DEIRS Ltr#	Cmt#	Comment	Response
1730	1	This letter communicates comments from the Yolo County HCP/NCCP Joint Powers Agency (JPA) on the public draft of the Bay Delta Conservation Plan (BDCP) and the associated EIR/EIS. The JPA appreciates the support of the state and federal government in development of the Yolo HCP/NCCP over the years and believes there is potential to collaborate with BDCP on terrestrial species habitat conservation efforts in the future. The JPA has significant concerns about integration of the BDCP and the Yolo HCP/NCCP, however, which the JPA first documented in the May 2013 paper entitled, "Interface with the Bay Delta Conservation Plan: Background, Summary, and Remaining Issues" (Exhibit A). California Department of Fish and Wildlife staff involved with the BDCP reviewed and edited this paper. The JPA will need to work with the BDCP to resolve the issues outlined in this letter in the next year to ensure implementation of the Yolo HCP/NCCP is feasible. The JPA believes there is significant potential for conflict between the BDCP and the Yolo HCP/NCCP for two reasons: 1) there is significant overlap between the BDCP Plan Area and the Yolo HCP/NCCP Plan Area, as well as biological objectives; and 2) the BDCP significantly understates the potential terrestrial species impacts of Conservation Measure 2, the proposal to increase the frequency and duration of inundation in the Yolo Bypass to benefit covered fish species. The JPA's comments on specific text in the public draft of BDCP should be read to apply to all substantially similar text appearing in the document. The JPA also reserves the right to provide additional comments on BDCP--including detailed legal and technical comments--as work on the BDCP continues. In addition, the JPA understands the BDCP has set aside funding to directly coordinate with local HCP/NCCPs that overlap the BDCP's Plan Area. The JPA has met once with BDCP consultants to discuss overlap issues and hopes to increase the pace of discussions in the fall of 2014.	Impacts to other Conservation Plans are discussed in BIO-192: Potential for Conflicts between Implementation of the BDCP and Other Conservation Plans, in section 12.3.6 of the Final EIR/EIS. Please note that the BDCP is no longer the preferred alternative. The CEQA proposed project is now Alternative 4A, also known as California WaterFix, and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. 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.
1730	2	The Yolo County HCP/NCCP Joint Powers Agency (JPA) is currently working on the Second Administrative Draft of the Yolo HCP/NCCP, which covers 11 terrestrial species. The JPA is striving for release of the Second Administrative Draft by March 20I 5 and final permits in March 2017. The JPA is significantly changing the proposed conservation strategy for the Yolo HCP/NCCP relative to the First Administrative Draft released in June 2013. Conservation related to cultivated lands represents the most significant potential for conflict between the Yolo HCP/NCCP and the BDCP, especially with regard to Swainson's hawk, giant garter snake, burrowing owl, and tri-colored blackbird conservation. Approximately 111,400 acres of the Yolo HCP/NCCP's 653,000-acre Plan Area is within the BDCP Plan Area, or a total of 17% of the Yolo HCP/NCCP's Plan Area. According to personal communication with BDCP consultants, BDCP may propose to conserve as much as 10,000 acres for these species in the Yolo HCP/NCCP Plan Area or approximately 20% of all BDCP cultivated land acquisition. (This estimate is higher than estimates for conservation in the EIR/EIS, as discussed later in this letter.) Given the Yolo HCP/NCCP will likely propose less than 30,000 acres of conservation easement acquisition over a 50-year permit term, the BDCP proposal also represents as much as 1/3 of the acreage needed for the Yolo HCP/NCCP. BDCP Conservation Zones 1, 2, and 3 are entirely or partially in the Yolo HCP/NCCP Plan Area, including the Yolo Bypass, and comprise the 111,400 acres within the BDCP Plan Area. A number of the BDCP's biological objectives (compliance with which is mandatory to meet the requirements of BDCP's 50-year permit) focus specifically on these Conservation Zones. In addition to the specific mention of the Conservation Zones in the Yolo HCP/NCCP Plan Area, the biological objectives also express a preference for high-elevation lands and lands	Please see section 12.3.6 of the Final EIR/EIS for a discussion of impacts on other conservation plans. Please also see RDEIR/SDEIS Appendix A Chapter 14, Agricultural Resources, Impact AG-1 and Impact AG-2 and their associated mitigation measures for complete analysis of how the proposed project will affect and mitigate important farmland in the Delta. With regards to agricultural impact mitigation, please see Master Response 18. Please see Master Response 5 regarding the role of CM2 in BDCP.

DEIRS Ltr#	Cmt#	Comment	Response
		connected to other conservation lands. Conservation Zones 1, 2 and 3 have some of the highest elevation lands in the BDCP Plan Area, as well as significant acreage of lands that are already protected by conservation easements or owned by the state and federal government for conservation purposes. As a result of the significant emphasis on cultivated lands in the Yolo HCP/NCCP Plan Area, the JPA expects significant conflict with BDCP if steps are not taken to resolve potential issues during the planning process.	
1730	3	ATT1: Table 1: Biological Objectives Relevant to the Yolo HCP/NCCP Plan Area	This comment describes a table embedded in the comment letter listing certain BDCP biological objectives.
1730	4	General Comments on the Public Draft and EIR/EIS Update references to the Yolo Habitat Conservation Plan (HCP)/Natural Community Conservation Plan (NCCP) Since the Yolo HCP/NCCP has changed significantly since BDCP released the public draft, the information about the Yolo HCP/NCCP in the BDCP needs to be updated. This includes the following: --Use "Yolo HCP/NCCP" to refer to the plan. Rather than using the term Yolo Natural Heritage Program, please refer to the plan as the Yolo HCP/NCCP. --When referring to the agency in charge of developing and implementing the Yolo HCP/NCCP, please use "Yolo County HCP/NCCP Joint Powers Agency." Please change references to "Yolo County HCP/NCCP Joint Powers Authority." --Change the number of covered species from 32 to 11. The 2nd Administrative Draft of the Yolo HCP/NCCP only covers 11 species. --Please reference the Yolo Local Conservation Strategy when discussing overlapping planning efforts. The Yolo Local Conservation Strategy is not part of the Yolo HCP/NCCP, but will also further habitat conservation in Yolo County. The Joint Powers Authority (JPA) will coordinate implementation of the Yolo HCP/NCCP and the Yolo Local Conservation Strategy. --Change the date the JPA started work on the Yolo HCP/NCCP from March 2007 to November 2004 (date of planning agreement with the California Department of Fish and Wildlife and U.S. Fish and Wildlife Service).	References to the "Yolo Natural Heritage Program" have been updated to "Yolo HCP/NCCP". The other changes suggested by the commenter were not made.
1730	5	Specific Comments on the Public Draft Need an MOU to guide integration of Yolo HCP/NCCP and BDCP There is significant potential for conflict between the Yolo HCP/NCCP and the BDCP. If both the Yolo HCP/NCCP and BDCP are acquiring conservation easements on cultivated and other lands in the overlap area during the 50- year permit term, it is unclear how the two plans will work together and whether easements acquired by willing sellers will count towards the conservation targets of both plans. The JPA is concerned the significant cultivated land acquisition proposed by the BDCP will negatively impact the ability of the JPA to meet the permit requirements of the Yolo HCP/NCCP. It is further unclear whether there are sufficient cultivated lands in the overlap area to support both the conservation targets of the BDCP and the Yolo HCP/NCCP, since acquisition of easements is appropriately based on willing sellers. An MOU is necessary to create a structure to ensure the JPA can successfully implement the Yolo HCP/NCCP.	Please see section 12.3.6 of the Final EIR/EIS for a discussion of impacts on other conservation plans. 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.

DEIRS Ltr#	Cmt#	Comment	Response
1730	6	The Joint Powers Agency encourages close coordination between the Yolo HCP/NCCP and the BDCP in the months ahead to ensure the impacts to terrestrial species of CM2 are minimized for two reasons: 1) Yolo Bypass terrestrial species habitat, including wetlands, is important to implementation of the Yolo HCP/NCCP; and 2) the BDCP significantly underestimates impacts on terrestrial species, such as tri-colored blackbird and giant garter snake, from implementation of CM2.	Please see the response to Comment 2. In regard to the role of CM2 in BDCP, please also see Master Response 5.
1730	7	ATT2: The EIR/EIS describes the following impacts of CM2 to Yolo HCP/NCCP covered species: Table 2. Estimated Terrestrial Species Impact from CM2 with Estimated Habitat Impact	This comment describes a table embedded in the comment letter listing Estimated Terrestrial Impacts from CM2.
1730	8	CM2 will have significant potential impacts to species covered by the Yolo HCP/NCCP. While the JPA [Joint Powers Authority] understands that BDCP will, in many cases, undertake conservation actions to reduce or eliminate these impacts, it is unclear whether the BDCP will implement these conservation actions within Yolo County or elsewhere in the BDCP Plan Area. Any actions taken outside of Yolo County could hinder the ability of the JPA to implement the Yolo HCP/NCCP.	Please see Master Response 5 regarding the role of CM2 in BDCP. For more information regarding existing conditions, no action alternative, no project alternative, and cumulative impact conditions that the proposed project considered please see Appendix 3D of the FEIR/EIS.
1730	9	The Yolo Bypass is particularly important to the Yolo HCP/NCCP for giant garter snake and tri- colored blackbird conservation. During development of the Second Administrative Draft of the Yolo HCP/NCCP, the U.S. Fish and Wildlife Service indicated a desire to preserve habitat for the giant garter snake in the Yolo Bypass. The Joint Powers Agency had previously considered excluding the Yolo Bypass from the Yolo HCP/NCCP conservation strategy, but now expects the Yolo Bypass will be a focus for both giant garter snake and tri-colored blackbird conservation because of the significant presence of both of these species in the Yolo Bypass. The BDCP specifically states giant garter snake conservation is intended as I :I mitigation for the impacts of covered activities, including "the loss of rice land in the Yolo Bypass as a result of prolonged flooding from CM2 Yolo Bypass Fisheries Enhancement." (p. 3.3-286.) Rice lands and wetlands in the Yolo Bypass (including the Yolo Wildlife Area) provide significant habitat for the giant garter snake (p. 2A.28-5). As other comments in this letter suggest, the presence of such significant habitat supports the need to minimize terrestrial species impacts from CM2. Furthermore, the JPA believes the BDCP significantly underestimates the terrestrial species impacts of CM2, a point further discussed in the comments provided in this letter on the EIRIEIS. BDCP consultants used the MIKE-21 model to develop the hypothetical footprint for CM2. Yolo County has pointed out in previous comment letters that the MIKE-21 model is no longer the best available model to evaluate Yolo Bypass inundation footprints, as the U.S. Bureau of Reclamation and the California Department of Water Resources have developed a TU- FLOW model that is currently under review by the University of California, Davis. In addition, the impacts analysis relies on an assumption that CM2 flooding will only occur in 30% of years, which is a gross underestimate of potential CM2 inundation.	Please see the response to Comment 1730-2.
1730	10	Reconsider 50°/o alfalfa requirement for cultivated lands easements The BDCP currently contains a requirement to conserve "at least 43,325 acres of Swainson's hawk foraging habitat with at least 50% in very high-value habitat production." High-value habitat production is defined as alfalfa in Table 3.4.3-3 (p.3.4-92). No other crop types are allowed to count as "high value habitat production." The JPA is opposed to this requirement	Please see the response to Comment 1730-5.

DEIRS Ltr#	Cmt#	Comment	Response
		in the BDCP and will not adopt this requirement for the developing conservation strategy for the Yolo HCP/NCCP. The JPA has received feedback from many landowners that they are not interested in selling easements that restrict landowners in perpetuity to one crop type, even if the requirement is only 50% of the years. The JPA understands the BDCP's requirement is not specific to individual parcels, but requires maintenance of the 50% alfalfa requirement across the 43,325 acres. The JPA is also aware the BDCP has not yet developed a structure to achieve this objective. Given the JPA is opposed to adopting this requirement for the Yolo HCP/NCCP, the JPA encourages the BDCP to reconsider this requirement. Such a restriction is unenforceable if the market changes (i.e. alfalfa is no longer grown at current levels in Yolo County or in the Delta), similar to the demise of the sugar beet industry in Yolo County.	
1730	11	Need to address issues identified in the waterfowl impacts analysis On page 3.4-239 of the BDCP, the text identifies key uncertainties it will address from the Effects Analysis of BDCP Covered Activities on Waterfowl and Shorebirds in the Yolo, Delta, and Suisun Basins (Ducks Unlimited 2012). The BDCP should also address issues raised by the Waterfowl Impacts of Proposed Conservation Measure 2 for the Yolo Bypass - An Effects Analysis Tool (Ducks Unlimited 2012). These issues include the decline in potential food production on existing wetlands from increased inundation.	Please see the response to Comment 2. Please also see Chapter 12 of the Final EIR/EIS for a discussion of impacts on terrestrial biological resources, including waterfowl.
1730	12	There is significant potential for conflict between the BDCP and the Yolo HCP/NCCP, especially with regard to acquisition of land to meet natural community requirements for cultivated lands, grasslands, riparian, tidal, and wetlands. The JPA is concerned about conflict with all of these natural communities, particularly conflict for cultivated lands and wetlands.	Please see the response to Comment 1730-5.
1730	13	Avoid conflict with cultivated land natural community The EIR/EI S states the total acreage lost in the overlap area to BDCP covered activities is 6,158 acres and the estimated BDCP preservation need in the overlap area is between 2,540 and 4,458 acres (Table 12-21, p. 12-3256). [footnote 1: Tables 12-18 to 12-21 list specific alternatives in their titles, but none of the tables specifically list preferred [FOOTNOTE CUT OFF]] The JPA assumes that the majority of this loss is cultivated lands. The EIR/EIS further states that CM2 alone will result in the loss of 629 acres of cultivated lands (p. 12-2075). Since the Yolo HCP/NCCP will rely almost exclusively on acquisition of easements on cultivated lands to fulfill the permit terms, the JPA agrees with the assessment in the EIR/EIS regarding the potential cultivated land conflict between the BDCP and the Yolo HCP/NCCP: This acquisition and preservation has the greatest potential for conflict with overlapping conservation plans that have substantial needs for acquisition of cultivated lands to satisfy their own conservation requirements. Acquisition by BDCP of cultivated land reduces the amount of such land available for overlapping plans (page 12-3253). The JPA further believes this conflict is understated in the BDCP for three reasons: 1) the EIS/EIR underestimated the impact of conservation measures on cultivated lands in the overlap area; 2) the Yolo HCP/NCCP's conservation strategy is not yet fully developed, although it will rely primarily on cultivated land acquisition; and 3) the EIRIEIS underestimates the amount of cultivated land preservation in the overlap area. Given the relatively affordable price of cultivated lands in Yolo County, the high elevation of these lands, and the significance of these lands to BDCP covered species, the JPA believes the estimate of BDCP preservation need in the overlap area is low and therefore the potential for conflict is greater than documented in the EIR/EIS. (As discussed previously, personal	Please see response to Comment 1730-2. Please also note that the preferred alternative requires much less land for habitat restoration than the BDCP/Alternative 4.

DEIRS Ltr#	Cmt#	Comment	Response
		communication with BDCP consultants put the number of acres needed by BDCP in the overlap area at closer to 10,000 acres.) The MOU mentioned earlier in this letter should create a process for addressing the potential for conflict related to cultivated land easement acquisition.	
1730	14	Avoid conflict with wetlands natural community According to the EIR/EIS, there are 11,501 acres of wetlands in the Yolo HCP/NCCP Plan Area, of which 10,932 are in the overlap area. In other words, 95% of the wetlands in the Yolo HCP/NCCP Plan Area are also in the BDCP Plan Area. The EIR/EIS recognizes the challenge this causes in its analysis of the Yolo HCP/NCCP: "'Based on a simple analysis of the major natural community types for the intersecting area of the two plans (Table 12-17), there is significant overlap between tidal and wetland land cover types. In other words, most conservation targets for these land cover types in the Yolo Natural Heritage Program (YNHP) would need to be addressed within the overlap area. However, the overlap area has more than 10,000 acres of mapped wetland available for acquisition or restoration and almost 5,000 acres of tidal land cover type" (p. 12-3269).	Please see the response to Comment 1730-1. Please also see Master Response 5.
1730	15	ATT3: Table 3. Impacts of CM2 on Wetlands	This comment describes a table embedded in the comment letter listing Impacts of CM2 on Wetlands.
1730	16	There are two problems with the EIR/EIS analysis of wetlands impacts: 1) some of the estimates rely on the assumption of CM2 flows of 1,000 cubic feet per second (cfs) to 4,000 cfs (p. 12-2008) and others rely on an 8,000 cfs assumption, when CM2 assumes flows will reach a maximum of 6,000 cfs; and 2) it relies on the flawed assumption that plan-related increases in flow through the Fremont Weir would be expected in only 30% of years. The EIR/EIS further draws erroneous conclusions from this flawed analysis, such as "the modification of periodic inundation events would not adversely affect the ecological function of tidal freshwater emergent wetlands habitats and would not substantially modify its value for special-status or common terrestrial species" (p. 12-2008) and findings of less-than-significant impact or no impact on these communities in the BDCP Plan Area. The finding for managed wetland is especially egregious, as it states, "the managed wetland community would not be significantly impacted because periodic inundation is already experienced by most of the land that would be affected" (p. 12-2058). For CM2, this is countered by the study Waterfowl Impacts of Proposed Conservation Measure 2 for the Yolo Bypass - An Effects Analysis Tool (Ducks Unlimited 2012). Furthermore, it is impossible to draw these conclusions from the existing information available for CM2. While there may not be significant impacts to wetlands in the BDCP Plan Area, there could be significant impacts in the Yolo HCP/NCCP Plan Area -- especially if wetland restoration and protection activities take place elsewhere in the BDCP Plan Area or efforts to mitigate these impacts in the Yolo HCP/NCCP Plan Area result in other terrestrial species habitat impacts. As a result of both the flawed analysis of CM2 and the competition for wetlands acres in the overlap area, BDCP could potentially significantly hinder the ability of the Yolo HCP/NCCP to protect wetlands in the Plan Area important to terrestrial species. The Yolo HCP/NCCP would therefore potentially be unable to meet permit requirements related to wetlands impacts. This issue should also be a focus of the MOU.	Please see the response to Comment 1730-2. Please also see Master Response 5.
1730	17	Define cultivated lands as a natural community and analyze impacts The EIR/EIS and the BDCP are inconsistent in their treatment of cultivated lands as a natural	The rationale for the Draft EIR/EIS' approach to the cultivated land cover type is addressed at various points in Chapter 12. The commenter is referred to pages 12-1, 12-33 and 12-35. The discussion on these pages clearly states why cultivated land is not considered a natural community for the purposes of CEQA and NEPA

DEIRS Ltr#	Cmt#	Comment	Response
		community. On page 12-2075, the EIR/EIS states "because cultivated lands is not a natural community and because effects of its loss are captured in the individual species analyses, there is no separate analysis of this land cover type presented here." On p. 12-3253, however, agriculture is listed on a table entitled "Overlap by Major Natural Community Type for Yolo Natural Heritage Program.'' On page 3.4-83 of the BDCP, cultivated lands is listed in as one of the natural communities in Table 3.4.3-1, "Natural Community Siting and Reserve Design Requirements." The BDCP and the EIR/EIS should consistently label cultivated lands as a natural community and the EIR/EIS should provide the same analysis of cultivated lands as it does for other natural communities.	compliance, but is addressed along with the other natural communities found in the Plan Area. It also indicates why the BDCP includes cultivated land as a natural community in compliance with the Natural Communities Conservation Plan Act. All effects of Plan implementation on special status species are addressed in the context of the species impacts. The effects of losing cultivated land from agricultural and socioeconomic perspectives are addressed in Chapters 14 and 16 of the Draft EIR/EIS, respectively. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component. Please note that the BDCP is no longer the preferred alternative.
1730	18	Clarify statement re: Yolo HCP/NCCP giant garter snake strategy The following is a confusing statement related to the Yolo HCP/NCCP giant garter snake conservation strategy and needs to be clarified: "The BDCP targets 600 acres nontidal marsh restoration (crosswalked to "wetlands" in this analysis), 200 acres of grassland protection or restoration, and 700 acres of cultivated lands protection within or adjacent to habitat occupied by the giant garter snake Yolo/Willow Slough subpopulation in CZ 2, entirely within Yolo County. The YNHP also has conservation targets for giant garter snakes in this subpopulation, but it is focused in the YNHP Willow Slough Basin Planning Unit, only a small portion of which overlaps with the BDCP Plan Area. The two plans could work together to jointly achieve conservation for giant garter snake in the Yolo/Willow Slough subpopulation." (page 12- 3269). The Yolo HCP/NCCP will focus on the Yolo Bypass for giant garter snake conservation, which is entirely within the BDCP Plan Area. There is, therefore, potential for significant conflict between the BDCP and the Yolo HCP/NCCP with regard to giant garter snake conservation. It is unclear how the two plans could work together to achieve giant garter snake conservation unless there are sufficient willing landowners interested in selling giant garter snake easements in the overlap area. This issue should also be further discussed through the MOU process.	Please see the response to Comment 1730-5.
1730	19	Source of 1,000 acres of cultivated land acquisition for Swainson's hawk foraging habitat unclear On page 12-3270, the EIR/EIS states a target of only 1,000 acres of cultivated land easement acquisition for Swainson's hawk foraging habitat in the overlap area. This is inconsistent with other estimates provided by BDCP consultants and in other tables. The other numbers in this same paragraph need to be double-checked as well, as they do not appear accurate.	The estimate is correct of 1,000 acres of cultivated land acquisition in Yolo County within the overlap area of the public draft BDCP and the Yolo County HCP/NCCP (page 12-3270 of the draft EIR/EIS). As explained in that section, the actual amount of cultivated land acquisition in Yolo County could be higher or lower than this estimate because there are no specific requirements to acquire cultivated land in Yolo County. Please note that with the much lower requirement to acquire cultivated land suitable for Swainson’s hawk under the proposed project, little if any cultivated land is expected to be acquired in Yolo County.
1730	20	ATT4: Report entitled The Yolo Natural Heritage Program Interface with the Bay Delta Conservation Plan Background, Summary, and Remaining Issues May 23, 2013	This comment describes the title of an attachment to the comment letter.
1730	21	The Yolo Natural Heritage Program (Yolo HCP/NCCP) and Bay Delta Conservation Plan (BDCP) Plan Areas overlap (Figure 1-2 from 2013 BDCP draft). The Yolo HCP/NCCP encompasses the entirety of Yolo County, covering an area of 653,820 acres of which approximately 108,000 acres in Yolo HCP/NCCP Planning Units 15-18 and 21 overlap with the BDCP Plan Area (Figure 1). The BDCP encompasses the statutory Sacramento-San Joaquin Delta as defined in the California Water Code, Section 12220 and additional lands in the upper Yolo Bypass and Suisun Marsh necessary to implement the proposed BDCP conservation actions. In addition, the BDCP has adjusted its planning area to allow the BDCP to undertake conservation actions in Yolo County that could lead to additional overlap with	Please see response to Comment 1730-5.

DEIRS Ltr#	Cmt#	Comment	Response
		the Yolo HCP/NCCP. The BDCP has expanded the BDCP Plan Area to allow for protection of approximately 1,400 acres of giant garter snake habitat in Planning Unit 11 adjacent to and west of the Yolo Bypass. The Yolo HCP/NCCP and BDCP both cover the following 18 species. Each plan also covers other species as well (e.g. BDCP covers fish species). --Alkali-milkvetch --Western pond turtle --Brittlescale --Giant garter snake --San Joaquin spearscale --Swainson's hawk --California linderiella --White-tailed kite --Conservancy fairy shrimp --Western burrowing owl --Midvalley fairy shrimp --Western yellow-billed cuckoo --Vernal pool fairy shrimp --Least Bell's vireo --Valley elderberry longhorn beetle --Yellow-breasted chat --California tiger salamander --Tricolored blackbird The BDCP is proposing to implement several conservation measures within the shared portions of the Yolo HCP/NCCP and BDCP plan areas. The proposed BDCP conservation measures include: (1) physical modifications to the Fremont Weir and Yolo Bypass to provide habitat for juvenile salmon and splittail, as well as upstream passage for salmon other fish species (the Yolo HCP/NCCP does not cover fish species); (2) potential channel margin restoration along Sutter and Steamboat Sloughs and the Sacramento River; (3) tidal habitat restoration within the southern portion of the Yolo Bypass for the delta smelt (an endangered fish); and (4) habitat protection. These conservation measures would be implemented in BDCP Conservation Zones 2 and 3, which include portions or all of Yolo	

DEIRS Ltr#	Cmt#	Comment	Response
		HCP/NCCP Planning Units 15-18, and 2.1	
1730	22	ATT4: ATT1: Map Illustrating BDCP Plan Area in Relation to Neighboring Conservation Plan Boundaries	This comment is a map attached to the comment letter.
1730	23	BDCP Fremont Weir and Yolo Bypass Modifications and Operations. The BDCP includes a conservation measure to modify the Fremont Weir and Yolo Bypass and to operate the Fremont Weir to increase the availability of floodplain habitat for spawning and rearing for juvenile salmon and splittail, increase food production on and downstream of the Yolo Bypass, and improve fish passage in and near the Yolo Bypass for adult salmon, sturgeon, and other fish species. The Fremont Weir and Yolo Bypass will be modified with an operable gate and operated to improve rearing and spawning habitat for covered fish species, provide for a higher frequency and duration of inundation of the Yolo Bypass, and improve fish passage in the Yolo Bypass, Putah Creek, and past the Fremont and Sacramento weirs. These actions are expected to result in some removal of riparian, grassland, wetland, and agricultural habitats within the footprint of new structures and could alter the farming practices if necessitated by BDCP Fremont Weir operations. (The BDCP has not yet fully developed the Yolo Bypass project and Yolo County is working with BDCP to identify and minimize potential impacts of the proposal.) Implementation of this BDCP conservation measure affects Yolo HCP/NCCP natural communities and covered species in Yolo HCP/NCCP Planning Units 17 and 18, including giant garter snake habitat if farmers can no longer produce rice in the Yolo Bypass as a result of increased flooding.	Please see the response to Comments 1730-2 and 1730-5.
1730	24	Habitat Protection and Restoration. The BDCP includes the following actions to protect and restore habitat, a portion of which could be implemented in the Yolo HCP/NCCP Plan Area. Maps from the draft plan showing giant garter snake and Swainson's hawk habitat in Yolo County are included at the back of this paper for comparison, since these are the two species for which there may be the most significant overlap with BDCP conservation efforts.	Please see the response to Comment 1730-2. Please also see Chapter 12 of the Final EIR/EIS for information regarding Terrestrial Biological Resources and Master Response 5.
1730	25	Restoration of over 5,000 acres of tidal habitat in the Cache Slough/lower Yolo Bypass area, some of which could be implemented in Planning Unit 18. This habitat is primarily focused on restoring habitat for covered fish species, but will also provide benefits for many terrestrial covered species. (Based on conversations with BDCP staff, it is expected that approximately 1,400 acres of this tidal marsh restoration will occur in Yolo County on the Yolo Ranch. The rest is expected to occur in Solano County.)	Please see the response to Comment 1730-5.
1730	26	Restoration of at least 5,000 acres of riparian habitat, some of which could be implemented in the Planning Units 15, 17, 18, and 21. At least 3,000 acres of the restored riparian habitat will occur on restored floodplains in the south or east Delta. The remaining acreage can be distributed throughout the BDCP plan area, a portion of which is likely to occur as a component of the tidal habitat restoration in the Cache Slough/lower Yolo Bypass area. Restoration of at least 600 acres of nontidal wetland in Planning Units 17, 18, or 11. [footnote 1: BDCP has expanded its Plan Area to include a portion of Planning Unit 11 to accommodate protection and restoration of giant garter snake habitat, of which nontidal wetland is a component.] Protection and enhancement of 5,000 acres of managed wetland, some of which could be implemented in Planning Units 17 and 18. It is likely that protection and enhancement of managed wetland will be focused in Solano County to meet the needs of species that occur in Suisun Marsh.	Please see the response to Comment 1730-5.

