP deliveries and the SWP share of San Luis Reservoir minimum storage) does not impact SWP allocations and/or deliveries. If the CVP is not able to maintain sufficient storage in San Luis Reservoir, there could be potential impacts on resources in Santa Clara and San Benito Counties.	Appendix 5A. In addition, the project will reduce Delta exports and increase Delta outflow during drier years. Figures 5-17 and 5-19 of Chapter 5, Water Supply, of the EIR/EIS present the average annual SWP and CVP Delta exports for longer average annual conditions and dry/critical water year types. 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 in wet years. As shown in Figure C-11-6, the north Delta intakes would have minimal flows that would be required for maintenance of the pumps during critical dry years. The No Action Alternative and Alternatives 4H1, 4H2, 4H3, 4H4; 5; 6A, 6B, 6C; 7; 8; and 9 would result in less SWP and CVP water deliveries south of the Delta than under Existing Conditions (shown in 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 Tables 5-6 and 5-9). Operation of CVP and SWP facilities south of the existing or proposed intakes would continue to be coordinated between DWR and Reclamation but those operations are beyond the scope of the EIR/EIS.
1648	52	[att 2] Insert the following additional text describing San Luis low point on page 5-24, after line 19: Figure 1-1 illustrates San Luis Reservoir facilities, including the Pacheco intakes and pumping plant that serve the San Felipe Division. During summer months, algae blooms of up to 35 feet thick often develop in the reservoir. When reservoir storage levels drop below 300,000 acre- feet (AF), algae blooms may enter the Lower Intake and affect drinking water treatment plant deliveries within Santa Clara County. Deliveries to Santa Clara and San Benito may be severely or completely interrupted when storage levels are drawn down such that there is insufficient hydraulic head to effectively operate Pacheco Pumping Plant. Deliveries to other SWP and CVP contractors are made through the Gianelli intake, which is about 40 feet lower than the Pacheco intake and is generally unaffected by the water quality and supply interruption issues that affect the San Felipe Division. Reclamation and DWR allocate federal and State water each year based on the full use of available San Luis storage, and in many years, water levels are predicted to fall below 300,000 acre feet. These chronic predictions of "low point" cause water supply concerns for the San Felipe Division, particularly for Santa Clara County, because mitigating this risk leads to less efficient water management, increased pumping and treatment costs, and the need to prepare treated water retailers for taste and odor problems or disruptions in supply. The risk of San Luis Reservoir dropping below the Lower Intake and affecting scheduled deliveries of CVP water during peak summer demand months is a significant concern. Minimum storage levels are typically projected to occur in August or September and remain flat for several months before the reservoir begins to refill. This typically overlaps with the peak summer demand period in Santa Clara County, limiting the Santa Clara Valley WD's operational flexibility and supply availability when both are needed most. The severity of impacts to Santa Clara Valley WD depends on how long the reservoir elevation is predicted to be below 300,000 acre-feet, how low the elevation gets, and the frequency at which it occurs.	Additional details related to San Luis Reservoir have not been included because this would be inconsistent with the level of detail related to other SWP or CVP reservoirs.
1648	53	[Att 2: Att 1] Figure 1-1. San Luis Reservoir Facilities	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 comment referencing the attachment or the Final EIR/EIS.
1649	1	The Santa Clara Valley Water District has determined that continuing to rely on existing	The issue raised by the commenter addresses the merits of the project and does not raise any issues with

DEIRS Ltr#	Cmt#	Comment	Response
		conditions of through-Delta conveyance for the District's imported water supplies is not acceptable because of the instability of existing Delta levees, underlying seismic risks, increasing threats of altered hydrology and sea level rise due to climate change, and ongoing regulatory uncertainty and concerns over the environmental health of the Delta. To address these concerns, the District has joined with other public water agencies [footnote 1: Public water agencies are State Water Project and Central Valley Project water contractors, including Alameda County-Zone 7 Water Agency, Kern County Water Agency, Metropolitan Water District of Southern California, Santa Clara Valley Water District, San Luis & Delta-Mendota Water Authority, and Westlands Water District.] and State and federal agencies to pursue a Delta solution to achieve the coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem, all in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place. The District is evaluating the Bay Delta Conservation Plan (BDCP) as one such solution that meets the water supply, water supply reliability, and water quality needs of Santa Clara County while balancing other beneficial uses and providing for a sustainable Delta ecosystem.	the environmental analysis provided in the EIR/S.
1649	2	The Santa Clara Valley Water District is considering participating as a signatory to the BDCP Implementing Agreement (IA). Overall, the draft agreement effectively clarifies the processes needed to ensure successful implementation, identifies responsibilities of the entities responsible for financing and/or implementing the plan, and sets out the assurances and protections for those that receive take authorizations pursuant to the BDCP. The District appreciates the effort put into preparing such a complex document.	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.
1649	3	Goals and objectives Although there are several areas that require further clarification within the document, the terms and conditions of the draft IA generally support the BDCP goals and objectives of both improving the health of the Delta ecosystem as well as the reliability of California's water supply .	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.
1649	4	Signatories to the Agreement The draft Implementing Agreement (IA) sets out the roles, responsibilities, and commitments of the key parties involved in implementing the BDCP. The United States Bureau of Reclamation (Reclamation) is not identified as a signatory in the draft document but is a critical partner in the implementation of the BDCP as it operates the CVP and may participate in implementation of various Conservation Measures. Reclamation should be signatory to the agreement to ensure that all key participants are committed to a shared vision and that commitments for all key participants are defined. The BDCP reflects commitments of the State of California and the United States. Therefore, the Santa Clara Valley Water District recommends that the Secretary of the Interior and the Governor of California sign the IA.	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.
1649	5	Adaptive Management. The success of the BDCP will largely hinge on effective implementation of a sound and well-structured adaptive management program. In general, the draft Implementing Agreement lays out an appropriate framework for implementing the Adaptive Management Program that is consistent with the BDCP itself and identifies reasonable limits on flow adjustments. The agreement identifies four resources to support adaptive management changes in Section 10.3.7.2, including adjusting operations on an inter-annual basis and sharing resources derived from water supply improvements. These resources should be more clearly defined in the Implementing Agreement.	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.

DEIRS Ltr#	Cmt#	Comment	Response
1649	6	Public funding shortfall The draft IA states that "(i)n the event of a shortfall in State or federal funding , a Fish and Wildlife Agency(ies) shall not suspend or revoke the State and/or Federal Permits or invalidate Reclamation's take statement if the shortfall in funding is determined to be likely to have no more than a minimal effect on the capacity of the Plan to advance the biological goals and objectives." (Section 13.2, emphasis added). The document should explain what constitutes more than a "minimal effect".	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.
1649	7	The Santa Clara Valley Water District strongly supports the concept of comprehensive, large-scale ecosystem improvements and flexible, science-based management provided by the BDCP proposed project. The plan has the potential to protect and help recover threatened and endangered fish and wildlife, significantly stabilize and protect imported water from continuing regulatory reductions, and create a sustainable Delta environment for the future. It is critical to the success of the plan that, as the draft Implementation Agreement is revised and finalized, it supports the dual purposes of ecosystem restoration and improved water supply reliability for the State, and accurately reflects policy decisions that have been painstakingly negotiated.	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.