DEIRS Ltr#	Cmt#	Comment	Response
1730	27	Protection of grassland, some of which could be implemented in Planning Unit 18. The majority of the conservation would occur in BDCP conservation zones outside Yolo County.	Please see the response to Comment 1730-5.
1730	28	Restoration of 2,000 acres of grassland, some of which could be implemented in Planning Units 11, 16, and 18 to provide upland habitat adjacent to tidal and nontidal wetlands.	Please see the response to Comment 1730-5.
1730	29	Protection of at least 45,405 acres of cultivated lands throughout the BDCP plan area, much of which will be required to be in alfalfa rotation, and plant trees and establish hedgerows on protected lands, some of which could be located in Planning Units 15-18. This protection of cultivated lands is primarily driven by the needs of the Swainson's hawk, sandhill crane, and giant garter snake, but several other covered species will also benefit. Protection of at least 50 acres of occupied/recently occupied tricolored blackbird nest sites, some of which could be implemented in Planning Units 15-18 if unprotected tricolored blackbird nest sites are present. These habitat restoration and protection objectives will be implemented such that at least 800 acres of giant garter snake habitat is restored and at least 700 acres, comprised of cultivated lands, is protected (at least 500 acres of rice) adjacent to the Yolo Bypass (Planning Units 17 and 18).	Please see the response to Comment 1730-2. Please also see Master Response 5.
1730	30	Coordination with local HCP/NCCPs. The BDCP overlaps several HCP and NCCP plan areas, in addition to the Yolo HCP/NCCP. To coordinate BDCP implementation in overlapping plan areas, the BDCP proposes to enter into partnerships with the HCP/NCCP Implementing Entities. The 2013 draft of the BDCP identifies the following criteria for establishing these partnerships (Section 3.2.4.2.3 on page 3.2-26 and 3.2-27). --The BDCP is responsible for the mitigation of its effects. --The mitigation actions and the 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). --In cases where the BDCP shares the goal of providing for the conservation of covered species with another conservation program, where actions contributing to species or natural community conservation are not related to either program's mitigation requirements and limited opportunities exist for either plan to achieve its goal separately, the BDCP and the other conservation program may share conservation credit for the same action with fish and wildlife agency approval. (This situation is most likely to arise for requirements to protect rare and fragmented natural communities.) Actions contributing to species or natural community conservation, when implemented by another conservation program in the Plan Area on behalf of the BDCP, could be funded by the BDCP to cover the costs of initial implementation, long-term management, long-term monitoring, and remedial actions.	Please see the response to Comment 1730-5.
1730	31	The Yolo HCP/NCCP will comment on the 2013 draft of the BDCP. It is important to keep in mind, however, that the BDCP (as an HCP/NCCP) must be granted a permit by the state Department of Fish and Wildlife and U.S. Fish and Wildlife Service, similar to the Yolo HCP/NCCP. As a result, the wildlife agencies view of acceptable means to coordinate overlapping plan areas is more important than language in the draft BDCP document. DFW staff have expressed that the language in the BDCP draft is not permit-worthy. In addition,	Please see the response to Comment 1730-5.

DEIRS Ltr#	Cmt#	Comment	Response
		DFW staff have consistently indicated over time that it is unlikely the BDCP and other conservation programs may share conservation credit for the same action with fish and wildlife agency approval. DFW staff have further indicated that additional discussion is needed to determine whether actions implemented by another conservation program in the Plan Area on behalf of BDCP to achieve species or natural community conservation goals could receive funding from BCP to cover the costs of initial implementation, long-term management, long-term monitoring, and remedial actions.	
1730	32	Issues The Joint Powers Agency (JPA) has identified the following related to implementation of BDCP actions in the Yolo HCP/NCCP Plan Area that the JPA, wildlife agencies, and BDCP will need to resolve. Mechanism for achieving conservation objectives in BDCP overlap areas. The JPA, BDCP, and the wildlife agencies, must establish a mechanism to provide assurances to all parties that the conservation objective for covered species can be met in the area of overlap between the Yolo HCP/NCCP and BDCP by either or both plans. The California Department of Fish and Wildlife (CDFW) and United States Fish and Wildlife Service (USFWS) have indicated they will work with the Yolo HCP/NCCP to establish the conservation objective for species covered by both plans in the area of plan overlap, independent of the mitigation requirements of either plan, and based upon the guidance of published recovery plans and the best available science. Where actions contributing to species or natural community conservation are not related to either program's mitigation requirements, the wildlife agencies have indicated that either plan or both plans may contribute to meet the conservation objective, with agreements and assurances made through an implementing instrument such as a Memorandum of Understanding (MOU). Given limited availability of local sources of funding to meet Yolo HCP/NCCP habitat restoration and protection objectives, coordination with BDCP may be a critical component of the success of the Yolo HCP/NCCP. Further discussion about potential increases in funding to the Yolo HCP/NCCP in return for coordination with BDCP and/or means to reduce Yolo HCP/NCCP costs will be a critical component of future discussions with both BDCP and the wildlife agencies.	Please see the response to Comment 1730-5.
1730	33	Issues The Joint Powers Authority (JPA) has identified the following related to implementation of BDCP actions in the Yolo HCP/NCCP Plan Area that the JPA, wildlife agencies, and BDCP will need to be resolve. Mitigation for BDCP impacts outside of Yolo County within Yolo County (and vice versa). The JPA, wildlife agencies, and BDCP need to develop policies related to BDCP mitigation efforts implemented in the Yolo HCP/NCCP Plan Area for impacts of BDCP actions outside of the Yolo HCP/NCCP Plan Area and vice versa -- the potential for BDCP to mitigate outside of the Yolo HCP/NCCP Plan Area for BDCP impacts in the Yolo HCP/NCCP Plan Area. Both situations could negatively affect the ability of the JPA to achieve Yolo HCP/NCCP biological objectives.	Please see the response to Comment 1730-5.
1730	34	Issues The Joint Powers Authority (JPA) has identified the following related to implementation of BDCP actions in the Yolo HCP/NCCP Plan Area that the JPA, wildlife agencies, and BDCP will need to be resolve.	Please see the response to Comment 1730-5.

DEIRS Ltr#	Cmt#	Comment	Response
		Assurances re Yolo HCP/NCCP permit commitments. The JPA, wildlife agencies, and BDCP need to discuss the possibility of U.S. Fish and Wildlife Service and DFW assurances in the Yolo HCP/NCCP regarding any failure of Yolo HCP/NCCP to achieve Yolo HCP/NCCP permit commitments resulting from implementation of permitted BDCP actions. Such assurances would include mechanisms for ensuring Yolo HCP/NCCP commitments can be achieved into the future regardless of BDCP conservation actions in Yolo County. The wildlife agencies have indicated that if BDCP is permitted first, the JPA and the wildlife agencies should be able to anticipate some of BDCP's implementation actions, so the Yolo HCP/NCCP could be developed in coordination with BDCP implementation actions.	
1730	35	Issues The JPA has identified the following related to implementation of BDCP actions in the Yolo HCP/NCCP Plan Area that the JPA, wildlife agencies, and BDCP will need to be resolve. Consistency of BDCP and Yolo HCP/NCCP implementation actions. The JPA, wildlife agencies, and the BDCP need to ensure consistency of BDCP habitat restoration, protection, and management actions in the Yolo HCP/NCCP Plan Area with Yolo HCP/NCCP implementation requirements (e.g., mitigation requirements, application of conservation land assembly principles). The wildlife agencies have indicated there is a mechanism for addressing the consistency issue through a process that is part of the Natural Community Conservation Planning Act related to interim projects, which needs to be further explored as part of this discussion. BDCP proposed actions currently include, for example, the easement requirement for Swainson's hawk of maintaining 50% of land under Swainson's hawk easements in alfalfa in perpetuity. Some farmers have expressed concern about such requirements and therefore more discussions with landowners and farmers are needed before the JPA can agree to base the Yolo HCP/NCCP conservation strategy on such requirements. (See Swainson's hawk issue paper developed by the JPA.) Another example includes mitigation for loss of giant garter snake habitat in the Yolo Bypass (e.g. rice and wetlands). The U.S. Fish and Wildlife Service is currently considering permitting a giant garter snake mitigation bank in the Bypass, but the USFWS recovery strategy for giant garter snake discourages preservation of giant garter snake habitat in the Bypass. Such issues need to be resolved as both BDCP and the Yolo HCP/NCCP move forward. [footnote 2: The Bay Delta Field Office of the USFWS will likely be providing some language to help clarify any issues regarding mitigation banks.]	Please see the response to Comment 1730-5.
1730	36	Issues The JPA has identified the following related to implementation of BDCP actions in the Yolo HCP/NCCP Plan Area that the JPA, wildlife agencies, and BDCP will need to be resolve. Land cost increases or other impacts resulting from competition. The wildlife agencies, BDCP and the JPA need to identify mechanisms for avoiding/minimizing competition between Yolo HCP/NCCP and BDCP for acquisition of lands necessary for Yolo HCP/NCCP and BDCP to achieve their biological goals and objectives and permit commitments. Such mechanisms could include coordination prior to making offers to purchase available land from willing sellers. Without such coordination, land and easement costs could increase as a result of competition between BDCP and the Yolo HCP/NCCP for conservation lands for covered species in Yolo County. (In Merced County, the University of California at Merced paid a large sum for land to mitigate for vernal pool impacts. This purchase impacted the price of land for vernal pool mitigation within the County.) Such mechanisms should include	Please see the response to Comment 1730-5.

DEIRS Ltr#	Cmt#	Comment	Response
		policies for ensuring effective coordination between the Plans during implementation to avoid conflicts and to increase implementation cost effectiveness (e.g., consolidated monitoring of biological resources, management of contiguous YOLO HCP/NCCP and BDCP conservation lands) and mechanisms for addressing any impacts of BDCP actions on Yolo HCP/NCCP protected lands.	
1730	37	ATT4: ATT2: Yolo Natural Heritage Program Map Depicting Swainson's Hawk Modeled Habitat and Nest Sites	This comment describes attachment map attached to the comment letter.
1730	38	ATT4: ATT3: Map Provided by Yolo Natural Heritage Program Showing Giant Garter Snake Modeled Habitat and Occurrences	This comment describes attachment map attached to the comment letter.
1731	1	By this letter, the San Joaquin River Exchange Contractors comment upon and object to the Draft Environmental Impact Report I Environmental Impact Statement (DEIR/EIS) and the draft Bay Delta Conservation Plan (BDCP). While the flaws in the BDCP and DEIR/EIS are numerous, this comment letter focuses on the most glaring: (I) the lack of assured funding for the BDCP and specifically for its Habitat Conservation Plan (HCP) and (2) the plan's failure to consider levee maintenance integral to the project. The San Joaquin River Exchange Contractors believe that compliance with NEPA, CEQA and the requirements of Federal Endangered Species Act (16 USC 1530 et seq) including the requirements of a valid HCP plan can only be accomplished if the proponents of this project prior to attempting to circulate and receive final comments upon the environmental examination implement and demonstrate their funding plan is feasible. Such a plan would assure that either the bond funds specified to be used for environmental mitigation have been placed upon statewide or local ballots for voter approval and approved in advance of the certification of the project so that the project and alternatives are accurately described or if the environmental mitigation and levee repair obligations are not to be funded by state voter approved bonds and repaid from state general funds, an alternative funding plan is shown to be feasible. Recirculation when the Project is accurately described and funding is approved by the voters will remedy these fundamental flaws.	Please note that the proposed project (Alternative 4A) no longer includes the BDCP, and therefore no longer needs to meet the funding assurances requirements of an HCP or NCCP. 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. Please see Master Response 5 regarding funding. With regard to levee repair obligations, please see Final EIR, Appendix 6A, BDCP/California WaterFix Coordination with Flood Management Requirements.
1731	2	The comments to this document will no doubt demonstrate by citation to judicial precedent, that there are many ways to say the obvious: CEQA, NEPA and the principles of Habitat Conservation Plans do not permit a project to be put forward which is not financially feasible, and depends on measures and mitigation devices which are not actually available. The NEPA, CEQA and HCP require facts, available and feasible mitigation and other measures and without those "facts" the project description is so uncertain as to not allow analysis of the impacts and alternatives. If the voters of the State do not authorize the funding of the environmental mitigation and use of existing authorized public debt, the repayment obligations can be assigned to specific parties benefitting from the project if it is feasible for them to bear those costs or the project must not be certified as correctly and accurately described. The idea of putting an approved environmental project on the shelf and awaiting a physical catastrophe in the Delta to fund the environmental mitigation contemplated is simply not in accordance with law.	Please see Response to Comment 1731-1 regarding the new proposed project. Please see Master Response 5 regarding proposed project cost and funding estimates.
1731	3	The HCP May Not Rely on Speculative and Uncertain Funding Sources The BDCP and its Habitat Conservation Plan (HCP) rely on many speculative and uncertain funding sources. The Federal Endangered Species Act only allows an incidental take permit to be issued if "the applicant will ensure that adequate funding for the [habitat conservation] plan will be provided." 16 U.S.C. [Section] 1539(a)(2)(b)(iii) (emphasis	Please see Response to Comment 1731-1 regarding the new proposed project. Please see Master Response 5 regarding BDCP funding as well as for additional detail on the BDCP and the alternatives involving an HCP component.

DEIRS Ltr#	Cmt#	Comment	Response
		added). This requires that the funding source not be speculative or uncertain. See e.g., Sierra Club v. Babbit, 15 F. Supp. 2d 1274, 1282 (reliance on speculation as to funding from third parties is arbitrary and capricious); Sierra Club v. Marsh, 816 F.2d 1376 (9th Cir. 1987) (action agency cannot "insure" project will not jeopardize species based on promise of future mitigation measures). To approve an HCP whose funding is not ensured because it is speculative or uncertain is arbitrary and capricious. See Southwest Ctr. for Biological Diversity v. Barbel, 470 F. Supp. 2d 1118, 1156-57; Sierra Club v. Babbit, 15 F. Supp. 2d 1274,1282 (reliance on speculation as to funding from third parties is arbitrary and capricious). The California ESA similarly requires that funding for mitigation measures be "ensured." Cal. Fish & Game Code [Section] 2081(b)(2), (4). The California Environmental Quality Act also requires that mitigation measures be feasible and "actually be implemented as a condition of development." 83 Cal. App. 4th 1252, 1260-61 (citing CEQA [Sections] 21002.1, 21081(b); CEQA Guidelines, [Section] 15091(b). The BDCP relies upon speculative and uncertain funding sources for implementing the required mitigation measures, including bonds that have yet to be proposed, let alone approved by voters; grant money that has not been rewarded or earmarked, from programs that aren't guaranteed to last the life of the BDCP; and speculative contributions from project contractors who have not made funding commitments.	
1731	4	State-issued general obligation bonds are heavily relied upon for BDCP funding. See BDCP at 8-67 to 8-69. The plan assumes that it will receive $1.514 billion from what has turned out to be a highly contentious and uncertain water bond that will be included on the 2014 ballot, followed by an even larger amount ($2.25 billion) in a yet to be proposed (let alone approved) water bond at some point in the future. See BDCP at 8-84 to 8-85. There is absolutely no certainty that this $3.8 billion will ever be approved by voters. Indeed, the value of the 2014 water bond, its contents, and its chances for approval are currently a subject of great debate: Legislators have been proposing all manner of modifications to the 2014 water bond and many stakeholders have been demanding that the bond be "tunnel neutral" - that is, that the water bond not directly provide any funds for EIR/EIS twin tunnel planning, design or environment mitigation related to the BDCP. And, even if a bond is approved by voters, it would still be subject to bond validation challenges. Reliance on the approval of a contentious proposal by the voting public is far from the assurance of funding required by statute. The plan also makes many unrealistic assumptions about the availability of various grant funds, and the likelihood that they will be awarded to support the BDCP. See BDCP at 8-86 to 8-118. The document indicates that the plan or certain components "may be eligible" for certain grant monies. See, e.g., BDCP at 8-87, 8-89. In some cases, the plan acknowledges that the grant funds are already exhausted, but still assumes that they will be (or have been) directed toward components of the BDCP. See, e.g., 8-87. In other cases, the plan assumes that grant programs will continue for the entire duration of the 50-year project implementation period, and that the BDCP will receive significant grants each year, even though there is no guarantee that the grant programs will continue for the life of the project, let alone make consist awards to the project. See, e.g., BDCP at 8-92 ($90 million over 50 years, based on seven years of past grants); 8-93 to 8-94 ($100 million over 50 years, from a program that must be reauthorized every three years); 8-94 to 8-96 ($100 million over 50 years from a program "likely to have some funding available," relying on part on "new sources"). And in other cases, the projected proportion of grant monies directed to the BDCP appears unrealistic compared to past practice. See, e.g., BDCP at 8-101 (in 2012, a program made IS grants totaling $3 million; the BDCP assumes it will receive $2 million per year from this program for the entire 50-year permit term. These optimistic assumptions only mask the reality: The funding sources for the BDCP are speculative and uncertain, and	Please see Response to Comment 1731-1 regarding the new proposed project. Please see Master Response 5 regarding the adequacy of funding for the purposes of the state and federal regulatory requirements for the issuance of incidental take permits as well as for additional detail on the BDCP and the alternatives involving an HCP component. The commenter is correct that future state water bonds cannot be guaranteed. However, as described in Chapter 8, Draft BDCP, the strong track record of the California voters passing water bonds over the last 55 years (see Table 8-47, Draft BDCP) strongly suggests that future water bonds would be passed and provides substantial funding to BDCP. Similar funding sources have been relied upon by other large-scale HCPs and NCCPs in California that were approved by the state and federal wildlife agencies. The EIR/EIS analyzes all alternatives, including Alternative 4A. If the Lead Agencies select an alternative that includes the BDCP, the funding source of a state bond will be updated to reflect the outcomes of the 2014 water bond (Proposition 1) that voters passed. Similarly, other funding sources such as grants and existing bonds, would be updated to reflect their current remaining funds and likelihood of use for BDCP.

DEIRS Ltr#	Cmt#	Comment	Response
		adequate funding is not "ensured."	
1731	5	Finally, the plan assumes that contractors of the State Water Project (SWP) and the Central Valley Project (CVP) will fund huge portions of the HCP, but there is scant assurance that they will actually do so. The BDCP indicates that SWP and CVP contractors will fund 100% of Conservation Measure I.BDCP at 8-77, 9-74. However, the proportions that SWP Contractors and CVP Contractors will contribute has not been determined. BDCP at 8-70. The CVP contractors' participation is not assured at all-the plan only "anticipate[s]" participation from CVP contractors. BDCP at 8-73. The plan presumes that all of the SWP and CVP project water purchasing Contractors will agree to fund Conservation Measure 1 because that measure, standing apart from the other BDCP costs, "may" create economic benefits greater than the initial investment. BDCP at 8-80 to 8-82. The document asserts that the plan is "affordable" because the plan's annual costs are "small in relation to" the gross annual income of individuals living in counties that would benefit from the plan. BDCP at 8-81. It is far from assured that the Contractors' contributions, which are "essential" to the plan, will materialize as suggested in the planning document. BDCP at 8-82.	Please see Response to Comment 1731-1 regarding the new proposed project. For additional information regarding 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.
1731	6	The Environmental Documents Ignore Maintenance Costs for a Major Project Component: Delta Levees According to the planning documents, approximately half of all water exported to the south of the Delta would continue to flow through the Delta, and only half would flow through the new tunnels. Because half of the project water will flow through the Delta, Delta levees must be kept maintained and repaired in order to meet salinity requirements and maintain water quality at the south of Delta pumps. Levee failure in the Delta is a looming concern, and is one of the main justifications for the BDCP. Project proponents argue that if the levees failed in an earthquake, the north of Delta tunnel intakes are necessary to maintain a supply of fresh water to the south. e.g., BDCP at 6-34. However, the plan only provides maintenance funding for about 10% of Delta levees-those relatedto the HCP. BDCP at 4-27 to 4-28. Even though the other levees are necessary for the conveyance of about half the project water to the south Delta, their upkeep is not accounted for. The plan would leave maintenance and repair of this integral project component to local agencies and landowners. BDCP p. 6-35, theorizes that in the case of levee failures appropriate local agencies (i.e. reclamation districts) will provide for reclamation, repair of the islands and removal of flooding conditions. However, a large part of the land protected by these levees will have become owned by DWR the project proponent and how DWR would pay its share of rebuilding levees is not specified. The plan pays so little attention to the hundreds of miles of levees necessary for the operation of the BDCP that they were omitted from the DEIR/EIS project description. DEIR/EIS 3-64 to 3-69. The project description is, therefore, flawed because it fails to include this major component of the project. BDCP proponents cannot avoid responsibility for integral levee maintenance and repair by simply limiting the project description. Rural Land Owners Association v. Lodi City Council, 143 Cal. App. 3d 1013, 1025 (1983) or speculating that there will be sufficient funding for DWR to pay its share of the levee repair and rebuilding costs. A plan that proposes one half of the water exported pass through tunnels and one half be reliant upon levees has to candidly describe how the whole project is feasible, will work and if it does not have economic feasibility simply conclude by accurately describing the alternatives and their impacts. Here, the project description in removing the financial support for levee maintenance through public ownership of presently productive Delta lands and removing the economic support represented by the twin tunnel alternative conveyance must to accurately describe the project explain the likelihood of which levees will not be repaired and reclaimed and the	Please see Appendix 6A in the FEIR/EIS for discussion on DWR consistency with the State Plan of Flood Control (SPFC) and a discussion on project consistency with USACE, CVFPB, and DWR flood standards and regulations. Also, see Appendix 6A for a discussion on existing levee improvement programs and funding mechanisms, which would not be affected by the BDCP/CWF. Refer to Appendix 6A for a discussion on impacts from restoration-related environmental commitments and conservation measures, including the removal of Conservation Measure 2 (Yolo Bypass Enhancements) and substantial reductions in the amount of planned habitat restoration under the new proposed project, Alternative 4A. Appendix 6A also includes a discussion on levees modified by construction of the California WaterFix (CWF), 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.

DEIRS Ltr#	Cmt#	Comment	Response
		effect upon the environment from the absence of those resources to locally support a functioning levee system.	
1731	7	National Marine Fisheries Service and U.S. Fish and Wildlife Service cannot make the determinations to support an HCP which provides sufficient relief from the Federal Endangered Species Act. The Federal Government role and the financing uncertainty are fatal flaws. In addition to the requirement that financing must be assured in order for mitigation and protection measures to be considered (National Wildlife Federation v National Marine Fisheries Service) D.Or 2003254 F.Supp. 2d 1196,1205, funding cannot be adequate if it simply speculates that actions of others will provide the funding or mitigation measures in the future. Southwest Centerfor Biological Diversity v Bartel, 470 F. Supp 2d (SD. Cal 2006) at 1118). San Diego HCP plan rejected because no reliable funding to acquire land for a preserve. Promises to cause bond funding in future inadequate) the Endangered Species Act itself requires that incidental take permits not be granted unless the financially feasible mitigation measures are assured. 16 USC Section 1539(a)(2(B)iv requires that funding of those mitigation or environmental protection measures be assured as a condition of incidental take authority. Here, the CVP and Federal Government are not committed to a particular percentage of the project or environmental mitigation cost and no mechanism for funding that contribution is provided in the document. If the federal government is to appropriate funds and pay toward the costs of the project, the specific percentage and mechanism for payment must be described. Otherwise, the project takes on the image of a shell game in which the project plan is kept alive so that when and if an emergency condition arises, it can be pulled from the shelf and cited as finished even if the conditions described are never really assured to exist.	Please see Response to Comment 1731-1 regarding the new proposed project. 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.
1731	8	Modeling of water operations must be accurate. It need not be perfect but errors which result in an improper project description must be corrected and the impacts of those changes quantified. As the MBK Engineer Report describes, the modeling utilized understates the export of water by the CVP and SWP by approximately 210,000 acre feet per year and incorrectly models the allocation between the pumping at the head of the twin tunnels and the pumping amounts at the South Delta pumps dependent on levee integrity. MBK Report p. 6 and 7. This error potentially understates the effect on delta salinity and flows near the South pumping diversions. The modeling failure to set forth exactly what alternatives and changes in the Coordinated Operating Agreement between the CVP and SWP project operations would accompany the BDCP also leaves the Project improperly described in terms of its potential environmental impacts.	Please see Response to Comment 1731-1 regarding the new proposed project. 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. It appears that this comment was based on the MBK January 2014 review of BDCP modeling. BDCP 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. 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.

DEIRS Ltr#	Cmt#	Comment	Response
			MBK's modeling of Alternative 4 does not allow for the discretion and operations flexibility available for the Delta exports in the summer months, which results in a different split in the exports from the north Delta versus the south (through) Delta compared to BDCP EIR/EIS modeling. As noted in the Tables 5-7 through 5-9 of the Draft BDCP 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 Draft BDCP EIR/EIS. For additional information regarding modeling, please see Master Response 30.
1731	9	Adaptive Management; Deferred Implementation; Decision Trees are not a substitute for or a satisfaction of NEPA, CEQA and HCP requirements. A project description must be "accurate, stable and finite" (Concerned Citizens of Costa Mesa 42 Cal 3d at p. 938) However, here the BDCP pp 3.6-22 and 25 makes clear that the Adaptive Management Team will change Conservation Measures or objectives, as tools and resources are available. The Decision Tree is to determin Delta outflow in the fall and spring yet, there is no decision or standards set forth as alternatives to judge whether SWP and CVP operations will be feasible. The decisions will be made apparently only after the construction and operation of the tunnels begins [(BDCP, p 3.4-25) and (EIS, p 3-207 and 30-208)]. The operations of Shasta Dam, Folsom and Oroville, as a result of the Project alternatives, are not examined or their effects quantified, because the project description simply assumes it is sufficient under the law to not ask for and obtain those requirements before drafting the EIR/EIS. Like funding, if there is a defined project, whether that plan's financial underpinnings and its water outflow underpinnings are feasible, must be included in the EIR/EIS and HCP. The financing by current CVP and SWP purchased water contractors may have little water to purchase and, thus, be unable to support this project. A proper project description requires specific operational criteria to confirm financial feasibility before the payment of environmental mitigation in excess of Conservation Measures is assumable. The water operations anticipated must be first presented to the voters and the State Water Resources Control Board [SWRCB] to have a defined and specific project, and to understand its environmental impacts and alternatives.	Please see Response to Comment 1731-1 regarding the new proposed project. With regard to feasibility of the proposed project operations under Alternative 4A, please refer to chapter 3 of the Final EIR/EIS. Please see Master Response 5 on Costs of Implementation explaining mechanisms regarding financing, such as through revenue bonds. For more detailed information on implementation costs and funding sources please see Ch. 8, BDCP. Funding and feasibility of RDEIR/SDEIS alternatives will be based on user-pay funding as described in the BDCP but as finalized in the selected project and its participants. With regards to the Decision Tree, please see Master Response 44. The BDCP project description allows for long-term adjustments based on adaptive management. For a further explanation, please see Master Response 33 regarding Adaptive Management and Monitoring. Regarding the alleged lack of examination of Shasta, Folsom and Oroville Reservoir operations, the BDCP Alternatives do not include proposals to change operational criteria for Shasta, Folsom, and Oroville Reservoirs. However, modeling was done that considers the changes to storage in these reservoirs under different alternatives and operations in the Delta (BDCP-DEIR/S Appendix 5A, section C (CalSim II and DSM2 Modeling Results). See Master Response 25 regarding upstream reservoir effects. See also Master Response 4 on Adequacy of Alternatives and selection process in EIR/EIS and Master Response 5 on range of Take Alternatives for BDCP. Regarding costs and benefits and financing for BDCP, please see Master Response 5, which explains analysis provided in BDCP Chapters 8 and 9. The costs and financing of, and funding sources, for BDCP are explained in BDCP Chapter 8. If BDCP were to be the approved project, the Implementing Agreement would be signed by federal and state governments, which would commit them to providing their share of funding, which would meet the funding assurances required of an HCP/NCCP. Master Response 5 also explains mechanisms for financing, such as through revenue bonds, and provides an update on general obligation bonds. In 2014, voters approved the $7.12 billion Prop 1 water bond. Funding the cost of CM1, the proposed conveyance facility, and mitigation would be paid by the participating state and federal water contractors. (BDCP Ch. 8.3) The remaining cost of BDCP, approximately one third, would be paid by state and federal funds, which would likely include some funding from general obligation bonds, as explained in BDCP Ch. 8.3 and 8.4. For more detailed information on implementation costs and funding sources please see Ch. 8, BDCP. Regarding a defined and specific project, see Master Response 5 responding to questions on the description and effects of the BDCP conservation measures. In addition, the BDCP-DEIR/S Appendix 5A, sections A, B, C and D describe modeling assumptions and results regarding impacts of proposed operations of CM 1 and BDCP. Further, DWR has authority pursuant to the Central Valley Project Act (WC section 11100) to

DEIRS Ltr#	Cmt#	Comment	Response
			construct and finance the proposed project. (See BDCP Ch. 8). As such, DWR is not required to present the proposed project water operations to a public vote. Also, in August 2015, DWR and Reclamation submitted a petition to the SWRCB for a change in their water right permits for new points of diversion for the proposed project Alternative 4A, which is described in the RDEIR/SDEIS. The petition and RDEIR/SDEIS sufficiently defines the proposed project and its operations to be considered by the SWRCB for the necessary permit. If BDCP were to be selected as the approved project, the petition to the SWRCB would likely be updated but would have similar analysis for water operations and environmental impacts. For updated information regarding the SWRCB petition, please refer to the hearing webpage at http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/water_right_petition.shtml
1731	10	Many major funding sources that the project proponents rely upon are speculative, uncertain, or illusory. The project failed to identify funding for maintenance and repair of a necessary project component-the Delta levees-because it failed to even acknowledge that they are an integral piece of the plan. The mitigation and underlying flow and modeling of flows are so uncertain as to prevent a meaningful project description and consideration of impacts. This EIR/EIS is improper and inadequate and the HCP and the BDCP and its supporting documents must be disapproved due to these egregious errors. Recirculation is required when the voters have approved funding for the environmental improvements planned and the water operations are approved by the State Water Resources Control Board as feasible. Trying to put a project on the shelf on the basis of these documents as completing the EIR/EIS and HCP process so that it can be ignited and everyone will know what to do or forget to do as money gets short when there is a physical failure in the Delta is worse than a lack of preparation because it will give the impression of consideration of alternatives and impacts and cut off real examination of alternatives. If logic does not call for rejection of such a device, the law will.	Please see Response to Comment 1731-1 regarding the new proposed project. Please see Master Response 5 regarding the estimated cost and adequacy of the funding strategy as well as for additional detail on the BDCP and the alternatives involving an HCP component. Note that levee repair throughout the Delta is not part of the proposed project. Delta levee maintenance and repair is a separate DWR program not part of the proposed project. Please see Final EIR/EIS, Appendix 6A. The commenter's opposition to the proposed project is noted.
1732	1	Farmers on Ryer Island own riparian water rights from the Sacramento River and has established these rights for over 100 years. There is considerable concern that the BDCP will increase the salinity for the Sacramento River as more and more fresh water is pumped from the Delta. There is a salinity monitoring station at the Rio Vista Bridge that must be maintained in order to ensure water quality for Ryer Island. Any interference with water quality must be evaluated as part of the EIS/EIR process.	The effects of the project alternatives are fully addressed in Chapter 8, Water Quality. For more information regarding water qualities, including the effects on salinity, please see Master Response 14.
1732	2	We understand that the proposed action will involve the protection of endangered species,limiting incidental takes, but also protecting the water rights of CVP and SWP members up to their contractual limits. There was no mention of protecting riparian water right owners in the project purposes and that must be included. The Delta is a large region and consists of many different interests. The interests of one of the largest agricultural producing regions in the world must be protected. Ryer Island is a significant contributor to the success of agriculture in the Delta, and its resources must be protected. Riparian water rights are the highest, protected type of water rights in California. Farmers on Ryer Island have established these water rights as a result of the existence of the island immediately adjacent to the Sacramento River. The BDCP must ensure that no part of the project will interfere with these rights.	The State Water Resources Control Board 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 modify its own water rights or the water rights of 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 the interests of SWP and CVP contractors. For more information regarding water rights, including riparian rights, please see Master Responses 26 and 32.
1732	3	Not only is Reclamation District 501 concerned about water quality, it is also concerned about water quantity. As more and more water is shipped south and now with the two	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
		tunnels bypassing the region, there is considerable concern that the BDCP will result in less fresh water being available for farmers along the path of the San Joaquin and Sacramento Rivers. Steps must be taken to ensure that the quantity of water is maintained in the river to support agriculture	(Alternative 4A/California WaterFix) also is being considered. The proposed project would not modify water deliveries to non-SWP and non-CVP water rights holders. For a discussion of water rights, diversions, and water supply availability, please see Master Response 26.
1732	4	Ryer Island is below sea level and must depend on Reclamation District 501's pumps to keep the island from flooding. However, the farms also have a series of intake pumps to pump water from the river to the island for irrigation. These intakes are set at certain depths and a drop in the level of the river could mean that these would have to reset its intakes deeper in the river	As shown in Appendix 5A, Section C, Tables 32-1 and 32-2, changes in monthly averaged daily minimum surface water elevations in the Sacramento River at Rio Vista and in Steamboat and Sutter sloughs would be less than 1 foot under the action alternatives as compared to No Action Alternative conditions without the Yolo Bypass restoration (both the action alternatives and the No Action Alternative include the same assumptions for climate change and sea level rise which would occur with or without the BDCP/California WaterFix). In the irrigation season, the surface water elevations would either be less than 6-inches lower or higher under the action alternatives as compared to the No Action Alternative.
1732	5	Ryer Island was the subject of a temporary entry permit to investigate the feasibility of using the island as a route for the proposed tunnels. Although the route is not the preferred proposal, it is still an alternative analyzed in the EIS/EIR. RD 501 is adamantly opposed to the destruction of its farm lands for use as a right of way for the tunnel. The disruption caused by the construction alone would destroy Islands, Inc.'s viability as a farming operation. The severance of so much of the farm lands lands from the rest of the farm threaten to make the entire operation economically infeasible.	A description of the process the Lead Agencies followed to develop and screen alternatives is provided in Appendix 3A, Identification of Water Conveyance Alternatives, EIR/EIS. As described in Chapter 16, Socioeconomics, where required, DWR would provide compensation to property owners for economic losses associated with implementation of the proposed BDCP. For more information about the selection and screening of alternatives please see Master Response 4. Please also see Master Response 18 for additional discussion about agricultural mitigation.
1732	6	For the foregoing reasons, Reclamation District 501 asks that you reconsider the proposed project, that you not select Ryer Island as a site for the tunnels, that you protect riparian rights, and that you ensure that water quality and water gauntity are maintained in the Delta.	Please note that since the release of the public Draft EIR/S, a RDEIR/SDEIS has been released, which states the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. As the proposed project, Alternative 4A would not run through Ryer Island. With regard to water rights please see Master Responses 26 and 32. With regard to water quality please see Master Response 14
1733	1	Islands, Inc. owns riparian water rights from the Sacramento River and has established these rights for over 100 years. There is considerable concern that the BDCP will increase the salinity for the Sacramento River as more and more fresh water is pumped from the Delta. There is a salinity monitoring station at the Rio Vista Bridge that must be maintained in order to ensure water quality for Ryer Island. Any interference with water quality must be evaluated as part of the EIS/EIR process.	The effects of the project alternatives are fully addressed in Chapter 8, Water Quality. The water quality assessment addresses effects of changes in salinity on agricultural and fish and wildlife resources due to the project alternatives via the EC assessment (Impact WQ-11) through evaluation of compliance with agricultural and fish and wildlife objectives in the Bay-Delta Water Quality Control Plan and degradation relative to existing conditions and the No Action Alternative. Similarly effects to drinking water uses are addressed via the changes in chloride concentrations in Impact WQ-7. In addition, the assessment of bromide (Impact WQ-5), another salinity-related parameter, addresses effects to drinking water uses via assessing concentrations relative to relevant thresholds and degradation. Where significant impacts to beneficial 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.
1733	2	We understand that the proposed action will involve the protection of endangered species, limiting incidental takes, but also protecting the water rights of CVP and SWP members up to their contractual limits. There was no mention of protecting riparian water right owners in the project purposes and that must be included. The Delta is a large region and consists of many different interests. The interests of one of the largest agricultural producing regions in the world must be protected. Ryer Island is a significant contributor to the success of agriculture in the Delta, and its resources must be protected. Riparian water rights are the highest, protected type of water rights in California. Islands, Inc. has established these water rights as a result of the existence of the island immediately adjacent to the Sacramento River. The BDCP must ensure that no part of the project will interfere with these rights.	The State Water Resources Control Board, not DWR, is responsible for decisions relating to water rights. DWR holds water rights approved by the State Water Resources Control Board but does not have the power or authority to issue water rights to others. Additionally, the proposed project does not seek any new water rights nor include any regulatory actions that would affect water rights holders other than DWR, Reclamation, and SWP and CVP contractors. Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two agencies. Exports do not come at the expense of other water rights holders. The proposed project and its alternatives analyzed in the EIR/EIS only include the use of water from existing SWP and CVP water rights or voluntary water transfers from other water rights holders. The proposed project and its alternatives do not reduce the protections for other water right holders. For more information regarding changes in delta exports please see Master Response 26.

DEIRS Ltr#	Cmt#	Comment	Response
1733	3	Not only is Islands, Inc. concerned about water quality, it is also concerned about water quantity. As more and more water is shipped south and now with the two tunnels bypassing the region, there is considerable concern that the BDCP will result in less fresh water being available for farmers along the path of the San Joaquin and Sacramento Rivers. Steps must be taken to ensure that the quantity of water is maintained in the river to support agriculture.	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) also 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.
1733	4	Ryer Island is below sea level and must depend on Reclamation District 501's pumps to keep the island from flooding. However, Islands, Inc. also has a series of intake pumps to pump water from the river to the island for irrigation. These intakes are set at certain depths and a drop in the level of the river could mean that islands, Inc. would have to reset its intakes deeper in the river.	As shown in Appendix 5A, Section C, Tables 32-1 and 32-2, changes in monthly averaged daily minimum surface water elevations in the Sacramento River at Rio Vista and in Steamboat and Sutter sloughs would be less than 1 foot under the action alternatives as compared to No Action Alternative conditions without the Yolo Bypass restoration (both the action alternatives and the No Action Alternative include the same assumptions for climate change and sea level rise which would occur with or without the BDCP/California WaterFix). In the irrigation season, the surface water elevations would either be less than 6-inches lower or higher under the action alternatives as compared to the No Action Alternative.
1733	5	Ryer Island was the subject of a temporary entry permit to investigate the feasibility of using the island as a route for the proposed tunnels. Although the route is not the preferred proposal, it is still an alternative analyzed in the EIS/EIR. Islands, Inc. is adamantly opposed to the destruct ion of its farm lands for use as a right of way for the tunnel. The disruption caused by the construction alone would destroy Islands, Inc.'s viability as a farming operation. The severance of so much of Islands, Inc's lands from the rest of the farm threaten to make the entire operation economically infeasible.	The effects on agriculture are evaluated in Chapter 14 of the Final EIR/EIS. For additional information regarding agriculture, please refer to Master Response 18.
1733	6	Islands, Inc. asks that you reconsider the proposed project, that you not select Ryer Island as a site for the tunnels, that you protect riparian rights, and that you ensure that water quality and water quantity are maintained in the Delta.	Please note that since the release of the public Draft EIR/S, a RDEIR/SDEIS has been released, which states the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A would not run through Ryer Island.
1734	1	The Center for Biological Diversity ("Center") is writing to provide comments on the Draft Environmental Impact Report/Environmental Impact Statement ("DEIR/EIS") for the draft Bay Delta Conservation Plan ("BDCP"). When finalized, this DEIR/EIS and the BDCP will be used as an application to obtain an incidental take permit ("ITP") and a Natural Community Conservation Planning ("NCCP") permit. If the ITP and NCCP permit are issued they will result in the killing of significant members of endangered and threatened aquatic species, which have already suffered drastic population declines due to ongoing water diversions from the Delta since the 1940s, as well as a decrease in the critical habitats they depend on. The BDCP will also result in the killing of significant members of endangered and threatened terrestrial species. Agencies' approval of the BDCP will violate federal and state laws including the Federal Endangered Species Acts ("ESA"), the California Endangered Species Act ("CESA"), the Natural Community Conservation Planning Act ("NCCPA"), and the National Environmental Policy Act ("NEPA"), and the California Environmental Quality Act ("CEQA").	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. 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

DEIRS Ltr#	Cmt#	Comment	Response
			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 comment contains the opinion of the commenter and does not require a response or change in Chapter 12 of the Draft EIR/EIS.
1734	2	Legal Standards. The draft Bay Delta Conservation Plan ("BDCP") lays out strategies that aim to protect and restore water supply, water quality, and ecosystem health in the Delta. If finalized, the BDCP would serve as a habitat conservation plan under the federal Endangered Species Act ("ESA") and a natural community conservation plan under California's Natural Community Conservation Planning Act ("NCCPA"). The purpose of the BDCP is to support the issuance of take permits from the U.S. Fish and Wildlife Service ("FWS"), the National Marine Fisheries Service ("NMFS"), and the California Department of Fish and Wildlife ("CDFW"). [footnote 1: Draft BDCP, at 1-1.]	See response to comment 1734-1.
1734	3	Endangered Species Act The ESA was created with the purpose of providing a program to conserve endangered and threatened species. 16 U.S.C. [Section] 1531(b). To conserve within the ESA means to bring an endangered or threatened species to the point in which it no longer needs protection under the act, by whatever means necessary. 16 U.S.C. [Section] 1532(3). To achieve the goal of conservation, section 9 of the ESA prohibits any person from "taking" any endangered or threatened species. 16 U.S.C. [Section] 1538(a)(1). "Take" is broadly defined under the ESA to include shooting, trapping, wounding, hunting, harassing, harming, collecting, or pursing, or to attempt any such conduct. 16 U.S.C. [Section] 1532(19). It is also unlawful for any person to solicit a third party to commit a taking or cause a taking to be committed. 16 U.S.C. [Section] 1538(g). A "person" includes any private entity and any instrumentality of a local, state, or federal government. 16 U.S.C. [Section] 1532(13). Exceptions to the prohibitions on "take" are found in section 10 of the ESA. The U.S. Fish and Wildlife Service is authorized to issue Incidental Take Permits ("ITPs") to any "person" when the taking is "otherwise prohibited by section 1538(a)(1)(B) of this title if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity." 16 U.S.C. [Section] 1539(a)(1)(B). An applicant seeking an ITP must submit a Habitat Conservation Plan ("HCP") to the Fish and Wildlife Service prior to approval of the application. 16 U.S.C. [Section] 1539(a)(2)(A). An HCP is required to include, at a minimum, the following information: (1) a complete description of the activity sought to be authorized; (2) the common and scientific names of the species sought to be covered by the permit, and if known, also the number, age, and sex of such species; (3) the impact that will likely result from the taking; (4) the applicant's plan to monitor, minimize, and mitigate the impacts; (5) what funding will be available to	This comment describes the content and intent of the Endangered Species Act and does not require a response or modification to Chapter 12 of the Draft EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		implement such a plan; (6) what procedures are will be used to handle unforeseen circumstances; and (7) what actions alternative to take the applicant has considered, and the reasons why such alternatives are not planning to be utilized. 50 C.F.R. [Section] 17.22(b)(1)(i)-(iii); 16 U.S.C. [Section] 1539(a)(2)(A)(i)-(iv). The Fish and Wildlife Service and National Marine Fisheries Service (collectively "the Services") must make the following findings before issuing the ITP: (1) the taking will be incidental; (2) the applicant will minimize and mitigate the impacts of the taking to the maximum extent practicable; (3) the applicant will ensure adequate funding for the conservation plan will be provided; (4) the taking will not appreciably reduce the likelihood of the recovery and survival of the species in the wild; (5) any additional measures, if any, required by the Services will be met; and (6) the Services have received additional assurances as it requires that the conservation plan will be implemented. 16. U.S.C. [Section] 1539(a)(2)(B)(i)-(v); 50. C.F.R. [Section] 17.22(b)(2)(i). If the Services have made all of the requisite findings, it shall issue the ITP. 16 U.S.C. [Section] 1539(a)(2)(B)(v). The Services can include any terms and conditions in the permit that it deems necessary or appropriate. Id. If the Services find the permittee is not complying with the terms and conditions of the permit, the agencies will revoke the permit. Id.	
1734	4	Natural Community Conservation Planning Act The NCCPA was created in response to the continuing population growth in California that has resulted in an increasing demand for natural resources and a decline in the state's wildlife. Cal. Fish & Game Code [Section] 2801. The goal of the NCCPA is to protect the natural diversity in California while easing the conflict between using the state's natural resources for economic development and protecting the state's wildlife heritage. Id. The California Department of Fish and Wildlife ("CDFW") may enter into an agreement with any person for the purpose of preparing a natural community conservation plan ("NCCP"). Cal. Fish & Game Code [Section] 2810. The agreement is to provide comprehensive conservation and management of multiple wildlife species. Id. The agreement must meet the following conditions: (1) the agreement must be binding upon CDFW, any participating government agencies, and participating landowners; (2) the agreement must define the geographic scope of the conservation planning area; (3) the agreement must identify the natural communities that are intended to be in the initial focus of the plan, along with a list of endangered, threatened, candidate, or other species known, or reasonably expected to be found, in the communities; (4) the agreement must identify preliminary conservation objectives for the planning area; (5) the agreement must identify a process to include independent scientific input to assist the plan participants and CDFW; (6) the agreement must coordinate with federal wildlife agencies to act pursuant to the ESA; (7) the agreement must encourage planning for wetlands and waters of the United States; (8) the agreement must establish an interim process for review of projects within the plan that are subject to CEQA and may potentially conflict with conservation objectives in the planning agreement to take place prior to the project application being completed or as soon as possible; the CDFW may recommend mitigation measures or project alternatives to help achieve conservation objectives; and (9) the agreement must create a process for public participation throughout the development of the plan. Id. There are several findings the CDFW must make before it approves a NCCP for implementation. Based on substantial evidence in the record, the CDFW must find the following: (1) the plan was developed pursuant to the requirements in section 2810 of the	This comment describes the content and intent of the Natural Community Conservation Planning Act and does not require a response or modification to Chapter 12 of the Draft EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		NCCPA [listed above]; (2) the plan integrates adaptive management [footnote 2: "Adaptive management" means "to use the results of new information gathered through the monitoring program of the plan and from other sources to adjust management strategies and practices to assist in providing for the conservation of covered species." Cal. Fish & Game Code [Section] 2805(a).] strategies that are continually evaluated and modified based on new information to assist in providing for the conservation of covered species and ecosystems in the plan area; (3) the plan provides conservation measures that protect habitat, natural communities, and species diversity within the plan area; (4) the development of reserve systems and conservation measures; (5) the plan identifies activities allowed within the reserve areas that are compatible with the conservation measures, along with restrictions on those activities; (6) the plan provides specific conservation measures, based on the best available scientific information, that meet the biological needs of covered species; (7) the plan includes a monitoring program; (8) the plan includes an adaptive management program; (9) the plan contains the estimated timeframe and process by which the reserves and other conservation measures are to be implemented, along with obligations of landowners and plan signatories and consequences of the failure to acquire land in a timely manner; and (10) the plan includes provisions that ensure adequate funding to carry out the conservation measures provided in the plan. Cal. Fish & Game Code [Section] 2820. If CDFW approves the NCCP, it may also issue a permit authorizing the taking of any covered species. Cal. Fish & Game [Section] 2835. The taking authorized by the permit includes species designated as fully protected species (pursuant to sections 3511, 4700, 5050, or 5515 of the Fish & Game Code) or species whose conservation and management is provided for in a NCCP approved by the CDFW. Id. The CDFW may suspend or revoke any take permit, in whole or in part, if the continued take of the species would jeopardize the continued existence of the species. Cal. Fish & Game Code [Section] 2823.	
1734	5	California Endangered Species Act The California Endangered Species Act ("CESA") was created to conserve, protect, restore, and enhance threatened and endangered species and their habitat. Cal. Fish & Game Code [Section] 2052. To conserve within the ESA means to bring an endangered or threatened species to the point in which it no longer needs protection under the act, by whatever means necessary. Cal. Fish & Game Code [Section] 2061. To achieve the goal of conservation and protection, CESA prohibits any person from taking, possessing, selling, or purchasing any species determined to be endangered or threatened. Cal. Fish & Game Code [Section] 2080. An attempt to commit any of those actions is equally prohibited. Id. The CESA does not define "taking" or "person" as the ESA does. If any person receives an ITP from the FWS pursuant to section 1539 of the ESA that authorizes the taking of an endangered or threatened species, the person does not need any additional authorization under CESA. Cal. Fish & Game Code [Section] 2080.1. However, the person seeking the take still has the following requirements to fulfill: (1) notify the director in writing that he has received an ITP pursuant to the ESA; and (2) include a copy of the ITP in the notice. Id. Although CESA and NCCPA are separate statutes, they share the common objective to minimize take impacts on threatened and endangered species. Environmental Protection Information Center v. California Dept. of Forestry and Fire Protection, 44 Cal.4th 459, 510 (S.C. Cal. 2008). The BDCP is purportedly designed to meet the requirements of CESA and	This comment describes the content and intent of the California Endangered Species Act and does not require a response or modification to Chapter 12 of the Draft EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		comply with section 2081 in addition to the ESA and NCCPA. [footnote 3: Draft BDCP, at 1-6.]	
1734	6	Covered Species. Covered fish species are species that are currently listed as endangered or threatened, or are at risk of being listed as endangered or threatened during the BDCP permit term. [footnote 4: DEIR/EIS, at 11-1.] The BDCP discusses the effects on covered fish species in Chapter 5, Effects Analysis, while the DEIR/EIS discusses the impacts on covered fish species in Chapter 11, Fish and Aquatic Resources. The methods used to analyze the impacts on covered fish species in Chapter 11 of the DEIR/EIS rely on the models and data discussed in Chapter 5 of the BDCP. [footnote 5: DEIR/EIS, at 11-2.] Because of this reliance, flaws in the BDCP's Effects Analysis affect the quality of the analysis in the DEIR/EIS. There are eleven covered fish species discussed in both the BDCP and the DEIR/EIS: delta smelt, longfin smelt, winter-run Chinook salmon, spring-run Chinook salmon, fall-run/late fall-run Chinook salmon, Central Valley steelhead, Sacramento splittail, Southern green sturgeon, white sturgeon, Pacific lamprey, and river lamprey. [footnote 6: DEIR/EIS, at ES-14.] The BDCP also includes forty-five other covered species ranging from mammals, birds, reptiles, amphibians, invertebrates, to plants. [footnote 7: DEIR/EIS, at ES-15 to ES-16.] The BDCP includes fifteen proposed alternatives and a no-action alternative. [footnote 8: DEIR/EIS, at 3-2.] Alternative 4 is the Preferred Alternative and many alternatives are remarkably similar to Alternative 1A. [footnote 9: DEIR/EIS, at 3-3.] Therefore, the following analysis will primarily focus on the effects and impacts that will result if Alternative 4 or Alternative 1A (or a similar alternative) is chosen.	The commenter is correct that the DEIR/EIS uses many of the same models from the 2013 Public Draft. However, this comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. See response to comment 1734-1 regarding the new preferred alternative.
1734	7	The draft BDCP documents and the chosen Preferred Alternative fail to meet its goals and objectives and existing legal standards, and would fail to recover the Delta ecosystem if implemented.	See response to comment 1734-1 regarding the new preferred alternative. The comment does not address specific content in the EIR/EIS.
1734	8	The purposes of the BDCP must be consistent with the overriding objective of the ESA to ensure recovery of endangered and threatened species since it is a habitat conservation plan established under Section 10 of the Act. The draft BDCP is a HCP developed pursuant to the ESA, and therefore must be consistent with the objective of the ESA as well as satisfy the requirements of Section 10 of the ESA. [footnote 10: Habitat Conservation Plan Guidance Document, at 2-1.] The purpose of the ESA is to conserve endangered and threatened species and the ecosystems they depend on. [footnote 11: 16 U.S.C. [Section] 1531(b).] "Conserve" and "conservation" are broadly defined as "the use of all methods and procedures which are necessary to bring any endangered species and threatened species to the point at which the measures provided [by the ESA] are no longer necessary." [footnote 12: 16 U.S.C. [Section] 1532(3) (emphasis added).] Courts have liberally interpreted the ESA, finding that Congress enacted the ESA in order to "halt and reverse the trend toward species extinction, no matter the cost," [footnote 13: Tennessee Valley Authority v. Hill, 437 U.S. 153, 184 (1978).] in order "to allow species to recover to the point it may be delisted." [footnote 14: Alaska v. Lubchenko, 723 F.3d 1043, 1054 (9th Cir. 2013), citing Gifford Pinchot Task Force v. U.S. Fish and Wildlife Serv., 378 F.3d 1059, 1070 (9th Cir. 2004).]	See response to comment 1734-1 regarding the new preferred alternative. The comment does not address specific content in the EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1734	9	The overarching goals of the BDCP are to "advance the restoration of the ecological functions and productivity in the Delta" as well as "restore and protect water supplies provided by the State Water Project ("SWP") and Central Valley Project ("CVP"). [footnote 15: Draft BDCP, at 1-5. The co-equal goals originate from the legislative intent and policy of the state Delta Reform Act of 2009. See California Water Code [Sections] 85001(c) and 85020.] The draft purpose and needs statements for the draft EIR/EIS present similar versions of the co-equal goals of restoring the Delta ecosystem while providing a more reliable water supply for California. [footnote 16: The purpose statement of the EIR pursuant to CEQA states "The purpose of the BDCP 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-Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations." DEIR/EIS, at ES-8. The purpose statement of the EIS pursuant to NEPA states "The purpose of the actions under the BDCP are to consider the application for ITPs for the covered species, improve the ecosystem of the Delta, as well as restore and protect the ability of the SWP and CVP to deliver up to full contract amounts." DEIR/EIS, at ES-9 and ES-10.] It is clear that the overriding objective of the ESA to conserve and recover species using all methods at any cost leaves no room for the goal of increasing reliable water supply since increasing water supply according to the Preferred Alternative will result in the killing instead of conservation of imperiled species. Federal agencies also have a mandatory duty to "afford first priority to the declared national policy of saving endangered species" in their actions." [footnote 17: Tennessee Valley Authority v. Hill, 437 U.S. 153, 185 (1978) (citing 16 U.S.C. [Section] 1531(c)(1)).] Thus federal agencies cannot collaborate with non-federal actors in pursuing both ecosystem restoration and water reliability equally without violating their mandate to prioritize species conservation. Federal agencies' inclusion of coequal goals of the draft BDCP and EIS are thus also inconsistent with and violate the sweeping purpose of the ESA to conserve endangered and threatened species.	See response to comment 1734-1 regarding the new preferred alternative. The comment does not address specific content in the EIR/EIS.
1734	10	The DEIR/EIS alternatives analysis does not consider a reasonable range of alternatives since it only analyzes alternatives that include new water conveyance facilities. A lead agency must consider a reasonable range of feasible alternatives to the project, or to the location of the project, which would achieve most of the basic objectives of the project avoid or substantially lessen any of the significant impacts of the proposed project. [footnote 18: CEQA Section 15126.6(a); State CEQA Guidelines Section 15126.69(a); NEPA Section 1501.1(e).] Although the agency is responsible for choosing the range of project alternatives and must publicly disclose its reasoning for doing so, even though it does not need to consider every alternative. [footnote 19: CEQA Section 15126.6(a).] The project applicants interpret this to mean that the DEIR/EIS needs to assess only those alternatives necessary to permit a reasonable choice and "to foster meaningful public participation and informed decision making." [footnote 20: State CEQA Guidelines Section 15126.6(f).] However, each alternative must also be evaluated at an equal level of detail and must not be so inadequate to preclude meaningful analysis. [footnote 21: C.F.R. 1502.14(b); 40 C.F.R. Sec. 1502.9(a).] Since the inception of the BDCP in 2006 its primary objective has been to develop alternatives with respect to the construction and operation of new conveyance facilities for the movement of water entering the Delta from the Sacramento Valley watershed. [footnote 22: DEIR/EIS, at 3-6.] Currently, all fifteen alternatives in the DEIR/EIS would	ee response to comment 1734-1 regarding the new preferred alternative. The EIR/EIS analyzes all alternatives, including Alternative 4A. 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. Fifteen alternatives and 3 new subalternatives were analyzed in the EIR/S and the RDEIR/RSEIS 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. Many additional proposals by public and private individuals and organizations have also been evaluated and described in Chapter 3 of the EIR/S and Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1. Regarding development of alternatives for the EIR/EIS, a description of the process the Lead Agencies followed to develop and screen alternatives is provided in Master Response 4. For more information regarding environmental commitments please see Appendix 3B of the FEIR/EIS. 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,

DEIRS Ltr#	Cmt#	Comment	Response
		allow the building of at least one new water conveyance structure. Nowhere does the DEIR/EIS discuss the feasibility for achieving the coequal goals of the BDCP without building new water conveyance facilities--which would substantially lessen the significant impacts the BDCP would have on species. The DEIR/EIS includes a disproportionately detailed analysis on alternatives that contain water conveyances, compared to a passing evaluation of the No Action Alternative, violating the requirement to evaluate all alternatives equally. [Center fpr Biological Diversity] supports including a new alternative based on the "Responsible Exports Plan" developed by the Environmental Water Caucus. The plan proposes a comprehensive strategy including conservation, recycling, stormwater capture, etc. [footnote 23: 23 Responsible Exports Plan (May 2013), http://www.ewccalifornia.org/reports/responsibleexportsplanmay2013.pdf.] The Responsible Exports Plan additionally prioritizes the need for a water availability analysis and protection of public trust resources rather than a mere continuation of the status quo that has led the Delta into these dire circumstances. Only this alternative is consistent with the conclusion that more outflow is needed to protect aquatic resources and fish populations, as determined by several state and federal agencies. [footnote 24: State Water Resources Control Board's, 2010 Flows Report, p.2. "Interior 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." USFWS [U.S. Fish and Wildlife Service] May 23, 2011 Phase I Scoping Comments, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts052311/amy_aufdemberge.pdf "Inadequate flow to support fish and their habitats is directly and indirectly linked to many stressors in the San Joaquin river basin and is a primary threat to steelhead and salmon." NMFS [National Marine Fisheries Service] February 4, 2011 Phase I Scoping Comments, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts020811/010411dpowell.pdf; "…current Delta water flows for environmental resources are not adequate to maintain, recover, or restore the functions and processes that support native Delta fish." Executive Summary in 2010 CDFG Flow Criteria. "a strong majority of scientists prioritizes habitat and flow management actions that would restore more natural processes within and upstream of the delta" (p. 2) , available at: http://www.ppic.org/content/pubs/report/R_413EHR.pdf.] The EWC [Environmental Water Caucus] Responsible Exports Plan is feasible and accomplishes project objectives and therefore should be fully analyzed in the final EIR/EIS for the BDCP. Unfortunately, this plan has not been analyzed and must be by analyzed the DEIR as a feasible/reasonable alternative.	that the flow criteria do not consider the balancing of public trust resource protection with public interest needs for water. The flow criteria also did not consider other public trust resource needs such as the need to manage cold-water resources in reservoirs tributary to the Delta. Nonetheless, the flow determinations contained in the Delta Flow Criteria Report, together with recent scientific conclusions of other State and federal agencies, including the Department of Fish and Wildlife, National Marine Fisheries Service, and the Interagency Ecological Program provide a useful guide to establish one side of a reasonable range of alternatives" (State Water Resources Board letter dated April 19, 2011). The information in the flow criteria report was used to inform the development of the proposed project. Please also see Appendix C of the RDEIR/SDEIS Supplemental Modeling Requested by State Water Resources Control Board Related to Increased Delta Outflows.
1734	11	The BDCP's stated purpose is inadequate for obtaining Incidental Take Permits [(ITPs)]for endangered and threatened species since fulfilling this purpose would appreciably reduce the likelihood of survival and recovery of covered species in the wild. Section 10 of the ESA [Endangered Species Act] allows the Services to issue ITPs that would authorize non- federal entities to take endangered and threatened species when the taking is incidental to an otherwise lawful activity. [footnote 25: 16 U.S.C. Section 1539(a).] Non-federal entities apply for an ITP by developing a HCP according to statutory requirements laid out in Sections 10(a)(2)(A) and 10(a)(1)(B) of the ESA. [footnote 26: 16 U.S.C. Section 1539(a)(2)(A) & (2)(B).] There is no legal right to an ITP, and the Secretary must deem the HCP sufficient before issuing the ITP. [footnote 27: Southwest Diversified, Inc. v. City of Brisbane, 652 F. Supp. 788, 796 n.9 (N.D. Cal. 1986).] Issuance of an ITP must	See response to comment 1734-1 regarding the new preferred alternative. The comment does not address specific content in the EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		not "appreciably reduce the likelihood of the survival and recovery of the species in the wild." [footnote 28: 16 U.S.C. [Section] 1539(a)(1)(B)(iv); HCP Guidance, at 3-16. See, e.g., Sierra Club v. Babbitt, 15 F. Supp.2d 1274, 1279 (S.D. Ala. 1998) (invalidating two HCPs for inadequate mitigation but characterizing the overall standard as "not appreciably reduce the likelihood of survival"); Friends of Endangered Species v. Jantzen, 760 F.2d 976, 982 (9th Cir. 1985) (upholding the San Bruno Mountain HCP and stating that the Act's requirement is to "not appreciably reduce the likelihood of the survival of the species"). Although the Services have promulgated through notice and comment rulemaking only some provisions of the handbook, courts have begun to rely on it in interpreting the permit program. See, e.g., Sierra Club v. Babbitt, 15 F. Supp.2d at 1282.] Taking this requirement into account with the overarching purpose of the ESA, courts have established the standard that HCPs must comply with the ESA and conserve list species by ensuring both their survival and recovery. [footnote 29: An HCP "must satisfy the ESA goal of conservation, which will allow the species to recover in order to 'reverse the trend to extinction.'" Sw. Ctr. For Biological Diversity, 470 F. Supp. 2d 1118, 1129 (S.D. Cal. 2006) (quoting Tennessee Valley, 437 U.S. at 153, 98 S.Ct. 2279 and citing Sierra Club v. Babbitt, 15 F.Supp.2d at 1278 n. 3 ["Pursuant to section 10, the FWS [U.S. Fish and Wildlife Service] may issue a permit for the 'incidental take' of some members of the species, if the applicant for the permit submits a 'conservation plan' that will--as its name plainly connotes--help 'conserve' the entire species by facilitating its survival and recovery.']. However, as part of its purpose to "improve the ecosystem of the Delta" the BDCP merely aims to take actions that would "contribute" to the recovery of covered species; protect, restore, and enhance certain natural communities and ecosystems, and reduce the adverse effects of water diversions on certain listed species. [footnote 30: DEIR/EIS, at ES-8 and ES-10.] These statements reflect the BDCP's intent to address species but fail to actually articulate its obligations to ensure the survival and recovery of species so they no longer need to be listed. Thus the draft BDCP is insufficient to obtain an ITP in compliance with the ESA.	
1734	12	The applicants should exclude the purpose of the BDCP to deliver water for up to "full contract amounts" given that the quantity of water allocated under current contracts far outweighs physical/structural capability of California's water system, and that it is not consistent with the purpose of the ESA and co-equal goals under the Delta Reform Act. The draft EIR/EIS also states that the BDCP its purpose is to "[r]estore and protect the ability of the SWP and CVP to deliver up to full contract amounts" when there is sufficient water to do so, consistent with state and federal laws and the conditions of applicable agreements including those held by SWP and CVP contractors. [footnote 31: DEIR, EIS, at ES-8 and ES-10.] Although the draft EIR/EIS qualifies that the alternatives do not need to be capable of delivering "full contract amounts" on average in order to meet BDCP's purposes, [footnote 32: DEIR, EIS, at ES-10 (emphasis added).] the fact that its stated purpose is to potentially satisfy the full contract amounts perpetuates the myth that California's water infrastructure has the capability to do so. In fact, while water contractors and the Department of Water Resources ("DWR") formerly referred to so-called "entitlements" of 4.23 million acre-feet of water per year the reality is that, due to several factors including several dams not being built and several northern rivers being protected as "wild and scenic,", the SWP can only supply up to half this level. [footnote 33: PCL v. DWR (2000) 83 Cal.App.4th at 908.] Satisfying these "entitlements" would require doubling the reliable capacity of the current system. The California Court of	See response to comment 1734-1 regarding the new preferred alternative. As described in Chapter 5, Water Supply, and Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, the ability of the SWP and CVP to deliver water contract amounts has been modified over the past 60 years due to increased use of senior water rights upstream of SWP and CVP water service area and regulatory criteria. The alternatives, including the No Action Alternative, were developed to deliver SWP and CVP water 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. Information presented in Chapter 5, Water Supply, of the Draft EIR/EIS indicates that there is not adequate water supplies during long-dry and critical dry periods to fully meet water contract maximum amounts. As indicated in Figures 5-30 and 5-31 indicate that under Existing Conditions, water deliveries would approach zero at least 1 percent of the time for CVP North of Delta and South of Delta agricultural water service contractors. Figures 5-32, 5-33, and 5-34 indicate that under Existing Conditions and all of the alternatives considered in the Draft EIR/EIS full contract deliveries occur less than 40 percent of the time for SWP water contractors and CVP South of Delta municipal and industrial water service contractors.

DEIRS Ltr#	Cmt#	Comment	Response
		Appeals for the Third District openly criticized this paper water illusion in recognizing the "huge gap between what is promised and what can be delivered." [footnote 34: PCL v. DWR (2000) 83 Cal.App.4th at 903 (stating that "Paper water always was an illusion. "Entitlements" is a misnomer, for contractors surely cannot be entitled to water nature refuses to provide or the body politic refuses to harvest, store and deliver").] The draft EIS/EIR therefore establishes false expectations and authorizes unrealistic demands for water by contractors in the future. Thus, coordinating agencies must come to terms with and explicitly recognize the inability of the state's water infrastructures to meet water entitlements in the final draft of the BDCP. The applicants' explicit goal to achieve full contract amounts also emphasizes its intent to satisfy contractor demands for a more reliable water supply. The BDCP does not offer a similar guarantee for species protection, for instance by conserving listed species to the point of full recovery, as discussed above. Thus these statements contradict its mandate to treat its goals of creating a more reliable water supply and restoring and enhancing the Delta with equal weight.	
1734	13	The Preferred Alternative does not provide sufficient information on operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries. Existing law provides that the BDCP will not be incorporated into the Delta Plan unless it includes a reasonable range of flow criteria, rates of diversion, and other operational requirements and flows necessary for recovering the Delta ecosystem. [footnote 35: Cal. Water Code [Section] 85320(b)(2)(A)) states that the BDCP must provide "a reasonable range of flow criteria, rates of diversion, and other operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries under a reasonable range of hydrologic conditions [that] will identify the remaining water available for export and other beneficial uses."] However, the Preferred Alternative, or Alternative 4, does not provide sufficient information regarding operational requirements and flows necessary for recovering the Delta system and restoring fisheries. Although Alternative 4 would establish flow criteria for the north Delta diversion bypass and the south Delta channel, [footnote 36: DEIR/EIS, at 3-202.] it would defer the development of quantitative Delta outflow criteria in the spring (March-May) and fall (September-November) to a later time using a decision tree process. [footnote 37: DEIR/EIS, at 3-206 and 3-207.] The DEIR/EIS admits that various outflow scenarios for spring and fall have the potential to cause differences in upstream conditions or in-Delta flows in summer and winter as well, in addition to affecting ecological conditions in the spring and fall. [footnote 38: DEIR/EIS, at 11-51.]38 However, it offers no quantitative range of flow criteria, rates of diversion, and other operational requirements as mandated by Section 85320(b)(2)(A) of the California Water Code. In addition, the DEIR/EIS explains the potential outcomes of the decision tree process "will be aggressively investigated," and Delta outflow criteria would be developed some time before water operations begin. [footnote 39: DEIR/EIS, at 3-207.] However, nowhere does the DEIR/EIS provide a specific timeline by which the criteria would be developed or whether they would be subject to public review before they are implemented. The only indication of a time frame within which the decision tree process will take place is where the draft IA states that the outflow hypotheses will be tested "over the next approximately ten years using the best available information." [footnote 40: Draft IA, at 25.] Additionally, the DEIR/EIS states that even when established, initial project operating criteria "will be subject to a new determination by the fish and wildlife agencies, consistent with the	See response to comment 1734-1 regarding the new preferred alternative. Please also refer to Appendices 3I and 3J in this Final EIR/EIS for discussion regarding compliance with the Delta Reform act and compatibility with the Delta Plan. Master Response 31 also addresses compliance with the Delta Reform Act. Master Response 44 explains the Decision Tree process proposed for Alternative 4. Master Response 28 addresses operational criteria.

DEIRS Ltr#	Cmt#	Comment	Response
		adaptive management process for the BDCP, based on best available science developed . . . ." [footnote 41: DEIR/EIS, at 3-207.] Without a timeline or transparency regarding the development of these criteria it is impossible for any member of the public to determine whether they would establish flows necessary for recovering the Delta ecosystem and restoring fisheries. Furthermore, it is apparent that whatever outflow criteria is adopted will most likely not achieve biological objectives for other aquatic species since the draft Implementation Agreement to the BDCP concludes "it is expected" that the fish and wildlife agencies will issue permits including operational and flow criteria related to the high-outflow scenario in the application. [footnote 42: Draft IA, at 25.] The BDCP cannot pretend that biologically sufficient outflow criteria will be established based on vigorous vetting through objective scientific evidence when in fact the agencies and the applicants have already determined the outflow in the draft IA. The high-outflow scenario will most likely fail the BDCP's purpose and legal obligation to recover the Delta ecosystem.	
1734	14	The limited biological information that the decision-tree process proposes to take into account also clearly demonstrates that the BDCP, if implemented, will be unable to restore the Delta on an ecosystem scale. The DEIR/EIS states that the decision-tree process is "a focused form of adaptive management that will be used to determine, at the start of new operations the fall and spring, outflow criteria that are required to achieve the conservation objectives of the BDCP for delta smelt and longfin smelt and to promote the water supply objectives of the BDCP." [footnote 43: DEIR/EIS at 3-207; see also draft IA, at 25.] We are extremely alarmed that Alternative 4's decision-tree process would only require establishing flow criteria based on conservation objectives only for two species: the delta smelt and longfin smelt. Although the DEIR/EIS recognizes that other covered fish including salmonids and sturgeon may also be impacted by Delta outflow changes, it does not guarantee that outflow criteria will be developed to meet their biological needs. Instead, the DEIR/EIS merely states that other covered species' outflow needs "will also be investigated as part of the decision tree process. [footnote 44: DEIR/EIS, at 3-207.] We at the Center for Biological Diversity find it unacceptable that the outflow criteria created under the Preferred Alternative would be limited to only the delta smelt and the longfin smelt in addition to promoting water supply reliability. This minimum standard, if adopted, would fail to meet the co-equal goal of protecting not only these two species but to restore the entire Delta ecosystem. It would also likely fail to meet the biological needs of other aquatic species that require higher flow criteria to survive and in turn violate Section 2820(a)(6) of the California Fish and Game Code. The DEIR/EIS fails to acknowledge behavioral and regulatory uncertainty that have continuously resulted in rollbacks of environmental protections for the Bay/Delta and rescinding or suspension of legal assurances intended to protect fisheries and water quality during drought years. The decision-tree structure to determine Delta freshwater outflows is a guarantee that continuous political pressures will be exerted on fishery agencies to relax promised BDCP ecological benefits. None of the assurances in the BDCP can be taken at face value. The current three-year drought demonstrates that agencies will reflexively abandon "assured" fisheries flow protections under political pressure. The BDCP thus must establish specific flow criteria that meet the conservation objectives for all species in order to satisfy its co-equal goals as well as the legal requirements set out in Sections 2820(a)(6) and 85320(b)(2)(A).	See response to comment 1734-1 regarding the new preferred alternative. Master Response 28 addresses operational criteria. Master Response 33 addresses adaptive management and monitoring. Master Response 44 explains the Decision Tree process proposed for Alternative 4.

DEIRS Ltr#	Cmt#	Comment	Response
1734	15	The ability of the BDCP to achieve the co-equal goals of restoring the Delta ecosystem and providing reliable water supply is highly questionable since the plan would authorize disproportionate decision-making power to the DWR, USBR, and state and federal water contractors.	The proposed project has been analyzed through a joint RDEIR/SDEIS in compliance with the requirements of CEQA and NEPA. Before the selection and approval of an alternative considered, the Lead Agencies must comply with the necessary state and federal environmental review requirements. This document, along with the Draft EIR/EIS, and Final EIR/EIS are intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives for either compliance strategy. As implementation of the proposed project or any of the action alternatives will require permits and approvals from public agencies other than the Lead Agencies, the CEQA and NEPA documents are prepared to support the various public agency permit approvals and other discretionary decisions. These other public agencies are referred to as responsible agencies and trustee agencies under CEQA (State CEQA Guidelines Sections 15381 and 15386) and cooperating agencies under NEPA (e.g., USACE and EPA). For more information please on the CEQA and NEPA process, see 1.1.5 of Section 1 Introduction of the RDEIR/SDEIS. The amount of water DWR or the Bureau can pump from the new north Delta facilities is set by Federal regulating agencies, ESA compliance and project design, and not by the water contractors. Operations for the proposed project would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 BiOps (RDEIR/SDEIS Executive Summary ES.2.2). In addition to permitting constraints on daily operations of the SWP and CVP, DWR must maintain proper performance and bypass flows across fish screens when endangered and threatened fish species are present within the north Delta facilities area. The intake fish screens drive the overall size of the intake structure on the riverbank, and have been numbered and sized to permit water to flow through the screens within a predetermined flow regime set by California Department of Fish and Wildlife and NMFS fish screen criteria (BDCP Appendix 5B Section 3.B.3.3).
1734	16	The draft BDCP, supplemented by the draft implementation agreement (IA), proposes a governance structure for the Delta that is significantly different from the current structure. Although as of the writing of this comment the U.S. Bureau of Reclamation (USBR) is not a party to the draft IA, it purportedly will enter into a memorandum that would set out its roles and responsibilities pursuant to the BDCP. [footnote 45: Draft IA, at 1, 15.] Since USBR plays a critical role in the implementation of the BDCP we do not believe it is possible to make fully informed comments on how BDCP would be implemented until the memorandum mentioned is established and released to the public. Nevertheless, we provide comments on the proposed implementation structure according to the draft BDCP and the draft IA as they are currently described.	See response to comment 1734-1 regarding the new preferred alternative. The Draft Implementing Agreement for the proposed project was made available for public review on May 30, 2014 and the public review period was extended by 46 days until July 29, 2014, in order to accommodate a 60-day review period consistent with the California Natural Community Conservation Planning Act. As described in the May 5, 2014 posting to the BDCP website, the delayed publication of the draft Implementing Agreement was related to availability of key individuals whose drought response duties required significant time commitments, resulting in delays in finalizing the draft Implementing Agreement. Implementing agreements are a requirement under the California Natural Community Conservation Planning Act (NCCPA), and are routinely executed under the ESA Section 10 (HCP) permitting process. Since the current proposed project (Alternative 4A) is no longer a NCCP or HCP, an implementing agreement was not released with the RDEIR/SDEIS or final EIR for the project. For additional information regarding the Implementation Agreement, please see Master Response 5.
1734	17	Currently the SWP and CVP coordinate water diversion operations in the Sacramento River and the Delta under a Coordinated Operating Agreement. Water operations are overseen by the Operations ("Ops") Group, which operates on consensus at the lowest level to operate the Delta cross-channel, and adjust diversion or export limits for species protections or to make up lost water supply caused by previous changes to improve fishery conditions. [footnote 46: Description of CALFED Ops, available at: http://www.water.ca.gov/swp/operationscontrol/calfed/calfedgrpdesc.cfm (last updated July 1, 2009).] The Ops Group consists of representatives from the Department of Fish and Wildlife ("DFW"), Department of Water Resources ("DWR"), the California State Water Resources Control Board ("SWRCB"), U.S. Fish and Wildlife Service ("FWS"), National Marine Fisheries Service ("NMFS"), U.S. Bureau of Reclamation ("USBR"), and the Environmental	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The information discussed in this comment is consistent with the 2008 Central Valley Project and State Water Project Operations Criteria and Plan Biological Assessment, which is incorporated into the Draft BDCP EIR/EIS Chapter 5, Surface Water, and Appendix 5A, Modeling Technical Appendix, by reference.

DEIRS Ltr#	Cmt#	Comment	Response
		Protection Agency ("EPA"). [footnote 47: Description of CALFED Ops, available at: http://www.water.ca.gov/swp/operationscontrol/calfed/calfedgrpdesc.cfm (last updated July 1, 2009).]	
1734	18	By contrast, the BDCP would be organized around a newly created Implementation Office (IO) lead by the Program Manager, who would manage, coordinate, and oversee all aspects of BDCP implementation including administering program funding, managing water project operations, and implementing conservation measures. [footnote 48: Draft BDCP, at 7-2, 7-5, 7-7, 7-8, 7-28 (The Implementation Office will work with the Delta Conservancy and other supporting entities on implementing conservation measures associated with habitat protection and restoration), and 7-30 (DWR and Reclamation are responsible for implementing conservation measure 1: water facilities and operations; and water operations aspects of CM2: Yolo Bypass fisheries enhancement.).] In reality, however, the IO would be held under the control of the Authorized Entity Group (AEG), which would be a four-member body consisting of the Director of DWR, the Regional Director of the U.S. Bureau of Reclamation (USBR), a representative from state water contractors, and a representative from participating federal water contractors. [footnote 49: Draft Implementing Agreement (IA), at 58.] Although the AEG would express a single position regarding a matter under its consideration each member would still retain its individual statutory or regulatory authority. [footnote 50: Draft IA, at 51 (noting that the operation of SWP and CVP will continue to be under the control and responsibility of the DWR and Reclamation, respectively).] The BDCP would allow the AEG to select the Program Manager, [footnote 51: Draft BDCP, at 7-5.] who would be subject to exclusive oversight by the AEG. [footnote 52: Draft BDCP, at 7-2.] Specifically, the BDCP states that the Program Manager, through the IO and "under the direction of the Authorized Entity Group, will manage the implementation of the BDCP and ensure that such implementation proceeds in compliance with the Plan, the Implementing Agreement, and the associated regulatory authorizations." [footnote 53: Draft BDCP, at 7-13.] Similarly, the draft IA states the AEG "will provide oversight and direction to the Program Manager on matters concerning the implementation of the BDCP." [footnote 54: Draft IA, at 58.] In essence, the AEG--comprised of only state and federal water export interests--will dominate the implementation of the BDCP even though it is drafted as a habitat conservation plan. More importantly, most of the AEG's decision-making would not be subject to review or oversight by other entities under the proposed BDCP. [footnote 55: See draft BDCP, at 7-3 and 7-4.] For instance, the BDCP would give the AEG exclusive authority to implement all conservations measures save real-time water operations without providing an opportunity for review by the EPA and wildlife agencies. [footnote 56: Draft BDCP, at 7-3.] Although the BDCP also proposes to establish a Permit Oversight Group (POG) consisting of California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS) that would collaborate with the AEG, its role is mainly to provide input and concurrence regarding the IO and AEG's actions. [footnote 57: Draft BDCP, at 7-13 and 7-14.] Like the AEG, the roles and level of involvement by the various wildlife agencies are defined by existing statutory and regulatory mandates and provisions of the BDCP. [footnote 58: Draft BDCP, at 7-3, 7-4, and 7-14.] However, the BDCP would allow less decision-making by the POG and member wildlife agencies compared to the AEG. [footnote 59: Draft BDCP, at 7-3, 7-4, and 7-14.] For instance, the POG would determine major adaptive changes, monitoring, and research matters jointly with the AEG before it could make a final decision if the two entities disagree. [footnote 60: Draft BDCP,	Please see response to comment 1734-1 regarding the preferred alternative, which no longer includes an HCP/NCCP and thus would not have an Implementation Office.

DEIRS Ltr#	Cmt#	Comment	Response
		at 7-11, 7-13.] Additionally, if the AEG and POG disagree on a matter they may agree to seek non-binding review process of the matter, and the entity with the final decision-making authority over the matter may merely consider those recommendations in making its final decision. [footnote 61: Draft BDCP, at 7-17.] This process is problematic as it would encourage disagreeing parties to adopt disjointed or even conflicting decisions.	
1734	19	The proposed BDCP governance structure also provides the opportunity for decision-makers to make real-time water operations adjustments for water conveyance facilities under Conservation Measure 1 and Conservation Measure 2. The Real Time Operations Team ("RTOT") would consist of one representative from Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife(CDFW), U.S. Bureau of Reclamation (USBR), and DWR as voting members. [footnote 62: Draft IA, at 27.] The RTOT would also contain one representative from SWP and one representative from CVP, who would serve as non-voting members. [footnote 63: Draft IA, at 27.] We are encouraged to see that the RTOT will operate by consensus and that the DWR, and that if the RTOT does not reach consensus on an issue it would be elevated to seek concurrence among representatives of Reclamation, CDFW, and the relevant federal fish and wildlife agency. [footnote 64: Draft IA, at 28.] However, the draft Implementing Agreement (IA) also provides that new voting members could be added by consensus, thus SWP and CVP or any other representatives could become voting members. [footnote 65: Draft IA, at 27.] Thus we are very concerned that the current RTOT structure that allows SWP and CVP participation, whether as nonvoting or voting members, will influence the agencies' decision-making involving real-time operations to favor additional water exports. If the BDCP truly abides by the co-equal goals of water reliability and Delta ecosystem protection we urge it to eliminate the SWP and CVP contractor representatives from a seat at the RTOT table, or include representatives from the conservation community as non-voting members to balance out interests in the RTOT. We are also concerned that the Implementation Office and Authorized Entity Group's actions are not subject to binding review by other stakeholders. The Stakeholder Council ("SC"), which would meet with the Program Manager at least quarterly and be expected to make reasonable efforts to provide input to the Program Manager and the AEG, would only object to actions taken by the Program Manager through non-binding alternative resolution mechanisms. [footnote 66: Draft BDCP, at 7-20, 7-21.] Thus while the SC can suggest changes it would have no legal authority to serve as a check to the IO's decision-making process. While the BDCP indicates that all meetings of various groups would be conducted in public, [footnote 67: Draft BDCP, at 7-12, 7-16, 7-20.] it does not state whether the meetings would be subject to requirements of California's public record laws.	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). See response to comment 1734-16.
1734	20	It is important to note that the draft IA states that "in the event of a direct conflict between the terms of this Agreement and the BDCP, the terms of this Agreement shall control. [footnote 68: Draft IA, at 15.] This clause in the IA is especially concerning since it would allow the implementation structure and governance of the BDCP to be virtually unchallengeable if it is finalized or amended after potential approval of the BDCP. We believe the ability of the BDCP to achieve the co-equal goals of restoring the Delta ecosystem and providing reliable water supply is highly questionable since the plan would authorize disproportionate decision-making power to the DWR, USBR, and state and federal	See response to comment 1734-16 for more information regarding the IA.

DEIRS Ltr#	Cmt#	Comment	Response
		water contractors.	
1734	21	The monitoring and adaptive management process for the BDCP is incomplete and will likely not be used to fully implement the Plan even if becomes complete. The BDCP's monitoring and adaptive management process is incomplete. The draft BDCP and DEIR/EIS has been heavily criticized by an analysis of the draft BDCP and the DEIR/EIS conducted by an Independent Science Board. [footnote 69: Delta Independent Science Board, Review of the Draft EIR/EIS and Draft BDCP (May 2014) [hereinafter Independent Science Board Review].] In particular, the Panel concluded that "Details of how adaptive management will be implemented are left to a future management team without explicit prior consideration of (a) situations where adaptive management may be inappropriate or impossible to use, (b) contingency plans in case things do not work as planned, or (c) specific thresholds for action." [footnote 70: Independent Science Board Review, at 3 and 8.] We (Center for Biological Diversity) agree with the Independent Science Board that the BDCP does not make clear the connections between monitoring and adaptive management, does not describe criteria for success or explicit triggers to reverse negative impacts, and does not incorporate uncertainties of the Conservation Measures ("CMs") into the adaptive management process. [footnote 71: Independent Science Board Review, A-15, A-16]	See response to comment 1734-1 regarding the preferred 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 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. Note that Alternative 4A alters the structure of the adaptive management and monitoring program, relative to the BDCP proposal. See Master Response 33 for more information on adaptive management and monitoring. 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. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.
1734	22	The BDCP treats the negative effects of climate change as impacts beyond the control of the project, despite the fact that project operations will magnify the effects of climate change such as warmer water temperatures and reduced freshwater flows. The claims that the plan's "Conservation Measures" will constitute an adaptation to climate change are not supported by any quantitative data. A prime example of the BDCP spurious and utterly unsupported claims: "Because the BDCP already anticipates the effects of climate change, no additional actions will be required to remediate climate change effects on covered species and natural communities." [footnote 72: Draft BDCP, at 6-43.]	The negative effects of climate change are beyond the control of the project. These negative effects have the same likelihood of occurring in the future whether BDCP is built or not. The project is also not being proposed as a remedy for all climate change impacts. The intent of the BDCP and DEIR/S are to analyze the impacts and benefits of the project alternatives. The analysis will then be used by decision makers to determine if California will be better served by building the project or not building the project.
1734	23	The BDCP will establish an Adaptive Management Team (AMT) that will be responsible for administering and adaptive management and monitoring for the, where information obtained from monitoring and research activities will be used to improve the effectiveness of the conservation measures to achieve the biological goals and objectives. [footnote 73: DEIR/EIS, at 3-23.] The AMT will be chaired by the Science Manager, and will include a voting representative from FWS (U.S.Fish and Wildlife Service), NMFS (National Marine Fisheries Service), CDFW (CA Dept. of Fish and Wildlife), DWR, USBR (U.S.Bureau of Reclamation), the SWP contractors, and the CVP contractors, respectively. [footnote 74: Draft IA (Implementing Agreement), at 30.] Center for Biological Diversity is very concerned that the decisions that the AMT makes will be biased toward water export to further reduce Delta outflows since the Science Manager reports to Program Manager, who is subject to	See response to comment 1734-16 for more information regarding the IA. Considerable scientific uncertainty exists regarding the Delta ecosystem, including the effects of CVP and SWP operations and the related operational criteria. To address this uncertainty, DWR, Reclamation, DFW, USFWS, NMFS, and the public water agencies will establish a robust program of collaborative science, monitoring, and adaptive management. It is assumed the Collaborative Science and Adaptive Management Program (AMMP) developed for Alternative 4A would not, by itself, create nor contribute to any new significant environmental effects; instead, the AMMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A. Collaborative science and adaptive management will support the proposed action by helping to address scientific uncertainty where it exists, and as it relates to the benefits and impacts of the construction and

DEIRS Ltr#	Cmt#	Comment	Response
		direction from AEG. Similarly, we are also extremely concerned that the AMT will include SWP and CVP contractors as voting members, which means that the contractors will be involved in determining available scientific information that would affect the implementation of the BDCP including altering Delta outflows. [footnote 75: Draft IA, at 26] Under the current makeup of the AMT FWS, NMFS, and CDFW could easily become the minority voice whereas SWP, CVP, the water contractors, and the Science Manager who will be directed by the water exporting agencies and contractors will dominate adaptive management. This concern is heightened by the BDCP's designating the IEP Lead Scientist, the Delta Science Program Lead Scientist, and the Science and Research Director of NOAA (National Oceanographic and Atmospheric Administration) Fisheries' Southwest Fisheries Science Center as nonvoting members. [footnote 76: Draft IA, at 5.] As we stated in our comments regarding the Real Time Operations Team, we believe that the only way the BDCP can abide by its co-equal goals is to provide equal decision-making power to both conservation and water export interests. This balancing is especially critical in the AMT since adaptive management of the BDCP will require a fair representation of voting members with both scientific and management expertise. Therefore the final BDCP should include fish and wildlife representatives as voting members of the AMT.	operations of the new water conveyance facility and existing CVP and SWP facilities. The collaborative science effort is expected to inform operational decisions within the ranges established by the biological opinion and 2081b permit for the proposed action. However, if new science suggests that operational changes may be appropriate that fall outside of the operational ranges evaluated in the biological opinion and authorized by the 2081b permit, the appropriate agencies will determine, within their respective authorities, whether those changes should be implemented. An analysis of the biological effects of any such changes will be conducted to determine if those effects fall within the range of effects analyzed and authorized under the biological opinion and 2081b permit. If NMFS, USFWS, or DFW determine that impacts to listed species are greater than those analyzed and authorized under the biological opinion and 2081b Bay Delta Conservation Plan/California WaterFix permit, consultation may need to be reinitiated and/or the permittees may need to seek a 2081b permit amendment. Likewise, if an analysis shows that impacts to water supply are greater than those analyzed in the EIR/EIS, it may be necessary to complete additional environmental review to comply with CEQA or NEPA. Please see Master Response 33 for more information regarding Adaptive Management and Monitoring.
1734	24	The working draft Implementation Agreement (IA) provided that upon issuance of take permits the Permittees have the "legal obligation to fully implement the BDCP" under the biological goals and objectives section. [footnote 77: Working Draft IA, at 25.] However, the phrase was deleted from this section and does not appear elsewhere in the current draft of the IA. Instead, the current draft IA added new language that would allow the Adaptive Management Team to alter, add, or even eliminate entirely CMs and biological objectives to "improve the effectiveness" of the Plan. [footnote 78: Draft IA, at 29.] The criteria of effectiveness, however, have not been developed and will be developed under the direction of the AMT. [footnote 79: Draft IA, at 39.] It is clear from comparing the two Ias that the implementation of the BDCP will be entirely in the discretionary hands of the state and federal contractors, DWR, and USBR.	Please see responses to comments 1734-16 and 1734-23 regarding the Implementation Agreement and adaptive management.
1734	25	In contrast to the water contractors' ability to control the adaptive management process, the public will not be able to directly participate in the Adaptive Management Team (AMT) decision-making process. Whereas the July 2013 draft Implementation Agreement (IA) required the AMT to at least review proposals for changes in the adaptive management of the BDCP by any interested party, the current draft IA explicitly provides that the AMT may, at its discretion, review any such proposals. [footnote 80: Working Draft IA, at 30; Draft IA, at 31.] The current draft IA effectively shuts out the public's ability for its recommendations to be considered on their own merits or in opposition to proposed changes by the AMT itself. In summary, the draft IA would create a closed-door adaptive management process that will not be mandated to fully implement the BDCP and in fact will have power to eliminate critical elements of the Plan.	Please see responses to comments 1734-16 and 1734-23 regarding the Implementation Agreement and adaptive management.
1734	26	The BDCP proposes insufficient and does not guarantee funds to produce an effective adaptive management process. The BDCP and the draft Implementation Agreement state the parties will set up a $450 million "supplemental adaptive management fund" that only guarantees it would be applied to support implementation of adaptive changes made to [Conservation Measure] CM1 and would only support changes to other CMs "as determined to be necessary." [footnote 81: Draft IA, at 37; Draft BDCP, at 3.5-356.] This language in	Please see responses to comments 1734-16 and 1734-23 regarding the Implementation Agreement and adaptive management. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.

DEIRS Ltr#	Cmt#	Comment	Response
		the draft IA demonstrates yet again that not only funding for other CMs is uncertain but the parties have not committed to achieving other CMs that are the only potential justifications for why BDCP should possibly move forward. Even if it is applied to other CMs, this fund would be insufficient to support the monitoring and research necessary to carry out all of the CMs. [footnote 82: INDEPENDENT SCIENCE BOARD REVIEW, A-21.]	
1734	27	The BDCP would fail to meet the biological needs of covered aquatic species. The BDCP must contain specific conservation measures that meet the biological needs of covered species best [sic] on the best available scientific information regarding the species. [footnote 83: Cal. Water Code [Section] 85320(b)(2)(A); Cal. Fish & Game Code Sec. 2820(a)(6).] The DEIR/EIS admits that that Delta outflow in Alternative 4 would likely decrease or remain similar compared to the conditions without the project. [footnote 84: DEIR/EIS, at 11-52.] Additionally, the DEIR/EIS expects average annual Delta exports to increase by 269, 504 thousand acre feet (TAF), and 814 TAF (under Scenarios H1, H2, and H3, respectively), and would only decrease by 27 TAF under Scenario H4. [footnote 85: DEIR/EIS, at 11-52.] Since the draft IA to the BDCP concludes "it is expected" that the fish and wildlife agencies will issue permits including operational and flow criteria related to the high-outflow scenario, the likely decrease in Delta outflow is at least 814 TAF. [footnote 86: Draft IA, at 25.] Although the DEIR/EIS acknowledges that implementing Alternative 4 would generally increase water exports and reduce or maintain current Delta outflows, it concludes that changes in water flow under Alternative 4 would result in take of species that would "typically be either beneficial or not adverse/less than significant." [footnote 87: DEIR/EIS, at 11-53.] Despite this promise the BDCP, as prepared, demonstrates that the Project will bring significant negative impacts to and will not facilitate the survival and recovery of covered fish species.	See response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. See Master Response 5 regarding CM1 operations and flows in the Delta. The incremental changes in Delta outflow under Alternative 4A compared to baseline conditions are a function of both the facility and operations assumptions, including north Delta intakes capacity of 9,000 cfs, OMR flow requirements, Fall X2 requirements, and the reduction in water supply availability due to increased north of Delta urban demands, sea level rise, and climate change (the last three assumptions, plus Fall X2 requirements, are included in both the No Action Alternative (ELT) and Alternative 4A, but not in Existing Conditions). Results for the range of changes in Delta outflow under Alternative 4A are presented in more detail in Appendix 5A, BDCP/California WaterFix EIR/S Modeling Technical Appendix. Changes in long-term average Delta outflow under Alternative 4A (ELT) as compared to the No Action Alternative (ELT) and Existing Conditions are shown in Figures 5-37 through 5-39 and Tables 5-10 through 5-12 in Chapter 5. 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.
1734	28	The BDCP fails to demonstrate that Conservation Measures (CMs) would minimize or mitigate adverse effects to the maximum extent practicable. Despite that CMs will directly and indirectly result in impact covered species as discussed above, the BDCP proposes activities that would result in significant adverse impacts on covered species that would not be adequately minimized or mitigated. By law the BDCP must include measures that would, to the maximum extent practicable, minimize and mitigate adverse effects on the covered species from implementation of the covered activities, where mitigation would occur through the protection, restoration, creation, and/or enhancement of habitat for covered species. [footnote 88: 16 U.S.C. [Section] 1532(a)(2)(B)(ii); see also DEIR/EIS, at 3-40.] The Services will assess whether the BDCP is consistent with the maximum extent practicable standard by evaluating whether levels of minimizing and mitigating adverse effects is appropriate for the particular project at issue. [footnote 89: See Sierra Club v. Babbitt, 15 F.Supp.2d 1274, 1279-81 (S.D. Ala. 1998).] The BDCP has failed to minimize and mitigate adverse effects, as we discuss below. One of the most impactful covered activities is the proposed construction of new water intake, forebays, and conveyance facilities (Conservation Measure 1, or CM1), which would permanently alter between 3,500 and 20,000 acres of habitat in north Delta. [footnote 90: DEIR/EIS, at 31-5.] Yet the BDCP does not adequately disclose how it would minimize and mitigate these impacts and instead relies on proposed habitat protection, restoration, and enhancement (habitat conservation or conservation reserve) activities to address these impacts. In fact, the availability of funding, feasibility, and success of many conservation or	The commenter incorrectly characterizes the permanent impacts from construction of CM1. CM1 under Alternative 4 would result in permanent and temporary impacts that total 7,831 acres, with 1,995 of those acres consisting of temporary effects from dredging in Clifton Court Forebay, and 4,700 acre of impact to cultivated lands. Commenter erroneously states that BDCP impacts on covered species would not be minimized or mitigated to the extent practicable. Commenter provides no evidence to support their assertion. Commenter also erroneously asserts that habitat protection and restoration cannot serve to minimize or mitigate project effects on covered species; the lead agencies have indicated otherwise. Finally, commenter erroneously states that construction of water facilities would precede construction of mitigation. See BDCP Chapter 6 for a detailed explanation of these scheduling considerations; in particular, mitigation would be in place concurrent with or prior to proposed adverse impacts. Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative.

DEIRS Ltr#	Cmt#	Comment	Response
		mitigation measures are highly uncertain, as we discuss below. Additionally, the implementing habitat conservation activities would also permanently alter thousands of acres of habitat and negatively affect certain species while bringing purported benefits to other species that highly speculative. [footnote 91: See other covered activities at DEIR/EIS, at 3-17.] The BDCP allows construction of the twin tunnels before ecosystem restoration, and in fact before funding for restoration has actually been secured. In addition, CMs would only be implemented within the 50-year proposed permitting timeline of the BDCP. However, only 3,400 would be restored within the first 10 years in accordance with the construction timeline of CM1. [footnote 92: DEIR/EIS, at 12-1992.] The Delta ecosystem gets the impacts of reduced freshwater flows before the success of untested and discredited restoration actions can be evaluated, despite uncertainties expressed by the scientific community.	
1734	29	Loss of aquatic habitat Habitat for covered fish species will be lost as a result of BDCP. All eleven covered fish species will suffer from habitat loss or a change in habitat conditions for any of the alternatives, including Alternatives 1A and 4. [footnote 93: DEIR/EIS, at 11-238; 11-1289.] However, the BDCP fails to adequately explain how the covered fish species will survive habitat loss. The failure to adequately explain how habitat loss authorized by an HCP [Habitat Conservation Plan] would prevent jeopardizing the survival and recovery of a species could lead to a finding that approval of the HCP was arbitrary and capricious. National Wildlife Federation v. Babbitt, 128 F.Supp.2d 1274. 1295 (E.D. Cal. 2000). The total shoreline habitat that will be permanently affected by BDCP ranges from 2,050 feet to 11,900 feet depending on the alternative chosen; nine of the fifteen alternatives, if implemented, would affect at least 10,000 feet of shoreline habitat. [footnote 94: DEIR/EIS, at 11-11.] Offshore habitat that will be dredged ranges from 4.7 acres to 56.9 acres depending on the alternative chosen; ten of the fifteen alternatives would affect at least 20 acres. [footnote 95: DEIR/EIS, at 11-11.] The positive benefits assumed to occur as a result of habitat restoration are overstated for many fish populations. The conclusions reached in the BDCP are not adequately supported and often highly uncertain (see low levels of certainty associated with each covered fish species, discussed below). Thus the DEIR/EIS violates its legal duty to disclose significant effects of the project. [California Public Resources Code] Cal. Pub. Res. Code [Section] 21002.1. Additionally, many of the stated positive benefits will involve a long process that could take years to determine if any beneficial effects occurred, but by that point it could be too late. [footnote 96: INDEPENDENT SCIENCE BOARD REVIEW, at 7.] Since the BDCP fails to adequately explain how habitat loss would prevent jeopardizing the populations of each covered fish species, approval by the Services will likely be arbitrary and capricious. The BDCP would not minimize or mitigate adverse effects to aquatic species to the maximum extent practicable. Under Alternative 4 CM1 would permanently destroy 178 acres of aquatic habitat from construction of the three intakes and temporarily remove 2,101 acres of tidal perennial aquatic community from dredging Clifton Court Forebay. [footnote 97: DEIR/EIS, at 12-1990, 12-1991.] CM2 would adversely affect 18 acres of tidal	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The EIR/EIS discloses the effects of each alternative, including Alternatives 4 and 4A, on species and their habitats. No decision on the EIR/EIS will be made until endangered species act consultation with the USFWS is complete. The Biological Opinion will describe the USFWS' and NMFS' opinions about the potential to jeopardize species or adversely affect designated critical habitat. The preferred alternative is not an HCP and includes restoration to compensate for habitat loss at ratios typical for Delta projects. The exact acreage of habitat temporarily and permanently affected by CWF will be assessed during the ESA consultation. 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 more information regarding impacts to aquatic resources and its mitigation measures please see Chapter 11 of the FEIR/EIS. Please see Master Response 5 for more information regarding the BDCP's compliance under the ESA and ecological assurances for listed species. For responses to comments related to the Delta Independent Science Board's letters, please refer to comment letters BDCP 1448 and/or RECIRC 2546.

DEIRS Ltr#	Cmt#	Comment	Response
		perennial aquatic activity. [footnote 98: DEIR/EIS, at 12-1990, 12-1991.]	
1734	30	The BDCP justifies this significant habitat loss by stating that 65,000 acres of tidal wetlands and traditional uplands would be restored (27,000 acres would be tidal perennial aquatic habitat) under CM4, and concludes that the construction activities associated with CM1, 2, 4, and 6 would result in net long-term benefits to the acreage of sensitive natural communities. [footnote 99: DEIR/EIS, at 12-1993.] Although the BDCP attempts to offset amount of habitat lost by offering approximate amount of habitat to be restored. However, it is incorrect to only take into account the areas and types of land in implementing these measures since it takes more time for natural ecosystems to be fully restored to serve the desired ecosystem functions than it does to destroy existing aquatic habitats that already provide these functions. The BDCP project is so focused on keeping Delta exports at excessively high levels desired by water exporters that it relies on the discredited hypothesis that restored habitat can substitute for freshwater flows. The BDCP's concept of restoring physical habitat to subsidize food pelagic webs relies on improving riparian and subtidal habitat to create an aquatic food supply for the Delta as an offset for increased and excessive fresh water diversions. This substitute has no basis in science and has been red-flagged repeatedly by federal agencies. Mount et al. (2013) found that the BDCP restoration of marshes and floodplains is unlikely to improve smelt rearing habitat conditions. [footnote 100: Mount et al. (2013).] Many of the BDCP putative salmonid benefits rely on proposed seasonal floodplain inundation of the Yolo Bypass, yet the EIR/EIS fails to evaluate the potential impacts of stranding, entrainment, predation and mercury methylization risks in the Yolo Bypass and weigh them against potential benefits.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred 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. Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation. Additional priority restoration projects will be identified through regional and locally-led planning processes facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process for integrated planning in the Yolo Bypass is underway. The Delta Conservancy will lead the implementation of identified restoration projects, in collaboration with local governments and with a priority on using public lands in the Delta.
1734	31	Loss of food for aquatic species Several fish populations will experience a decline in abundance due to BDCP activities, even if only temporary due to construction activities. A decline in populations will undoubtedly affect the food web, leading to a decrease in food available for predators or an increase in the organisms eaten by the covered fish species. Additionally, the relationship between habitat loss, habitat restoration, and food production isn't clearly stated in the BDCP. The Effects Analysis does contain a conceptual model of aquatic food webs, but the model is based on several uncertain assumptions. The DEIR/EIS must also fully assess and disclose impacts to food loss in addition to and in relationship with habitat loss due to the implementation of the BDCP.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred 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

DEIRS Ltr#	Cmt#	Comment	Response
			the CEQA/NEPA process. See Chapter 11 of the EIR/EIS for more a discussion of effects on food webs for aquatic species.
1734	32	Effects of flow changes on aquatic species The BDCP also does not adequately disclose how the flow changes will affect covered fish species. The DEIR/EIS justifies its conclusion that a decrease in Delta outflow for a period of 50 years would not result in significant adverse effects on aquatic species based on "the flexibility provided by the sub-scenarios and the primary intent of the decision tree to test operational scenarios to achieve results that are not adverse and are less than significant." [footnote 101: DEIR/EIS, at 11-53.] However, the DEIR/EIS fails to adequately address how conservation measures would meet the biological needs of covered species. In particular, the BDCP fails to assess the impacts on each covered species from the anticipated decrease in Delta outflow under Alternative 4. [footnote 102: See Table 11-4-SUM1: Results of Flow-Related Effects on Fish. DEIR/EIS, at 11-55.] For instance, the DEIR/EIS itself even states that additional assessments will be needed to confirm that adverse effects are not reasonably expected to occur to Chinook salmon species and steelhead. [footnote 103: DEIR/EIS, at 11-54.] Therefore, the reliance on the decision tree process by the DEIR/EIS without further analysis on how outcomes decided by the process will impact imperiled species violates CEQA/NEPA. The DEIR/EIS claims that the flow impacts on key fish species migration cannot be determined. [footnote 104: DEIR, at 11-55.] The DEIR/EIS reached this conclusion despite that the project-level document claims to use more than sixty different computer-based modeling techniques, and a wealth of published and available scientific literature on the impacts of increased water exports and diversions on the ecology of the Bay-Delta Estuary and special-status fish species. The public cannot properly assess the validity of a document addressing impacts on endangered fish when a determination cannot be made on critical environmental impacts to the very species the plan is allegedly intended to recover.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred 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. See Chapter 11 of the EIR/EIS for a discussion of effects on fish from flows and the benefits of the Conservation Measures and see response to comment 1734-27 for information on the changes to flows under Alternative 4A.
1734	33	In fact, the BDCP uses computer models to describe fresh water flow conditions in the estuary and disingenuously compares them to "baseline" conditions that are worse ecologically than actual existing conditions and existing regulatory constraints on water diversions. The DEIR/EIS thus misrepresents the biological impacts of the project and attempts to mask the fact that the BDCP would substantially increase water exports and further degrade environmental conditions. Several federal and state agencies have already underscored the fact that current Delta outflows are insufficient to meet the biological needs of listed and sensitive species, and have resulted in significant adverse effects these species, especially salmon and steelhead. [footnote 105: State Water Resources Control Board's, 2010 Flows Report, p.2. "Interior 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." USFWS May 23, 2011 Phase I Scoping Comments, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts052311/amy_aufdemberge.pdf "Inadequate flow to support fish and their habitats is directly and indirectly linked to many stressors in the San Joaquin river basin and is a primary threat to steelhead and salmon." NMFS February 4, 2011 Phase I Scoping Comments, available at:	Please see Master Response 1 regarding baseline conditions for the EIR/EIS analysis. 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 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. Following completion of the updated Bay-Delta Water Quality Control Plan, SWP and CVP operations would need to be reviewed to determine if the operations continued to comply with the new regulations. See Master Response 44 for more regarding the decision tree process under Alternative 4.

DEIRS Ltr#	Cmt#	Comment	Response
		http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts020811/010411dpowell.pdf; "…current Delta water flows for environmental resources are not adequate to maintain, recover, or restore the functions and processes that support native Delta fish." Executive Summary in 2010 CDFG Flow Criteria. "a strong majority of scientists prioritizes habitat and flow management actions that would restore more natural processes within and upstream of the delta" (p. 2) http://www.ppic.org/content/pubs/report/R_413EHR.pdf] Since current water flows are insufficient to support listed and other protected species any further decrease in in-stream flow and Delta outflow will inevitably result in further significant adverse effects on aquatic species. Thus an increase in Delta outflow is necessary to protect aquatic species. [footnote 106: State Water Resources Control Board's, 2010 Flows Report, p.2. "Interior 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." USFWS May 23, 2011 Phase I Scoping Comments, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts052311/amy_aufdemberge.pdf "Inadequate flow to support fish and their habitats is directly and indirectly linked to many stressors in the San Joaquin river basin and is a primary threat to steelhead and salmon." NMFS February 4, 2011 Phase I Scoping Comments, available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/cmmnts020811/010411dpowell.pdf; "…current Delta water flows for environmental resources are not adequate to maintain, recover, or restore the functions and processes that support native Delta fish." Executive Summary in 2010 CDFG Flow Criteria. "a strong majority of scientists prioritizes habitat and flow management actions that would restore more natural processes within and upstream of the delta" (p. 2) http://www.ppic.org/content/pubs/report/R_413EHR.pdf] In particular, the State Water Resources Control Board ("SWRCB") determined in 2010 that the Bay-Delta ecosystem and native fisheries require minimum freshwater outflows to preserve public trust values, specifically: 75% of unimpaired Delta outflow from January through June; 75% of unimpaired Sacramento River inflow from November through June; and 60% of unimpaired San Joaquin River inflow from February through June. [footnote 107: SWRCB 2010.] The SWRCB found that over the past two decades Delta outflows have only been 30% of unimpaired flows in drier years, and average of about 50% of unimpaired flows from April to June for Sacramento River inflows, and 20% in drier years to almost 50% in wetter years for San Joaquin River inflows. Nowhere does the BDCP target these required outflows. Yet the BDCP acknowledges that already-impaired Delta freshwater outflows to San Francisco Bay will decrease further under the project's operations, a diminution that will be exacerbated by climate change. Delta freshwater outflows critical to the survival of native fish will be sacrificed under the BDCP in order to maintain water exports at a high level. The EIR/EIS absolutely fails to analyze the significant effects of reduced Delta outflow to San Francisco Bay on all native fish species. Instead, a final determination on the magnitude of Delta outflows is delayed by the plan's "Decision Tree," even though federal fishery agencies have stated unequivocally that the low outflow scenario cannot be supported by legal permits.	
1734	34	The BDCP Twin Tunnels project will increase contract-based water deliveries in wetter years, and will increase Delta water exports in dry and drought years as the tunnels increase water transfer opportunities for California's water market. The BDCP will exacerbate reductions of	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative.

DEIRS Ltr#	Cmt#	Comment	Response
		freshwater flow to the estuary during critical life stages for protected fish species, and could lead to the outright extinction of many native fish species. Sacramento River inflow will decrease directly from the operations of the BDCP. The effect of continued high water diversions from the Delta combined with movement of the salinity barrier eastward due to climate change will have a damaging effect on salmon and steelhead and further reduce smolt survival. Mount et al. found that the new north Delta facility will cause significant losses of out-migrating winter-run and spring- run Chinook salmon, and that most of the BDCP's proposed mitigation approaches have high levels of uncertainty. [footnote 108: Mount et al. (2013).]	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 eat the south Delta export facilities. For instance, implementing a dual conveyance system would align water operations, and their location, to better reflect natural seasonal flow patterns by creating new water diversions in the north Delta equipped with State-of-the-art fish screens, thus reducing reliance on south Delta exports during times of the year when listed aquatic species are present and most vulnerable. For more information on mitigation measures to minimize contraction and operational-related impacts to fish species, including Delta and longfin smelt, please see Chapter 11, RDEIR/SDEIS. In addition, the project will be operated in way that is consistent with Endangered Species Act (ESA), State Water Resources Control Board (SWRCB), and other state and federal agency regulations to maintain suitable Delta water quality, minimize effects to fish and wildlife species, and to meet municipal, industrial, and agricultural water demand.
1734	35	BDCP analysis shows that the SWP and CVP South Delta export pumping plants will continue to operate during below-normal, dry, and critically-dry years, while the North Delta Intakes and the Twin Tunnels facilities will be used primarily in wet and above-normal years. This ongoing dependence on the South Delta pumps means that delta smelt and longfin smelt will continue to be killed at the South Delta pump stations. Drier years already occur up to 40% of the time, a trend that will only intensify with climate change. Yet there is no plan by the BDCP to improve fish screens and salvage operations or mitigate reverse flow impacts on fisheries at the existing South Delta export pumping facilities.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. 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 RDEIR/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. DWR and Reclamation are required to improve fish collection efficiency at the existing south Delta salvage facilities, as part of facility improvements required by the National Marine Fisheries Service 2009 biological opinion on the SWP/CVP. For example, in 2014 Reclamation replaced the secondary louver system with a traveling screen system. These screens provide protection by guiding fish into the holding tanks while catching debris on pegs and transporting debris to a collection system at the work surface. The technology required at the proposed north Delta intakes and the existing south Delta export facilities differ fundamentally. The north Delta intakes would be located on the side of the river channel and so would be designed to comply with CDFW, NMFS, and USFWS fish screening criteria (Appendix 5B Section 3.B.3.3). The south Delta export facilities are located on dead-end channels and requires active collection and salvage of fishes. Screening the intakes at Clifton Court Forebay was analyzed during the water conveyance alternative development process and is described in the 2013 Public Draft EIR/EIS, Appendix 3A. This alternative was eliminated from further evaluation because initial results of recent studies, including information included in the recent NMFS biological opinions, supported a phased approach that would emphasize improvements to operations of fish handling facilities and reduced predator potential within Clifton Court Forebay prior to further analysis of installation of fish screens. Nevertheless, DWR and Reclamation will continue investigating strategies to increase fish salvage efficiency, reduce pre-screen losses, and improve screening efficiencies, consistent with the 2009 biological opinion of the SWP/CVP. Entrainment has long been recognized as a consequence of pumping at the existing south Delta diversions. The risk of entrainment at the diversions has been reduced and partly remediated through the installment of fish screens and addition of salvage facilities. Additionally, the reductions in export levels pursuant to the

DEIRS Ltr#	Cmt#	Comment	Response
			existing CVP/SWP Biological Opinions have served to further reduce entrainment risks. Through CM1, the BDCP will provide for further reductions in entrainment and its associated risks, including stress/injury related to salvage operations, and pre-screening and post-screening losses from predation. The existing south Delta export facilities are located in areas occupied by covered fish species, at least for part of the year. With addition of the new conveyance facilities in the north Delta, diversions levels in the south Delta will be reduced, thereby further minimizing the risk of entrainment mortality of salmonids, smelt, splittail, sturgeon and Pacific and river lamprey, as well as the risk of predation mortality of salmonids, smelt, lamprey, and splittail associated with the export facilities. (Fish that do become entrained into Clifton Court Forebay will have predation risk reduced through measures described in CM15 Localized Reduction of Predatory Fishes.) In addition, because the north Delta diversions do not require a fish salvage facility, their operation is expected to reduce mortality of covered fish species that may occur through collection, handling, transport, and release of salvaged fish from the existing export facilities and predation within these facilities. The existing operation of the SWP and CVP pumps in the south Delta can cause reversals in river flows, potentially altering salmon migratory patterns. The new system would reduce the ongoing physical impacts associated with sole reliance on the southern diversion facilities and allow for greater operational flexibility to better protect fish. Minimizing south Delta pumping would provide more natural east–west flow patterns (RDEIR/SDEIS Section 4.1). Overall reductions in OMR reverse flows under all flow scenarios for the proposed project would be beneficial with corresponding increase in net positive downstream flows, during the migration period of Chinook salmon through the interior Delta channels (Appendix B, Supplemental Modeling for Alternative 4A, Section B.7 (RDEIR/SDEIS Section 4.3.7). Operations would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board 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).
1734	36	A peer-review by the National Research Council in 2011 slammed the BDCP for flawed scientific analysis of the project's impacts on listed fish species. [footnote 109: NRC (2011).] Those flaws have not been adequately addressed in the DEIR/EIS.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The commenter does not provide any specific information on what they find as flawed in the EIR/EIS.
1734	37	In 2012, The Bay Institute ("TBI") published a briefing paper on the flaws of the Effects Analysis for the BDCP. [footnote 110: TBI (2012).] TBI found that the BDCP would not only fail to contribute to the recovery of protected fish species, but that it would actually increase the risk of extinction for many native fish species. TBI also found that the BDCP underestimates the negative effects of the project on endangered fish species and their habitats, by ignoring known and likely negative impacts and overestimating potential benefits. TBI found that the technical appendices the BDCP relies upon "employ non-standard or questionable analytic approaches while ignoring proven scientific tools and metrics; "cherry-pick" data to support a particular outcome; tailor the presentation of model outputs to reflect most favorably on the project; and misrepresent current scientific research and the professional judgment of experts." We do not see that these inadequacies have been corrected in the DEIR/EIS.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. Alternative 4 remains a viable alternative. However, a modified proposed project (Alternative 4A/California WaterFix) also 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
			The commenter does not state specifically what they find flawed with the DEIR/DEIS.
1734	38	Covered fish species will be significantly impacted by the BDCP. Both the BDCP and the DEIR/EIS include detailed analyses discussing how the project will impact each of the covered fish species. The BDCP must contain "specific conservation measures that meet the biological needs of covered species and that are based upon the best available scientific information regarding the status of covered species and the impacts of permitted activities on those species." [Cal. Water Code Sec. 85320(b)(2)(A); Cal. Fish & Game Code Sec. 2820(a)(6)]. However, despite the level of detail, the analyses do not adequately address how the BDCP will impact each covered fish species. The BDCP and the DEIR/EIS also overestimates the positive benefits that DWR does predict, misinforming the public of the true impacts caused by the project.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred 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. The commenter does not provide any specific examples of what they find flawed with the DEIR/DEIS.
1734	39	Delta smelt The Center has been working to conserve delta smelt since 2007, filing petitions to change the federal and state listing status of delta smelt to endangered, and restricting pesticide uses harmful to smelt. Large areas of historic delta smelt habitat in the Delta have been rendered unsuitable for juvenile stages of delta smelt by the operations of the state and federal water projects, correlated with installation of south Delta tidal gate barriers, substantial increases in fresh water exports, and increases in high-volume export operations. Increased fresh water exports are having significant negative effects on delta smelt abundance. Higher water export rates are correlated with significantly lower delta smelt population abundance. [footnote 111: Swanson (2005), CBD et al. (2006).] The trend of increases in water exports from the Delta and high-volume water exports during periods of low freshwater inflow delays migrating adult smelt, impairs downstream transport of larval and juvenile delta smelt from upper estuary spawning habitat to brackish water rearing habitat, and lethally entrains all life stages of smelt at the SWP and CVP pumps. The fish screens at the SWP and CVP pumps are known to be inadequate to protect delta smelt. [footnote 112: Bowen et al. (2004).] The invasive clam Corbula amurensis has reduced the abundance of the zooplankton food supply in the Estuary for both longfin smelt and delta smelt. Delta smelt are extremely endangered. Delta smelt numbers have been below the "effective population size" (the population level below which a species is subject to inbreeding and genetic drift; 9 of the last 10 years, since 2004. [footnote 113: Bennett (2003).] See the delta smelt abundance indices from CDFW fall midwater trawl below. Given the delta smelt's fragile ecosystem, any negative impacts from take could far outweigh positive ones. The BDCP claims that the impact of take would be minimal, but the evidence suggests otherwise. [footnote 114: See Draft BDCP, at 5-234.] Section 2820(f) of the NCCPA requires the California Department of Fish and Wildlife to find that the plan made use of best available science to analyze the impacts of take prior to approving	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred 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. The background comments in the first three paragraphs are generally are consistent with information presented in the BDCP, although it is unclear where the evidence for some of the suggestions comes from (e.g., "high-volume water exports during periods of low freshwater inflow delays migrating adult smelt") and the mechanism for "transport" of early life stages is not consistent with the BDCP effects analysis (see footnote 1 on p. 5.5.1-8 in Chapter 5 of the public draft BDCP). With respect to "The BDCP claims that the impact of take would be minimal, but the evidence suggests otherwise", the commenter appears to be citing the specific section on pages 5.5.1-34 and 5.5.1-35 that is related to potential construction effects from CM1 and other conservation measures; it is unclear which "evidence suggests otherwise" the commenter specifically is referring to. With respect to "The high uncertainty suggests best available science was not used here, violating the NCCPA", it is unclear why high uncertainty in the analysis suggests that the best available science was not used; in fact, the effects analysis has been developed in coordination with the regulatory agencies and

DEIRS Ltr#	Cmt#	Comment	Response
		the plan. The high uncertainty suggests best available science was not used here, violating the NCCPA. The BDCP asserts the plan will result in no net change in several attributes for delta smelt as compared to existing conditions but that assertion violates the basic purpose of an HCP. [footnote 115: See Draft BDCP, at 5-237.] The BDCP should be facilitating survival and recovery instead of maintaining the status quo, not trying to keep things the same - especially when the existing conditions are leading the species to extinction. The applicants do not provide adequate support for many of its conclusions in the DEIR/EIS regarding several fish species, starting with the delta smelt. For example, the DEIR/EIS states that turbidity increases will negatively alter habitat conditions for the delta smelt, but then asserts that delta smelt has adapted to life in turbid waters, so an increase in turbidity will improve habitat conditions. [footnote 116: DEIR/EIS at 11-239.] The applicants do not cite to any scientific studies, however, explaining how this conclusion was reached or supporting the assertion that delta smelt have actually adapted to turbid waters. The certainty of the effects of the BDCP on the delta smelt is moderate to low. [footnote 117: Draft BDCP, at 5-234.] Despite the uncertainty that restoration and conservation measures will actually result in the positive impacts hoped for, the BDCP plays up the beneficial effects and downplays the adverse effects. [footnote 118: Draft BDCP, at 5-236, 5-237.] The BDCP relies on the restoration of tidal wetlands as the primary driver of benefits to the delta smelt, but restoration of the tidal wetlands is highly uncertain. [footnote 119: Draft BDCP, at 5-240, 7.] Relying on such an uncertain restoration measure to carry the benefit of BDCP for delta smelt misleads the public into believing the positive benefits are greater than they actually are.	strives to include the best available science, a process that is continuing in response to public and agency comments during preparation of the final BDCP and BDCP/CWF FEIR/EIS. Adaptive management and monitoring aims to reduce uncertainty and allow changes to conservation measures as knowledge is gained; please also see Master Response 33. With respect to "The BDCP asserts the plan will result in no net change in several attributes for delta smelt as compared to existing conditions but that assertion violates the basic purpose of an HCP", the specific attributes that the commenter is highlighting are of zero or low importance to delta smelt because they are not relevant as defined (interior Delta entry, channel margin habitat), are not constraining to the species (dissolved oxygen), or would not be changed by the BDCP (ammonium; as noted on p. 5.5.1-41 in Chapter 5 of the public draft BDCP, ammonium will be reduced with planned upgrades to the Sacramento Regional Wastewater Treatment Plant). It is unclear why no change in these attributes constitutes a violation of the basic purpose of an HCP, given that the BDCP proposes to change other important attributes to delta smelt such as food web productivity and entrainment. With respect to turbidity-related effects, the specific example is in association with construction, and reflects the positive correlation between smelt occurrence and turbidity (e.g., Kimmerer, W. J., E. S. Gross, and M. L. MacWilliams. 2009. Is the Response of Estuarine Nekton to Freshwater Flow in the San Francisco Estuary Explained by Variation in Habitat Volume? Estuaries and Coasts 32(2):375-389; Nobriga, M. L., T. R. Sommer, F. Feyrer, and K. Fleming. 2008. Long-Term Trends in Summertime Habitat Suitability for Delta Smelt (Hypomesus transpacificus). San Francisco Estuary and Watershed Science 6(1).) The commenter is correct in noting that the net effects analysis for delta smelt contained in the BDCP public draft concludes that there is low to moderate certainty in many of the effects to delta smelt. Please see Master Response 17 regarding delta smelt and Master Response 33 regarding adaptive management and monitoring. Under the revised Preferred Alternative, issues of take quantification and jeopardy are evaluated in a biological assessment and will addressed in the biological opinion reflecting outcomes of an interagency consultation between Reclamation, USFWS, and NMFS. That analysis, still in progress, differs in many particulars from the BDCP effects analysis.
1734	40	ATT1: Bar graph of Delta Smelt Indices from 1967-2013	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1734	41	Longfin smelt The longfin smelt was once one of the most abundant open-water fishes in the San Francisco Bay Estuary, but it has undergone two catastrophic declines in the past 20 years. [footnote 120: Center (2014).] The Center has long been fighting to prevent the longfin smelt from continuing in its decline. On August 8, 2007, the Center for Biological Diversity petitioned the Fish and Wildlife Service to list the longfin smelt as an endangered species under the ESA. [footnote 121: Center (2007).] The FWS determined, in 2012, that the longfin smelt warranted consideration for protection but instead of listing the species as endangered or threatened the FWS added the longfin smelt to the list of candidates for ESA protection. [footnote 122: FWS (2011).] Similar to the delta smelt longfin smelt are also vulnerable to lethal entrainment into the federal and state pumps during spawning. The steady decline of The San Francisco Bay-Delta population of longfin smelt coincides with significant increases in Delta water exports, particularly during the sensitive winter and early spring periods when adult longfin	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. With respect to "The BDCP does not provide those needed flows as discussed above", the flow prescription under the High Outflow Scenario was developed in association with the regulatory agencies in order to provide the potential for greater outflow pending the outcome of the Decision Trees process (see section 5.5.2.1.1 of Chapter 5 in the public draft BDCP, in particular Table 5.5.2-1; see also Master Response 44). The proposed project no longer includes a decision tree or associated HOS, but does include a robust collaborative science and adaptive management plan designed to better understand key scientific uncertainties pertaining to Delta fish and operations, and provides a mechanism for adjustments to operations to ensure that the effects of the CVP and SWP are minimized with the new point of diversion. Initial criteria included in the preferred alternative are those that reduce reliance on the south Delta facilities once the new NDD is operational, addressing the entrainment issues that have occurred in the south Delta for several fish species, while maintaining outflows consistent with the current BiOps.

DEIRS Ltr#	Cmt#	Comment	Response
		smelt and their larvae are concentrated in the freshwater and low salinity regions of the Estuary. Hydrodynamic analyses of Delta flows indicate that under recent water inflow and export conditions all larval and juvenile longfin smelt present in the central and southern regions of the Delta are likely to be entrained and killed. Analyses have demonstrated a statistically significant negative relationship between longfin smelt population abundance and Delta water exports as a fraction of Delta inflow: high export ratios during the winter and early spring consistently correspond to low longfin smelt abundance. [footnote 123: See literature cited in TBI et al. (2007).] The invasive clam Corbula amurensis has reduced the abundance of the zooplankton food supply in the Estuary for both longfin smelt and delta smelt. The San Francisco Bay-Delta population of longfin smelt has declined to record low levels of population abundance, and has been at almost continuous, unprecedented low numbers since 2001. See the longfin smelt abundance indices from CDFW fall midwater trawl below. Viable populations of delta smelt and longfin smelt are dependent upon sufficient freshwater outflows during critical life stages for migration to seasonal habitats and to prevent entrainment at water project pumps. The BDCP does not provide those needed flows as discussed above. The BDCP determined that the plan may result in incidental take of longfin smelt. [footnote 124: Draft BDCP, at 5-263.] Additionally, the plan has also predicted that if the longfin smelt's population size manages to increase, take could also increase. [footnote 125: Draft BDCP, at 5-264.] This prediction is a clear violation of the purpose of an HCP - to help a species recover - as discussed previously. The BDCP also claims the magnitude of take and vulnerability to predation mortality of longfin smelt will vary depending on a variety of factors, suggesting the take could be even greater than predicted. [footnote 126: Draft BDCP, at 5-264.] The certainty of the effects of the BDCP on the longfin smelt is moderate to low. [footnote 127: Draft BDCP, at 5-265.] The BDCP asserts that the main beneficial effect of the plan will be an increase in food production due to tidal natural community restoration, but then later points out the extent to which export of food resources may occur is uncertain. [footnote 128: Draft BDCP, at 5-265.] The BDCP and DEIR/EIS are relying on the potential for increased food production to outweigh the adverse effects of project, but the conclusions that adverse effects have low importance are made with low certainty, suggesting that DWR cannot accurately conclude anything regarding how the project will affect longfin smelt. [footnote 129: Draft BDCP, at 5-261, 262.] The BDCP and DEIR/EIS also do not make clear exactly how an increase in food production is going to help the longfin smelt population.	With respect to take, the commenter is correct in noting that the effects analysis concluded that Alternative 4 could result in take of longfin smelt (section 5.5.2.3 of Chapter 5 of the BDCP public draft). In highlighting that take could increase under the BDCP, the commenter appears to not be recognizing that the analysis is referring to an increase in take as an increase in the number of individual longfin smelt taken (e.g., because of an increase in overall population abundance because of improving conditions) as opposed to an increase in the proportion of the population take: "Take of longfin smelt at the south Delta facilities could increase in the future if the population size increases as a result of the BDCP or other actions; however, this will not represent an increase in loss as a proportion of the population" (lines 17-19 in section 5.5.2.3 of Chapter 5 of the BDCP public draft). The take analysis is qualitative in nature, particularly for activities such as CM1 construction, and so the magnitude of take is not well quantified; the commenter's suggestion that take could be greater than predicted is only in relation to a qualitative assessment of take. The commenter is correct in noting that the net effects analysis for longfin smelt contained in the BDCP public draft concludes that there is low to moderate certainty in many of the effects to longfin smelt. Please see Master Response 33, adaptive management and monitoring. Contrary to the comment that the "The BDCP and DEIR/EIS also do not make clear exactly how an increase in food production is going to help the longfin smelt population", the BDCP effects analysis described a conceptual model by which enhanced food production from restoration under CM4 could increase longfin smelt recruitment per unit of outflow (see p. 5.5.2-12 in Chapter 5 of the BDCP public draft). 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.
1734	42	ATT2: Bar graph of Longfin Smelt Indices from 1967-2013	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.
1734	43	Salmonids The Center has been working to conserve Central Valley and Sacramento River salmon and steelhead since 1999, filing litigation that resulted in the designation of critical habitat and protective regulations for Sacramento River winter-run Chinook salmon, Central Valley	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Regarding uncertainty in the analysis, these documents disclose uncertainty throughout them. Methods describe limitations in models and analyses, results are described in the context of level of certainty, and conclusions are described in light of confidence in the results. There is no less certainty in the conclusions

DEIRS Ltr#	Cmt#	Comment	Response
		spring-run Chinook salmon and Central Valley steelhead. Sacramento River winter-run Chinook salmon are extremely endangered and are now represented by a single naturally spawning population within 44 miles of the Sacramento River, that has been displaced from its historic spawning habitat by the construction of Shasta and Keswick Dams. Numbers of spawning Chinook in this population have declined in recent years to an estimated 1,349 wild fish in 2010. [footnote 130: NMFS (2011).] Threatened Central Valley spring-run Chinook salmon inhabit the Sacramento River basin below major dams, and only 3 of 19 historic runs still survive. Adult escapement has averaged about 16,000 fish in recent years. [footnote 131: NMFS (2011).] National Marine Fisheries Service cites juvenile losses at the CVP and SWP Delta pumping facilities and reverse flows in portions of the Delta as significant factors in the decline of listed salmon species. The tendency to increase pumping in the winter at SWP and CVP pumps may further increase salmon mortality rates from entrainment. [footnote 132: Kimmerer (2008).] Water diversions at the Delta pumps also drastically alter the hydrology, salinity and turbidity and thus the habitat conditions in the lower Delta where juvenile salmon rear. There are three salmon populations that will be affected by the BDCP: Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley fall-run/late fall-run Chinook salmon. The runs are identified based on when adult Chinook salmon enter freshwater to begin their spawning migration. [footnote 133: NOAA Fisheries (2014).] The BDCP contains more detailed analysis for the three salmonids than the other covered fish species, likely because salmonids have a complex life history. The complex life history, however, creates greater uncertainty in the overall net effect of the BDCP. As with other covered fish species, the BDCP relies heavily on habitat restoration as a beneficial effect on salmonids; but unlike the other covered fish species, the BDCP does not even what level of certainty it has for concluding the project would benefit salmonids. [footnote 134: Draft BDCP, at 5-310, 5-315, 5-336, 5-370, and 5-393.] Without even a low level of certainty that the beneficial effects will actually be a success, the BDCP cannot accurately conclude that the net effect is expected to be a positive change. Another difference between salmonids and other covered fish species--a difference not always made clear in the BDCP--is the presence of hatchery salmonids in the Delta. More than 32 million young Central Valley fall-run Chinook salmon and nearly four million Sacramento River Chinook salmon are released every year. [footnote 135: CDFW (2014).] The BDCP analysis does not distinguish between wild salmonids and hatchery salmonids, an important distinction to make because wild salmonids are a higher priority species under the ESA. The BDCP and DEIR/EIS' failure to distinguish between wild and hatchery salmonids violates the ESA and NCCPA by not specifying survival of the species specifically covered under the law.	drawn for salmonids; in fact, there is higher certainty in conclusions for salmonids because more information is known about salmonid species than some others (e.g., river lamprey). Regarding distinguishing between hatchery and wild individuals, it is not reasonable to parse effects of the alternatives on wild versus hatchery individuals. If the surveys, data, and models upon which our analyses are based were separated by wild versus hatchery fish, we may be able to parse these effects, but this is not reasonably possible at present.
1734	44	Effects of flow changes on salmon. Delta inflow and outflow affects the migration patterns of Chinook salmon, no matter the run or population segment. [footnote 136: CDFG (California Dept. of Fish and Game) (2010).] The DEIR/EIS acknowledges that Delta outflow would likely decrease, or remain similar to existing conditions, with the implementation of Alternative 4. [footnote 137: DEIR/EIS, at 11-52.] Decreased flows could lead to a decrease in the migration rate of	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The existing operation of the SWP and CVP pumps in the south Delta can cause reversals in river flows, potentially altering salmon migratory patterns. The new system would reduce the ongoing physical impacts associated with sole reliance on the southern diversion facilities and allow for greater operational flexibility to better protect fish. Minimizing south Delta pumping would provide more natural east–west flow patterns

DEIRS Ltr#	Cmt#	Comment	Response
		juvenile salmonids moving downstream. [footnote 138: CDFG (2010).] If that occurs, juvenile salmonids would be exposed to increased exposure time in unsuitable water temperatures, entrainment in water diversions and the interior Delta, predation, and contaminants. [footnote 139: CDFG (2010).] Chinook salmon have higher survival rates with higher flows, which means decreasing flows would lead to a decrease in the salmon population, and this is the exact opposite purpose of an HCP/NCCP. [footnote 140: CDFG (2010).] If Delta flows decrease, the juvenile salmonids that do survive will still have trouble spawning. There is a clear correlation with flow patterns and populations: spawning salmon are distributed in proportion to flow from the rivers, which means total inflow reflects general conditions in the spawning and nursery areas. [footnote 141: Stevens and Miller (1983).] In fact, abundance of young Chinook salmon is significantly correlated with flow during several monthly periods throughout the year. [footnote 142: CDFG (2010).] The BDCP also acknowledges that there is potential for increased frequency in reverse flows in the Sacramento River. [footnote 143: Draft BDCP, at 5-288.] Reverse flows cause confusion among salmon and can divert them away from main migration routes. [footnote 144: Brandes and McLain (2001).] Such migration changes or delays would expose juvenile salmon to the same mortality factors listed above, decreasing their survival. The BDCP and DEIR/EIS need more clarification and disclosure as to how all of these flow changes will impact the covered fish species; many, not just salmon, will be affected by flow changes within the Delta. Although there are a few CMs in place to try to mitigate the impacts of flow effects as discussed below, the analyses aren't detailed enough or clear enough to adequately explain how the BDCP will accomplish its goals of survival and recovery; as it stands, the BDCP appears to do the opposite.	(RDEIR/SDEIS Section 4.1). Overall reductions in OMR reverse flows under all flow scenarios for the proposed project would be beneficial with corresponding increase in net positive downstream flows, during the migration period of Chinook salmon through the interior Delta channels (Appendix B, Supplemental Modeling for Alternative 4A, Section B.7 (RDEIR/SDEIS Section 4.3.7). Operations would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 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.
1734	45	Central Valley steelhead The Center has been working to conserve Central Valley steelhead since 1999, filing litigation that resulted in the designation of critical habitat and protective regulations for the species. The analysis for Central Valley steelhead is divided into two regions: Sacramento River region and San Joaquin River region. [footnote 145: Draft BDCP, at 5-396, 5-412.] The BDCP concludes that the positive effects will outweigh the negative effects, but then states there is even less certainty regarding the benefits of the plan for steelhead than there was for the Chinook salmon - there was no certainty for the Chinook salmon. [footnote 146: Draft BDCP, at 5-411.] The concerns addressed above regarding the effects of flow changes on salmon also apply to steelhead. Steelhead have similar life histories to salmon, and therefore it is very likely that a decrease in Delta flow will have the same detrimental impact on steelhead as it would on salmon.	Please see responses to comments 1734-43 and 1734-44 regarding effects on salmonids.
1734	46	Sacramento splittail The Sacramento splittail was once prevalent in the Delta, but water diversions and alteration of spawning and rearing habitat have driven the species to near extinction. [footnote 147: Center (2014).] The Center [for Biological Diversity]'s 1998 lawsuit, filed along with the Sierra Club, forced the Fish and Wildlife Service to take action and resulted in	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. Please see the FEIS/FEIR, Chapter 11, Fish and Aquatic Species, Alternative 4A for an adequate analysis of potential project impacts on splittail entrainment.

DEIRS Ltr#	Cmt#	Comment	Response
		the Sacramento splittail finally being listed as threatened. [footnote 148: Center (2014).] In 2003 FWS [Fish and Wildlife Service] removed the Sacramento splittail from the ESA [Endangered Species Act] list of protected species; despite another lawsuit from the Center in 2009 demanding re-evaluation, the Sacramento splittail remains unlisted. [footnote 149: Center (2014).] The Center refuses to give up its fight in protecting Sacramento splittail, and is determined not to let the BDCP continue the species' decline. The BDCP activities are expected to result in take of the Sacramento splittail, primarily because of entrainment at the south Delta SWP/CVP facilities. [footnote 150: Draft BDCP, at 5-441.] Shortly after making such a statement, the BDCP then concludes that new diversions and new fish screen facilities will decrease entrainment if not completely offset entrainment at the new facilities. [footnote 151: Draft BDCP, at 5-442.] This seems contradictory and leads the reader to believe avoidance and minimization measures will prevent entrainment. If that's true, then how would take still occur? This is yet another example of how the BDCP fails to address project impacts or adequately weigh the positive versus adverse effects due to the project.	
1734	47	Green and white sturgeon Green sturgeon is a rare species of fish that has been around for almost 200 million years, but is now on the brink of extinction thanks to habitat change and overharvesting. [footnote 152: Center (2014).] The green sturgeon has two distinct populations: southern Distinct Population Segment [DPS], found in the Delta, and northern DPS, found north of California. [footnote 153: NOAA [National Oceanic and Atmospheric Administration] (2013).] The Center [for Biological Diversity] petitioned in June 2001 requesting NFMS [National Marine Fisheries Service] list the green sturgeon as endangered or threatened under the ESA [Endangered Species Act]. [footnote 154: Center (2001).] In 2006 National Marine Fisheries Service listed the southern DPS as threatened. [footnote 155: Center (2014).] Thanks to a lawsuit filed by the Center in 2007, the green sturgeon was also granted 8.6 million acres of critical habitat. [footnote 156: Center (2014).] The Center has fought hard to save the green sturgeon and does not want to see the BDCP destroy the few fish remaining. The southern population of green sturgeon spawns only in the Sacramento River basin, with as few as 50 pairs of spawning fish estimated to remain. Production of young sturgeon in the Sacramento River system is strongly correlated with high freshwater outflow, by transporting larvae past the Delta pumps and to available habitat and sources of food abundance. Adult sturgeon also appear to spawn in greater numbers in high outflow years. Changes in hydrology in the Delta due to water diversions and the SWP and CVP pumps subject juvenile sturgeon to the same diversion, entrainment, disruption of migration, and poor habitat quality conditions that affect salmon. The white sturgeon is not currently listed under the ESA or CESA, but its populations have also been rapidly declining. The number of white sturgeon has declined from around 114,000 adults in 1994 to merely 10,000 adults in 2005--that's almost a 90% decline in population in only 11 years. [footnote 157: Draft BDCP, at 5-447.] If the BDCP moves forward as planned, the white sturgeon will very likely find a place on the ESA list of endangered species as well. The BDCP predicts that the project could result in small net increases in the sturgeon populations, but then admits the number of juveniles entrained at south Delta facilities could also increase. [footnote 158: Draft BDCP, at 5-472.] Increasing the population just to	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. Impacts on both white and green sturgeon are evaluated in Chapter 11, FEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		end up with several fish dead completely defeats the purpose of trying to revive the sturgeon. Just like the discussion regarding the Sacramento splittail, the BDCP highlights contradictory conclusions on the project's effects on the green and white sturgeon. The BDCP fails to provide any support on how the implementation of CMs would result in net benefits and recovery for the species. The BDCP also admits there is a high level of uncertainty when it comes to how the change in flows in the Delta will affect sturgeon. [footnote 159: Draft BDCP at 5-475.] Since the analysis above (see Effects of flow changes on salmon) applied primarily to salmon and steelhead, there is still a concern of flow changes will affect all covered fish species, including green and white sturgeon.	
1734	48	Pacific and river lamprey Pacific and river lamprey are two additional species that the Center has tried to save. Along with several other organizations, in 2003 the Center filed a petition with the Fish and Wildlife Service [FWS] to list both species as either threatened or endangered, and to designate critical habitat. [footnote 160: Center (2003).] The FWS determined the following year that neither species warranted listing under the ESA [Endangered Species Act]. [footnote 161: FWS (2004).] The BDCP focuses its discussion on the effects the project will have on Pacific lamprey due to a lack of information regarding the river lamprey. [footnote 162: Draft BDCP, at 5-478.] However, using the excuse that "very little is known about the river lamprey" is unacceptable. [footnote 163: Draft BDCP, at 5-478.] The BDCP and DEIR/EIS would be violating both the ESA and NCCPA if the project moves forward on the project without understanding all of the covered fish species' biological needs and what the ramifications will be on those needs. Although there is more information available regarding the Pacific lamprey, the BDCP is still fairly uncertain with regards to a lot of issues. The BDCP claims there are no population estimates available to determine if the take at the south Delta facilities will be significant. [footnote 164: Draft BDCP, at 5-485.] Although the FWS decided not to list either lamprey, scientific evidence demonstrates their numbers are much lower than they used to be--and neither species can afford to lose more numbers. [footnote 165: Center (2003); FWS (2012).] By relying on a claim that it is impossible to detect significance, when in fact patterns of population decline are evident, the BDCP documents fail to adequately disclose how BDCP will affect lamprey. The BDCP will resulted in significant adverse effects these species that it must adequately address and mitigate.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The authors conducted a thorough search of the scientific literature at the time of EIR/S preparation and determined that there is very little available information to provide an accurate evaluation of effects to Pacific and river lamprey. Salvage estimates do not specify the species (Pacific or river) and IEP surveys throughout the Delta often do not specify by species or the species are incorrectly identified. There has been more research conducted on Pacific lamprey in other watersheds (i.e., Columbia River) and, therefore, whenever necessary due to a lack of information and when possible, the author's relied upon this best available information. Although the commenter's assertion that population trends show declines in California appears to be supported, this is all based on anecdotal and qualitative evidence and was not overly useful to our analysis. The BDCP/California WaterFix is not responsible for baseline population trends, whether they are declining or rising. There is no quantitative basis for determining whether the salvage density index that we calculated in our analysis would translate into a measurable effect on the species because we have no estimate of the total number of individuals.
1734	49	The BDCP will fail to meet the biological needs of covered terrestrial species. A. The BDCP's Conservation Measures (CMs) aim to primarily benefit aquatic species and has failed its purpose to protect all covered species. The BDCP has identified and proposed CMs 12-21 to reduce other stressors that affect the survival of covered fish species. [footnote 166: See DEIR/EIS, at 3-39, 3-68]. However, the BDCP does not explain why it would implement CMs that would alleviate stressors primarily for covered fish species even though the BDCP alternatives are required to minimize and mitigate adverse effects on all covered species including both aquatic as well as terrestrial species.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The commenter states that the EIR/EIS does not adequately address how habitat losses for terrestrial species would be minimized or mitigated but does not specifically provide an example of which impact are not being offset. Chapter 12 of the EIR/EIS evaluates the loss of habitat for terrestrial species and assesses the ability of avoidance and minimization measures (AMMs) to reduce impacts and the ability of proposed restoration and protection of habitat to offset habitat losses.

DEIRS Ltr#	Cmt#	Comment	Response
		B. The BDCP fails to demonstrate that CMs would minimize or mitigate adverse effects to the maximum extent practicable. Despite that CMs will directly and indirectly result in impact covered species as discussed above, the BDCP proposes activities that would result in significant adverse impacts on covered species that would not be adequately minimized or mitigated. By law the BDCP must include measures that would, to the maximum extent practicable, minimize and mitigate adverse effects on the covered species from implementation of the covered activities, where mitigation would occur through the protection, restoration, creation, and/or enhancement of habitat for covered species [(footnote 167: 16 U.S.C. Section 1532(a)(2)(B)(ii); (see also DEIR/EIS, at 3-40)]. The services will assess whether the BDCP is consistent with the maximum extent practicable standard by evaluating whether levels of minimizing and mitigating adverse effects is appropriate for the particular project at issue [(footnote 168: See Sierra Club v. Babbitt, 15 F.Supp.2d 1274, 1279-81 (S.D. Ala. 1998)]. One of the most impactful covered activities is the proposed construction of new water intake, forebays, and conveyance facilities (CM1), which would permanently alter between 3,500 and 20,000 acres of habitat in the north Delta. [footnote 169: DEIR/EIS, at 31-5]. Yet the BDCP does not adequately disclose how it would minimize and mitigate these impacts and instead relies on proposed habitat protection, restoration, and enhancement (habitat conservation or conservation reserve) activities to address these impacts. In fact, the availability of funding, feasibility, and success of many conservation or mitigation measures are highly uncertain, as we discuss below. Additionally, the implementing habitat conservation activities would also permanently alter thousands of acres of habitat and negatively affect certain species while bringing purported benefits to other species that highly speculative. [footnote 170: See other covered activities at DEIR/EIS, at 3-17]. The DEIR/EIS documents large-scale, permanent habitat loss for covered and other terrestrial species in the Delta from the implementation of various CMs without adequately addressing how the habitat loss would be minimized or mitigated. For instance, under Alternative 4, the construction and inundation of tidal wetlands (CM 4) would permanently remove 29,668 acres of burrowing owl habitat (including 9,929 acres of high-value habitat; 14,732 acres of tri-colored blackbird habitat; 2,519 acres of the giant garter snake habitat; 913 acres of valley elderberry longhorn beetle habitat; 545 acres of the endangered Least Bell's Vireo habitat; as well as 517 acres of terrestrial cover for the threatened California tiger salamander [footnote 171: DEIR/EIS, at 12E-103 and 12E-104]. In addition, CM11 would integrate recreation plans as a component of each conservation reserve unit management plan, which would identify sites where recreational use is compatible with the biological goals and objectives [footnote 172: DEIR/EIS, at 3-149]. However, the anticipated construction of recreational facilities under Alternative 4 would result in the permanent habitat loss of 24 acres for the threatened California red-legged frog and 40 acres for the California tiger salamander [footnote 173: DEIR/EIS, at 12E-104]. Anticipated recreational facilities would also result in 50 acres of foraging habitat loss for the western burrowing owl and the tri-colored blackbird [footnote 174: DEIR/EIS, at 12E-103]. We highlight specific concerns for certain terrestrial species below.	
1734	50	Western burrowing owl The Center has been working to conserve burrowing owls throughout California since 2003, challenging numerous development projects that would harm burrowing owl habitat and trying to make industrial wind turbines less deadly for burrowing owls. In 2003, the Center	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. AMM23, Western Burrowing Owl, which is found in Appendix 3B of the Final EIR/EIS, does propose passive relocation for instances when occupied burrows are present within a construction footprint and can't be

DEIRS Ltr#	Cmt#	Comment	Response
		petitioned for CESA protection for the western burrowing owl in California. Statewide surveys estimated 595 [footnote 175: DeSante and Ruhlen (1995).] to 600 pairs [footnote 176: Kemper (1996).] of burrowing owls remaining in the Delta region of the Central Valley in the mid 1990s (thinly distributed in Yolo, Solano, Sacramento, Contra Costa, San Joaquin, Stanislaus, and Merced Counties). Resurveys in 2006-2007 found an estimated 545 pairs in the same region, with most of those pairs in the lowlands of Yolo, Solano, Sacramento, Contra Costa and San Joaquin Counties. [footnote 177: Wilkerson and Siegel (2010).] Burrowing owls have been in serious decline particularly in Yolo County; with 70-80 pairs in 1985; [footnote 178: PHBA (2002).] 40-60 pairs over the whole of Yolo and Solano Counties from 2000-2005; [footnote 179: Widdicombe (2007).] and only 30-40 pairs in 2000; [footnote 180: PHBA (2002).] with continued declines over the past 15 years. Many of the "conservation zones" for the BDCP are in exactly these areas currently used by nesting burrowing owls in the Delta region, and would occur in the flat lowland areas preferred by burrowing owls. The BCDP would result in the loss of 12,451 acres of high-value habitat and 31,519 acres of low-value habitat for burrowing owls. Much of these impacts to high value burrowing owl habitat would be due to construction of water facilities (particularly at Clifton Court Forebay where there is a high concentration of burrowing owls), conversion of grasslands to tidal marsh, construction of setback levees that would allow seasonal inundation of floodplains, and modification of levees that may be inhabited by burrowing owls. One of the proposed mitigations for these impacts is passive relocation of owls from known breeding habitats. Passive relocation always results in a reduction in the number of breeding owls. It does not address the significant loss of extant breeding populations and there is no way of knowing where the evicted owls will go or whether they are able to breed successfully in other areas. Eviction or relocation of owls does not in any way mitigate for the habitat loss, habitat fragmentation, and reduced owl survivorship it will cause. The EIR/EIS claims that 8,000 acres of grasslands and 1,000 acres of cultivated lands with habitat value for burrowing owls will be "protected" but does not compare and contrast the known breeding populations of burrowing owls on the lands that will be lost with these "protected" lands. Setting aside lands as "protected" does not create any more burrowing owl habitat, whereas the construction and "restoration" impacts guarantee that known burrowing owl habitat will be lost. Burrowing owls have strong site fidelity and there is little evidence that burrowing owls in California are able to reestablish viable breeding populations once they are passively evicted. The proposed restoration of 2,000 acres of grasslands is the only conservation measure that could be construed as creating additional burrowing owl habitat, but it is speculative as to whether burrowing owls will actually use these restored grassland for breeding. The EIR/EIS claims that small mammal and insect prey items could be increased and burrow availability increased by encouraging ground squirrel occupancy on protected lands, but offers no examples where this type of effort has succeeded in the past. Such habitat would have to be managed in perpetuity as burrowing owl habitat, with maintenance of short grass height, control of predators, limited public access, and no persecution of ground squirrels to have enduring habitat value for burrowing owls. Finally, most of the conservation measures promised in the BDCP for burrowing owls would come far after the construction impacts and floodplain and tidal marsh "restoration" have altered suitable and occupied owl habitat - and there is no guarantee that they will actually	avoided. AMM23 requires that passive relocation be conducted during the non-breeding season and requires the installation of two artificial burrows for every occupied burrow lost. The intent of AMM23 is not to mitigate the loss of habitat but to avoid and minimize the potential for take. The loss of habitat will be mitigated through the protection of grassland and cultivated lands that will be managed for wildlife. The exact locations of the proposed protection and enhancement are not known at this time but grassland protection would likely occur in areas west of Clifton Court Forebay and thus would be in close proximity to owls that may be displaced by water conveyance Facility construction. AMM23 is based on the guidelines from the CDFW's 2012 Staff Report on Burrowing Owl Mitigation, which cites the results of Trulio (1995) that showed that burrowing owls in California have successfully reestablished at adjacent artificial burrows. The CDFW staff report also cites Thomsen 1971 and Haug and Oliphant 1990 to support the use of artificial burrows by evicted owls. The commenter incorrectly characterizes the implementation of proposed conservation efforts. All mitigation will be implemented prior to or concurrent with project impacts. For additional information regarding mitigation, please see Master Response 22.

DEIRS Ltr#	Cmt#	Comment	Response
		occur, since funding for many BDCP measures has not yet been secured. The conservation measures in the BDCP are not sufficient to conclude no adverse impact or a less than significant impact on the declining population of burrowing owls in the Delta region.	
1734	51	California red-legged frog The Center for Biological Diversity (Center) has been working to conserve California red-legged frogs and their habitats since 1992. The Center won protection of the red-legged frog as a threatened species under the Endangered Species Act in 1996, and subsequent designation of critical habitat. The Center has long fought to protect California red-legged frogs from harmful pesticide uses. The Center has also challenged dozens of development projects that jeopardized red-legged frog habitat throughout California. The BDCP study area overlaps with 3,321 acres of designated red-legged frog critical habitat. The conservation measures in the BDCP are not sufficient to conclude no adverse impact or a less than significant impact on the declining population of burrowing owls in the Delta region. Please see further comments attached as Exhibit A Re: Comments on the Bay Delta Conservation Plan EIR/EIS by Shawn Smallwood.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. Under the revised Preferred Alternative, the California red-legged frog well be addressed in a Biological Assessment that will be submitted to USFWS. The Final EIR/EIS address effects on California red-legged frog and the proposed avoidance and minimization measures and conservation to offset the loss of suitable habitat. No specific issues regarding the EIR/EIS's treatment of California red-legged frog are mentioned by the commenter. For more information regarding the projects effects on California red-legged frog and its habitat please see Impacts BIO-44 and BIO-45 in Chapter 12 of the FEIR/EIS. For more information regarding Avoidance and Minimization Measures please see Appendix 3B. Please see response to comment 1734-50 regarding burrowing owl. The comment refers to Exhibit A, a letter submitted by Shawn Smallwood, which is included a part of this comment later and those comments are addressed below.
1734	52	Giant garter snake The Center for Biological Diversity has worked to conserve giant garter snakes and their habitats since 2008, challenging water transfers that would eliminate giant garter snake habitat in Yolo County and challenging the U.S. Army Corps of Engineers policy that would clear vegetation used by garter snakes from levees in California. The conservation measures in the BDCP are not sufficient to conclude no adverse impact or a less than significant impact on the species in the Delta region. See further comments attached as Exhibit A Re: Comments on the Bay Delta Conservation Plan EIR/EIS by Shawn Smallwood.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The Final EIR/EIS describes proposed measures related to protection and restoration of giant garter snake habitat. No specific comments on the EIR/EIS's treatment of giant garter snake are raised in this comment. For more information regarding the projects effects on giant garter snake and its habitat please see Impacts BIO-49 to BIO-51 in Chapter 12 of the FEIR/EIS. For more information regarding Avoidance and Minimization Measures please see Appendix 3B of the FEIR/EIS. The comment refers to Exhibit A, a letter submitted by Shawn Smallwood, which is included a part of this comment later and those comments are addressed below.
1734	53	Valley elderberry longhorn beetle The Center [for Biological Diversity] has worked to conserve Valley elderberry longhorn beetles and their habitats since 2007, challenging development projects and pesticide use that would harm longhorn beetles, and successfully challenging Army Corps of Engineers policy that would have cleared elderberry vegetation used by longhorn beetles from levees in California. The Center [for Biological Diversity] is also opposing the premature proposed delisting of the Valley elderberry longhorn beetle. The conservation measures in the BDCP are not sufficient to conclude no adverse impact or a less than significant impact on the species in the Delta region. See further comments attached as Exhibit A Re: Comments on the Bay Delta Conservation Plan EIR/EIS by Shawn Smallwood.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The Final EIR/EIS describes proposed measures related to protection and restoration of valley elderberry longhorn beetle habitat. No specific comments on the EIR/EIS's treatment of valley elderberry longhorn beetle are raised in this comment. For more information regarding the projects effects on valley elderberry longhorn beetle and its habitat please see Impacts BIO-35 to BIO-37 in Chapter 12 of the FEIR/EIS. For more information regarding Avoidance and Minimization Measures please see Appendix 3B. The comment refers to Exhibit A, a letter submitted by Shawn Smallwood, which is included as part of this comment letter and those comments are addressed below.
1734	54	San Joaquin kit fox The Center for Biological Diversity (Center) has worked to conserve San Joaquin kit foxes and their habitats since 2002, challenging numerous development projects that would harm kit fox habitat, preventing use of pesticides and rodenticides harmful to kit foxes, and challenging oil and gas leases in kit fox habitat. The Center has also petitioned for critical	This comment provides background information on San Joaquin kit fox and does not raise specific issues with the BDCP or the EIR/EIS. Please see responses to comment 1734-56 for further discussion on San Joaquin kit fox.

DEIRS Ltr#	Cmt#	Comment	Response
		habitat for the species. The BDCP is proposed to cover the current northern most part of the federally and State endangered San Joaquin kit fox habitat. The San Joaquin kit fox has been under California Endangered Species Act (CESA) protection for over 43 years and under Endangered Species Act (ESA) protection for over 47 years. Despite the intervening years of conservation efforts, kit fox populations and amount of habitat continue to decline. Modeling suggests that the San Joaquin kit fox is threatened with extinction in the San Joaquin Valley by 2022, [footnote 18: McDonald-Madden et al. (2008).] making the peripheries of its range -- areas like the Bay Delta where the BDCP is proposed -- even more important for the survival of this imperiled and declining species. U.S. Fish and Wildlife Service reconfirmed that only three remaining core areas for the San Joaquin kit fox ("SJKF") occur in the species range. [footnote 182: USFWS (2010).] While, studies have shown that the most cost-efficient protection for the San Joaquin kit fox is protecting habitat the core areas rather than in other remaining areas of the species range, [footnote 183: Haight et al. (2004).] significant development continues in these core areas, including two massive solar projects -- Topaz on 4,700 acres and California Valley Solar Ranch also on 4,700 acres -- being built in the Carrizo Plain; a massive solar proposal -- Panoche Solar Farm on 4,717 acres -- in the Panoche Valley; and ongoing oil and gas development in the Western Kern core. Despite the fact that the Recovery Plan for the Upland Species of the San Joaquin Valley, also points out the importance of these three key areas for recovery, [footnote 184: USFWS (1998).] continuing development in these cores elevates the importance of conservation of habitat in the satellite areas including the satellite area in the BDCP planning area. Based on this dire situation, the Center has submitted a petition [footnote 185: Center (2010).] to the U.S. Fish and Wildlife Service identifying critical habitat for the San Joaquin kit fox and includes all the core areas, the satellite areas and the linkages within that proposal.	
1734	55	This iconic and valuable species San Joaquin kit fox and its habitat is clearly in significant decline, and the BDCP by nature will allow for more habitat destruction with off-setting conservation opportunities. With climate models indicating a hotter and drier climate for interior California, the kit fox adaptation to a warming drying climate may result in latitudinal movement into the northern parts of its current range. Therefore strategic durable conservation for the San Joaquin kit fox in this northern part of its range is key to safeguard the species from extinction by providing recovery opportunities.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. This comment provides background information on San Joaquin kit fox and does not raise specific issues with the EIR/EIS. Please see responses to comment 1734-56 for further discussion on San Joaquin kit fox.
1734	56	The BDCP proposes to conserve the kit fox through conservation of grasslands in Conservation Area 8 only, however the specific requirements for grassland management to benefit the kit fox are lacking (height of vegetation, composition [shrubs vs. forbs/grasses], etc.). In addition other key management strategies are also missing including banning rodenticides to prevent secondary poisoning, the construction of artificial and escape dens, the placement of San Joaquin Kit Fox passages through fencing and other strategies. The proposed numbers of acres impacted and conserved are very confusing and it is unclear exactly what the proposal is for conserving grassland habitat for the kit fox. For example, the Executive Summary states that "Species Habitat in the Plan Area - 5,327 acres of habitat / 1,073 acres protected," [footnote 186: DEIS, at ES-65.] however, further down that page it states "Benefits from Conservation Measures - 1,011 acres of habitat protected / 132 acres of habitat restored" and then "Adverse Effects from Covered Activities - up to 214 acres of habitat removed or converted" followed by "BDCP Implementation Net Effects - 82 acre net decrease of habitat / 1,016- acre net increase of habitat protected." [footnote 187: DEIS, at ES-65.] Based on those numbers, the plan may result in a total of 2,089 acres of	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. There are 5,327 acres of modeled San Joaquin kit fox habitat in the study area. Alternative 4A as a whole would result in the permanent loss of and temporary effects on 330 acres of associated grassland habitat for San Joaquin kit fox and potential habitat for American badger, representing 6% of the modeled habitat. These effects would result from construction of the water conveyance facilities (326 acres) and natural communities enhancement and management activities (4 acres). Under Alternative 4A, at least 647 acres of grassland would be protected in CZ 8, where the San Joaquin kit fox is most likely to occur in the study area. In addition, San Joaquin kit fox would benefit from the protection of 188 acres and restoration of 48 acres of existing vernal pool/alkali seasonal wetlands complexes in the greater Byron Hills. Grasslands in CZ 8 would also be managed and enhanced to increase prey availability and to increase mammal burrows, which could benefit the San Joaquin kit fox by increasing potential den sites, which are a limiting factor for the San Joaquin kit fox in the northern portion of its range. These management and enhancement actions are expected to benefit the San Joaquin kit fox as by

DEIRS Ltr#	Cmt#	Comment	Response
		conserved grassland habitat, but that still leaves a majority (3,238 acres [5,327 acres - 2,089 acres] or 60%) of the kit fox habitat in the plan area still out of conservation. Much clearer information on conservation acres and conservation strategy needs to be included in the plan for this critically endangered and declining species, especially in light of climate change.	increasing the habitat value of the protected grasslands. For more information regarding the projects effects on San Joaquin kit fox and its habitat please see Impacts BIO-162 and BIO-163 in Chapter 12 of the FEIR/EIS.
1734	57	California tiger salamander The Center for Biological Diversity (Center) has been working to conserve California tiger salamanders and their habitats since the 1990s. The Center won protection for several tiger salamander populations under the Endangered Species Act, and subsequent designation of critical habitat. The Center also petitioned for the state listing under CESA [California Endangered Species Act]. The Center has fought to protect California tiger salamanders from harmful pesticide uses. The Center has also challenged numerous development projects that jeopardized tiger salamander habitat in the Bay Area.	The comment provides background information on the California tiger salamander and does not raise any issues with the environmental analysis provided in the EIR/EIS documentation.
1734	58	Swainson's hawk The conservation measures in the BDCP are not sufficient to conclude no adverse impact or a less than significant impact on the species in the Delta region. See further comments attached as Exhibit A Re: Comments on the Bay Delta Conservation Plan EIR/EIS by Shawn Smallwood.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. Under the revised Preferred Alternative, Swainson's hawk conservation is addressed in a 2081(b) permit application filed with CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/S. The Final EIR/EIS describes proposed measures related to protection and restoration of Swainson's hawk habitat. No specific comments on the EIR/EIS's treatment of Swainson's hawk are raised in this comment. For more information regarding the projects effects on Swainson's hawk and its habitat please see Impacts BIO-83 to BIO-86 in Chapter 12 of the FEIR/EIS. For more information regarding Avoidance and Minimization Measures please see Appendix 3B. The comment refers to Exhibit A, a letter submitted by Shawn Smallwood, which is included a part of this comment later and those comments are addressed below.
1734	59	Tri-colored blackbird The Center has been working to conserve tricolored blackbirds throughout California for more than a decade. In 2004, the Center petition for federal and California Endangered Species Act protections for the tricolored blackbird. Recently in July 2014 the Center wrote a letter to California Fish and Game Commission requesting the adoption of emergency regulation to add tri-colored blackbird to the list of endangered species list. See Exhibit B: Center for Biological Diversity, Possible Adoption of Emergency Regulation to Add Tricolored Blackbird to the List of Endangered Species; August 6, 2014 Commission Agenda Item #11 (July 24, 2014) (separately attached). A 2014 Statewide Survey was held from April 18-20, 2014. It appears to have been the most comprehensive Statewide Survey ever, with 143 participants surveying for tricolors at 802 locations in 41 counties. The California population estimate derived from the Survey was 145,000 birds. This is a 44% reduction from the 258,000 birds seen during the 2011 Survey and a 63% reduction from the 395,000 birds seen during the 2008 Survey. Thus, the number of tricolors in California continues a rapid decline. The number of birds declined most markedly in the San Joaquin Valley, where there were 78% fewer birds seen in 2014 than in 2008 (73,482 vs. 340,703), and along the Central Coast, where there were 91% fewer birds seen in 2014 than in 2008 (627 vs. 7014). The	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The commenter provides the results of the Statewide Survey for Tricolored Blackbird. Although the BDCP Public Draft species account for Tricolored Blackbird does not include the results of the 2014 survey as it was published prior to the survey results being available, the trends of the 2014 survey mirror the trends of species decline that are presented in the BDCP Species Accounts (Appendix 2A Species Account). The Commenter states that the DEIR failed to present essential data but does not describe what data was not presented. In addition, the commenter states that the DEIR did not provide a subsequent analysis of project impacts or adequate mitigation. The Draft EIR/EIS conducted a project level analysis for the potential impacts of water conveyance facilities on the tricolored blackbird and a programmatic analysis of potential impacts of other conservation measures on the species. Adequate compensation for potential species and habitat impacts and avoidance and minimization measures are provided. Finally the commenter urges the County to address their issues in a supplemental or revised draft EIR; however it is unclear which county the commenter is addressing and the project proponent is not a County entity.

DEIRS Ltr#	Cmt#	Comment	Response
		number of birds in the Sierra Nevada foothills was up 145% compared to 2008 (54,151 vs. 22,586), and the number of birds seen in southern California was up 126% compared to 2008 (12,386 vs. 5,487). Based on the DEIR's failure to provide essential data, subsequent analysis of project impacts and adequate mitigation (including an analysis if full mitigation can even be accomplished) for these imperiled and declining aquatic and terrestrial species, we strongly urge the County to comprehensively address these issues in a supplemental or revised draft EIR.	
1734	60	Specific habitat conservation areas and projects have not been designed. The proposed CMs have not been designed and full environmental effects have not been considered. The DEIR/EIS states that up to 83,659 acres of land would be restored, and up to 40 linear miles of channel margin habitat would be enhanced. [footnote 188: DEIR/EIS, at 31-5.] However, the DEIR/EIS also states that restoration actions have not been designed and specific locations for all conservation components have not been identified. [footnote 189: DEIR/EIS, at 3-121; 31-5.] For instance, the DEIR/EIS and BDCP propose to build conservation hatcheries (CM 2) for delta longfin smelt; however, hatcheries have not been designed and BDCP does not guarantee when funding would be available for the project. [footnote 190: DEIR/EIS, at 3-161.] In addition, CM10 proposes to restore 1200 acres of nontidal marsh designated conservation zones to primarily support the giant garter snake and the western pond turtle, and would create 500 acres of managed wetlands of greater sandhill crane roosting habitat. [footnote 191: DEIR/EIS, at 3-147.] Again, however, these freshwater marshes and managed wetlands have not yet been designed. [footnote 192: DEIR/EIS, at 3-147.] As the DEIR/EIS fully recognizes it is not possible to assess the change in land use and therefore the full impacts of these actions at this point of the proposal. [footnote 193: DEIR/EIS, at 31-5.]	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation. Proposition 1 funds and other state and public dollars will be directed exclusively for public benefits unassociated with any regulatory compliance responsibilities. Additional priority restoration projects will be identified through regional and locally-led planning processes facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process for integrated planning in the Yolo Bypass is underway. The Delta Conservancy will lead the implementation of identified restoration projects, in collaboration with local governments and with a priority on using public lands in the Delta. Please refer to Chapter 3, Alternatives for more detail. Each restoration area under Alternative 4A would be subject to its own permitting and environmental compliance. Please see Master Response 2 for more information regarding the programmatic analysis.
1734	61	The feasibility of many habitat conservation actions is highly uncertain. The feasibility of individual conservation projects is also highly uncertain. Specifically, the proposed restoration of 145,000 acres of Delta habitats (Conservation Measures 2-11) has been described by scientists as rife with uncertainties. As documented by an independent expert panel retained by American Rivers and The Nature Conservancy, focusing on impacts to federally listed fish species, there is no science that shows that habitat restoration without increased flows will restore native fisheries. [footnote 194: Mount et al. (2013).] For instance, CM2 would improve floodplain inundation and fish passage at Yolo Pass in order to benefit covered species (Yolo Bypass Fisheries Enhancement Program, or YBFEP). [footnote 195: DEIR/EIS, at 3-123 to 3-124.] However, a YBFEP evaluation and EIR/EIS will only be completed by year 4 of the implementation of BDCP, [footnote 196: DEIR/EIS, at 3-124.] and if the evaluation does not support the implementation of the Program's proposed projects they will not be implemented.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. Although Alternatives 4A, 2D, and 5A include only those habitat restoration measures needed to provide mitigation for specific regulatory compliance purposes, habitat restoration is still recognized as a critical component of the state's long-term plans for the Delta. Such larger endeavors, however, will likely be implemented over time under actions separate and apart from these alternatives. The primary parallel habitat restoration program is called California EcoRestore (EcoRestore), which will be overseen by the California Resources Agency and implemented under the California Water Action Plan. Under EcoRestore, the state will pursue restoration of more than 30,000 acres of fish and wildlife habitat by 2020. These habitat restoration actions will be implemented faster and more reliably by separating them from the water conveyance facility implementation. Proposition 1 funds and other state and public dollars will be directed exclusively for public benefits

DEIRS Ltr#	Cmt#	Comment	Response
		[footnote 197: DEIR/EIS, at 3-125.] The DEIR/EIS presents numerous potential reasons that would render this project infeasible include unacceptable negative on land use, covered and non-covered native species, or if landowner agreement cannot be achieved. [footnote 198: DEIR/EIS, at 3-125.] Further permitting and environmental documentation would also be necessary to implement the CM even if it is found feasible. [footnote 199: DEIR/EIS, at 3-161.] In essence, there is no guarantee that CM 2 would ever occur if the BDCP is implemented due to the multiple challenges it would need to overcome in order for the action to even become feasible. The feasibility study must be done prior to the final EIR/EIS in order to accurately assess whether and how CM2 may affect covered species. The implementation and success of many CMs hinge on coordination by agencies that are not part of the draft IA, thus bringing additional uncertainty as the process and implementation of the project. Most importantly, the BDCP would need to acquire tens of thousands of acres of land before it would be able to implement site-specific restoration projects, including acquiring 48,625 acres of cultivated land for the implementation of a reserve system under CM 3. [footnote 200: Draft BDCP, at 3.4-72,] The BDCP does not guarantee and may not be able to acquire sufficient land that would satisfy its acreage goals in order to restore the Delta ecosystem. How could the BDCP conclude that habitat restoration efforts would bring net benefits to the Delta ecosystem given that there is virtually no certainty in the feasibility, location, duration, or impacts of these actions? As discussed above, habitat conservation actions, if implemented, would only occur over the term of the BDCP, and many actions would not take place until decades after the water conveyance facilities become operational. [footnote 201: DEIR/EIS, at 31-5.] Only restored vernal pools under CM9 would be protected and managed in perpetuity; [footnote 202: DEIR/EIS, at 3-144.] however, an equivalent amount of vernal pool restoration could still be purchased in lieu of actual on-site vernal pool conservation. [footnote 203: DEIR/EIS, at 3-145] The short duration in which the habitat conservation actions would be implemented is not sufficient to restore the Delta ecosystem.	unassociated with any regulatory compliance responsibilities. Additional priority restoration projects will be identified through regional and locally-led planning processes facilitated by the Delta Conservancy. Plans will be completed for the Cache Slough, West Delta, Cosumnes, and South Delta. Planning for the Suisun Marsh region is already complete and a process for integrated planning in the Yolo Bypass is underway. The Delta Conservancy will lead the implementation of identified restoration projects, in collaboration with local governments and with a priority on using public lands in the Delta. Please refer to Chapter 3, Alternatives for more detail. Each restoration area under Alternative 4A would be subject to its own permitting and environmental compliance. All conservation being conducted as mitigation for project effects on biological resources will be implemented prior to our concurrent with project impacts.
1734	62	Conservation Measures seeking to benefit aquatic species are uncertain or unenforceable. Many CMs targeting covered aquatic species would unlikely benefit these species if they are implemented since they are either unenforceable or their effects are not known to be beneficial to a high level of certainty. The BDCP includes non-project diversions as a covered activity. There are in fact over 1,500 of such diversions in the Delta. CM21 would provide for the funding of voluntary remediation of nonproject diversions involving reduction/elimination of fish entrainment or impingement, [footnote 204: DEIR/EIS, at 3-165.] and does not establish metrics for success or a goal for remediation that would help meet the BDCP's goals. Similarly, the BDCP states that the Implementation Office would provide grants to entities that improve relevant stormwater management plans under CM19 but does not include any specific criteria for management or measures for tracking the success of implementing these plans that would contribute to achieving the BDCP's goals. [footnote 205: DEIR/EIS, at 3-162.] Without including a mandatory program, metrics, or even program objectives the implementation of CMs 19 & 21 is virtually unaccountable. Other CMs would be implemented without any certainty. CM16 would create a combination of sound, light, and bubble barriers at various waterways to deter	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative.

DEIRS Ltr#	Cmt#	Comment	Response
		out-migrating juvenile salmonids from channels and river reaches in which survival is lower than in alternate routes. [footnote 206: DEIR/EIS, at 3-159.] However, the DEIR/EIS fails to even address the certainty of success for this CM, stating that uncertainty will be resolved as the CM is implemented on an individual project level. [footnote 207: DEIR/EIS, at 3-159.] Even though BDCP applicants would fund additional personnel and monitoring support to increase enforcement of fishing regulations with the goal of reducing illegal harvests of covered salmonids and fishing regulations under CM17. However, it is important to note that the BDCP recognizes one of the uncertainties of implementing this measure is whether increased enforcement would actually reduce illegal harvest or would benefit anadromous fish stocks. [footnote 208: DEIR/EIS, at 3-160.] In other words, the BDCP applicants do not have any confidence that increasing fisheries enforcement would contribute to recovering fish species. The BDCP's conservation measures would not minimize adverse effects to species to the greatest extent practicable since many of the proposed CMs are uncertain and/or voluntary or non-enforceable.	
1734	63	The BDCP fails to ensure the success of habitat restoration and enhancement measures by providing inadequate contingency measures especially in light of the high level of uncertainty that surround these conservation measures. Many CMs are uncertain to be implemented and are uncertain to be successful even if they are implemented. Yet the BDCP's proposed contingency actions in the event of unsuccessful restoration projects are woefully inadequate. The BDCP provides no timeline for how contingency measures would be developed and implemented in more detail. The final BDCP must provide clear, detailed descriptions of how it would offset habitat loss for covered species that would result from the implementation of habitat conservation actions by designing, assessing the feasibility of and success rates of CMs and specific projects, and detailed contingency plans if CMs do not succeed.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative.
1734	64	The avoidance and minimization measures are inadequate to protect species and the Delta ecosystem from adverse effects that would result from Conservation Measures, in particular CM 1. The primary purpose of CM 22: Avoidance and Minimization Measures, is to "incorporate measures into BDCP activities that will avoid or minimize direct take of covered species and minimize impacts on natural communities that provide habitat for covered species." Site surveys and preparation would only be required in some case, which would include identifying, avoiding impact on, or transplanting covered species. [footnote 209: Draft BDCP, 3.C-6 and 3.C-8.] Pre-construction surveys should be required for all projects implemented within the BDCP in order to ensure activities truly minimize and avoid impacts to covered and other species.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The Avoidance and Minimization measures now appear in Appendix 3B of the Final EIR/EIS. The preconstruction surveys described in the AMMs are applicable to construction, restoration, and operations and maintenance activities.
1734	65	The BDCP currently relies on speculative funding to carry out the project, failing its statutory requirements to secure adequate funding for full implementation of the Project. The BDCP has not presented legally required funding assurances that would allow it to achieve its co-equal goals of improving the Delta ecosystem and water supply reliability. By law, an HCP must specify the funding that will be available to implement each step the applicant will take to minimize and mitigate impacts on species. [footnote 210: 16 U.S.C.A. [Section] 1539(a)(2)(A).] In addition, the applicant must "ensure that adequate funding for the plan will be provided." [footnote 211: 16 U.S.C.A. [Section] 1539(a)(2)(B)(iii).] Thus the	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The proposed project is costly, but proponents have assessed the benefits as described in the funding sources. Notably, the water contractors benefitting from the proposed project and their constituents will bear all costs associated with constructing new conveyance facilities and mitigating for the impacts of those facilities. Expenditures of public money from other sources would be limited to restoration activities beyond those needed to mitigate the impacts of facility construction. 2013 Public Draft Chapter 8, which deals with cost issues, and cost-benefit analysis information are available on the BDCP website. Please see Master

DEIRS Ltr#	Cmt#	Comment	Response
		services' granting of an Incidental Take Permit (ITP) is arbitrary and capricious if the applicant has failed to commit to being responsible for making up potential funding shortfalls, or if the applicant relies on unnamed third-parties to make up for funding shortfalls. [footnote 212: Sierra Club. V. Babbitt, 15 F. Supp. 2d 1274, 1282 (S.D. Ala. 1998); Nat'l Wildlife Fed'n v. Babbitt, 128 F. Supp. 2d 1274, 1294-95 (E.D. Cal. 2000).] The BDCP's applicants have failed to meet these criteria for ensuring adequate funding for the Plan as they do not specify what funding will be available and instead relies on speculative funding avenues; do not guarantee to make up funding shortfalls; and depend in part on unnamed third-parties to contribute to funding shortfalls in habitat restoration and monitoring activities. Funding uncertainties for these Conservation Measures not only highlight the fact this Project is infeasible, it will also make it impossible for the Services to comply with their ESA obligations to ensure the BDCP minimize and mitigate the effects of the Project to the maximum extent practicable. [footnote 213: 16 U.S.C.A. [Section] 1539(a)(2)(B)(ii); see 15 F. Supp. 2d, at 1282.] Thus the Services cannot grant Incidental Take Permits for the BDCP as it currently stands without violating the law.	Response 5 for more information on project costs and funding.
1734	66	Funding for CM 1 remains highly uncertain. The only conservation measures the applicants have committed to funding are the construction, operation, and maintenance of CM 1 and mitigation measures associated with these measures. [footnote 214: The draft BDCP states that Federal and state water contractors will be the sole funders of CM 1 and CM2. Draft BDCP, at 8-74 (Table 8-41).] However, the BDCP does not specify the funding that will be available to fully implement CM 1 and instead projects that sufficient funding would be collected from water contractors and rate payers. The BDCP suggests that DWR "could" pay for new water facilities through revenue bonds collected from participating state water contractor project revenues. [footnote 215: Draft BDCP at 8-71.] The BDCP assumes contractors would agree to the bonds given the projected economic benefits from implementing the Project, stating that "it is anticipated that most SWP contractors and members of the San Luis & Delta-Mendota Water Authority would participate in the issuance of necessary revenue bonds." [footnote 216: Draft BDCP, at 8-78.] Furthermore, the BDCP concludes that "[t]he financing plan is considered viable because it funds a project that provides value statewide and all proposed participating water contractors have sufficient financial capacity to fund their portions." [footnote 217: Draft BDCP, at 8-79.] The BDCP applicants falsely equate the capacity to pay with the willingness to pay and the likelihood that sufficient funding to fully implement the Project. In reality, the list of participating water contractors has not been presented in the draft BDCP. [footnote 218: Draft BDCP, at 8-79.] There is no guarantee that a sufficient number of contractors will participate and come to an agreement with the DWR to provide adequate funding since the BDCP states that contracts for water supply will need to be amended to include BDCP costs. [footnote 219: Draft BDCP, at 8-71; LEGISLATIVE ANALYST'S OFFICE, FINANCING THE BAY DELTA CONSERVATION PLAN 7 (Feb. 2014), available at: http://www.lao.ca.gov/handouts/resources/2014/Financing-the-BDCP- 02-12-14.pdf [hereinafter LAO Report].] In fact, it appears that the applicants do not know how CM 1 costs would be funded among SWP contractors since the DEIR/EIS also states that options for funding include charging SWP water agencies under existing contracts, amending the contracts, or negotiating new agreements with water agencies. [footnote 220: DEIR/EIS, at 3-2.] Even if the contractors agree to revenue bonds the amount of funding that would be available through these bonds	Please see response to comment 1734-65 regarding funding project construction.

DEIRS Ltr#	Cmt#	Comment	Response
		is entirely unknown. The BDCP itself recognizes the amount of funding that can be raised would be limited by project revenue. [footnote 221: Draft BDCP at 8-71.] The BDCP would also seek funding from general obligation bonds where only $168 million was available as of 2011 and further distribution is limited by voter- approved bond acts. [footnote 222: Draft BDCP at 8-72.] Thus despite these two payment systems discussed as being the primary avenues DWR has proposed to provide assurances to fund CM 1 the ultimate implementation as well as the adequacy of secured funding from revenue and general obligation bonds is highly uncertain. The BDCP also anticipates that "the CVP water contractors will also have necessary funding agreements" for funding CM 1. [footnote 223: Draft BDCP at 8-73.] Again, just like with the SWP contracts the BDCP does not provide assurance that the CVP reach an agreement with contractors to fund CM 1.	
1734	67	The BDCP applicants claim that the Project is affordable through the single cost estimate only takes into account costs and benefits of implementing CM1. The BDCP proponents anticipate that the BDCP is likely to be a project that contractors have an economic incentive to implement and finance since its estimated economic benefits of $18 billion to state and federal water contractors will outweigh the cost of $13.5 billion assigned to the contractors. [footnote 224: Draft BDCP, at 8-82.] This analysis presents a single cost estimate instead of a range of reasonable costs. Only by studying and presenting a range of reasonable costs will allow applicants to assess adequate funding needs and accurately predict the capacity of contractors and ratepayers to satisfy those needs. This is especially important given that bridge and tunnel projects exceed projected costs by 34% on average. [footnote 225: LAO Report, at 5.] Furthermore, the BDCP appears to contradict itself in estimating CM 1 funding commitments by federal and state contractors, providing that $16 million in a table summary of BDCP funding provided by participating contractors. [footnote 226: Draft BDCP, at 8-74.] This analysis also does not include the costs and benefits of implementing all other conservation measures and in effect turns a blind eye on accounting for the estimated $8.7 million that will be needed in order to implement them. [footnote 227: LAO Report, at 4.]	Please see response to comment 1734-65 regarding funding project construction. The comment is an opinion about the merits and assumptions of the 2014 draft Statewide Economic Impact Report. Please note that the Statewide Economic Impact Report is not a part of this EIR/EIS. Additionally, DWR is revising the Socioeconomic Impact Analysis for the project based on changes included in the Recirculated Draft EIR/Supplemental Draft EIR/S.
1734	68	The BDCP does not provide funding assurances for the habitat restoration and conservation portions of the plan. The BDCP fails to specify and assure funding to pay for the $8.7 billion [footnote 228: Id.] estimated for implementing CMs 2-22, including habitat restoration and conservation measures that underpin the HCP's co-equal goal to improve the Delta ecosystem. The draft IA also does not provide further clarity on how funding for habitat restoration and conservation measures would be obtained. The BDCP would rely on a series of water bonds to fully fund the implementation of natural community restoration and other stress conservation measures. [footnote 229: Draft BDCP, at 8-85.] However, the BDCP does not present any confidence on the timing and amount of a water bond, or even whether one will be introduced in the future. In fact, the BDCP itself acknowledges that it has no visibility on when the next water bond would be introduced, and only speculates that the water bond would likely occur by year 15 of the permit term. [footnote 230: Draft BDCP, at 8-85.] Even if the BDCP becomes finalized in 2015, funding from the potential water bond would not be distributed until 2030 according to the BDCP's assumptions. The final BDCP must include specific estimated costs for each conservation measure and list assurances by	Please see response to comment 1734-65 regarding project funding.

DEIRS Ltr#	Cmt#	Comment	Response
		participating entities for all anticipated costs for the CMs in order to ensure that adequate funding will be provided according to existing law as discussed above.	
1734	69	The BDCP applicants refuse to commit additional funding for the Project in case of funding shortfalls. The draft BDCP has calculated a small buffer for contingency funding of 20, 10, and 20% for the Plan's habitat restoration, management, and monitoring components, respectively. [footnote 231: Draft BDCP, at 8-121.] However, it also makes clear that SWP and CVP will not pay additional costs or forgo water in the event of a funding shortfall. [footnote 232: Draft BDCP, 8-122.] Specifically, the BDCP states that "Authorized Entities will not be required to provide land, water, or monetary resources beyond their commitments in the Plan in the event of a shortfall in state or federal funding." [footnote 233: Draft BDCP, at 8-122; Draft IA, at 47-48.] Although local, state, and federal agencies, including any of the Parties to the draft IA may pursue additional funding they "shall not directly, or otherwise charge or pass such costs to the SWP/CVP contractors." [footnote 234: Draft IA, at 46-47.] Yet the BDCP applicants fully anticipate funding shortfalls for implementing conservation measures related to habitat restoration and conservation, acknowledging that costs may still exceed estimates. As the BDCP itself points out the costs of potential actions for each CM are incomplete, many of these specific actions and their costs cannot be estimated until specific monitoring and research actions are determined during implementation of the Plan. [footnote 235: Draft BDCP, at 8-55.] However, upon analysis of the proposed CMs we find that the draft BDCP fails to account for a wide range of reasonable costs that should have been included in the current assessment. For instance, the BDCP estimates land acquisition alone will cost $1 billion, but does not account for rising real estate prices. Water pollution and other impacts from water diversions onto species will also likely be larger than estimated. Economic analyses of the cost of implementing the BDCP demonstrate it will most certainly exceed the projected contingency funding for restoration, management, and monitoring actions. Since the BDCP greatly underestimates the cost of the Project whatever assurances it provides in even the limited measures it has committed to funding is meaningless. Tax payers will most likely foot the bill for the most crucial components that determine the successful outcome of the Plan. Additionally, the BDCP states that if costs of restoration, management, or monitoring are predicted to exceed revenue on a long-term basis, then the Implementation Office may seek additional funding by identifying new funding sources, adjust funding sources, adjust management or monitoring activities consistent with the goals of the Plan, or defer restoration, management, and monitoring actions until funding is available. [footnote 236: Draft BDCP, 8-121.] In addition, the Implementation Office may adjust the scope of the Plan in proportion to any public funding shortfall, beginning with amending the terrestrial components of the Plan. [footnote 237: Draft BDCP, at 8-122.] First, the BDCP's relying on unidentified potential third-parties to fund restoration, management, and monitoring activities violates established law. [footnote 238: Nat'l Wildlife Fed'n v. Babbit, 128 F.Supp.2d, at 1294-95.] Second, we find it unacceptable that the BDPC would defer the implementation of these activities if they undermine profits anticipated by state and federal contractors. While we recognize the "no surprises rule" applies, it is unlawful for the applicants to forgo any responsibility to fund habitat restoration, monitoring, and management measures whenever they deem it a bad investment. Most importantly without restoration, management, and monitoring actions,	Please see response to comment 1734-65 regarding funding project construction.

DEIRS Ltr#	Cmt#	Comment	Response
		the lynchpins for the proper implementation of the entire BDCP, the Project will fail at reaching its co-equal goal of restoring the Delta system. The result is the permanent loss of already imperiled species and their habitats. Why should tax payers bear the externalities caused by the building and operation of new water facilities so long as contractors benefit from the Project, including not only the adverse impacts on species from new water conveyances but also potentially the entire bill for restoring the Delta ecosystem when it no longer economically benefit the contractors?	
1734	70	ATT1:ATT1: Exhibit A: Impacts to special-status species.	The comment refers to Exhibit A, a letter submitted by Shawn Smallwood, which is included as part of this comment letter and those comments are addressed below.
1734	71	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 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.	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. A Habitat Suitability Indices, where 0 indicates entirely unsuitable habitat and 1 represents ideal habitat for the life stage and species, were ultimately not used for development of the models. The text in Chapter 5 of the BDCP incorrectly characterizes the habitat suitability models as they were finalized under the Plan. Section 2A.0.1.7 defines the actual methods that were used to generate the models.
1734	72	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	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The commenter offers their critique and opinion of the use of the term “natural community”. At the scale of this analysis, natural communities occur across a landscape where similar ecological conditions exist. The Wildlife and Natural Areas Conservation Act defines natural community as “a distinct, identifiable, and recurring association of plants and animals that are ecological interrelated” (Fish & Game Code 2702[d]). This term was used in the Plan because it is an NCCP.

DEIRS Ltr#	Cmt#	Comment	Response
		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.	
1734	73	A 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 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. For example, 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	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. The commenter provides their opinion on what qualifies as habitat restoration. 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 was done at a programmatic level. The availability of willing sellers is a function of many variables, including land prices, market forces for crops suitable for the 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. The EIR/EIS does treat RTM areas as permanently impacted. For additional information regarding RTM, please see Master Response 12.

DEIRS Ltr#	Cmt#	Comment	Response
		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 "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. 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	

DEIRS Ltr#	Cmt#	Comment	Response
		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.	
1734	74	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.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative. 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 on 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 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. 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 conservation measures and AMMs to lessen significant adverse effects on terrestrial biological resources. No changes have been made to the EIR/EIS 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 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 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

DEIRS Ltr#	Cmt#	Comment	Response
			acquisition requirements of the plan.
1734	75	The Precautionary Principle would 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.	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.
1734	76	An 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 TAF (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 No Action Alternative and the action alternatives were compared the Existing Conditions which included a "0 percent reduction" Delta outflow condition. Also, during the preparation of the Draft 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 EIR/EIS only evaluates the incremental differences, and not absolute values, between the Existing Conditions and the No Action Alternative and the action alternatives, the incremental changes appear to be similar under a range of climate change scenarios. Please see Master Response 1 regarding baseline, Master Response 19 for information on climate change and the proposed project, and Master Response 31 regarding compliance with the Delta Reform Act.
1734	77	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	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

DEIRS Ltr#	Cmt#	Comment	Response
		given our capabilities and resources. However, we cannot and do not portray the 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.	landcover data, knowledge of the species habitat requirements, information about the species known range, and in only for some species was occurrence information utilized. Following the model descriptions are 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, DHCCP data, 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.
1734	78	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 permanent 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.	Under Alternatives 1A through 8, electrical power to operate the new north Delta pumping plant facilities would be delivered through 230 kV transmission lines that would interconnect with a local utility at a new or existing utility substation depending on the conveyance alignment. The alignment of this transmission line and its interconnection point would be based on the selection of a power provider for the BDCP following selection of a conveyance alignment. This selection is ongoing and the alignment of the transmission lines will be finalized at a later date. 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.
1734	79	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 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 potential environmental effects of new electrical energy sources, whether generated with natural gas or coal (i.e., fossil fuels) or from renewable energy such as wind and solar farms, may be substantial. However, these possible impacts from new energy sources are not identified in the EIR/EIS because the energy use during construction and operation of the selected project alternative will be provided by one of the existing electrical utilities, and no new energy generation capacity will be necessary. The annual use of electrical energy in northern California will be increased, but this will not likely require any new generation capacity; more energy can be generated and transmitted from existing sources. When electrical energy uses in northern California increase to the point where new energy generation facilities are needed, these environmental effect on birds, bats and terrestrial resources will be appropriately evaluated and mitigated.

DEIRS Ltr#	Cmt#	Comment	Response
		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.	
1734	80	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.	Please see response to comment 1734-1 regarding the BDCP (Alternative 4) no longer being the preferred alternative, which means that the proposed project no longer includes substantial amounts of restoration. 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 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. The commitment to due restoration and protection despite not knowing the exact locations and the specific details is not deferred mitigation. Both the BDCP and EIR/EIS include guidance for these actions in the Conservation Measures/Environmental Commitments, AMMs, specific mitigation measures, and Biological Goals and Objectives/Resource Restoration and Protection Principles. Individual conservation actions will be subject to agency review and approval and these actions will also be subject to their own permitting and environmental review.
1734	81	Impact BIO-44: Red-legged frog The following mitigation measures were proposed for California red-legged frog (EIR/EIS page 12-2114). "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 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 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	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 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

DEIRS Ltr#	Cmt#	Comment	Response
		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.	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. 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.
1734	82	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. 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 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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. The Plan Area also includes habitat for California red-legged frog west of I-680, which is an area that is mapped as Critical Habitat for California red-legged frog, includes records of California red-legged frog, and includes ponds. Any protected grasslands and ponds would have conservation easements on them and be managed for this species and others. The revised footprint for Alternatives 4 and 4A do not include RTM disposal areas in the “only portion” of habitat in the Plan Area for California red-legged frog. There are grasslands with ponds and streams occupied by California red-legged frog within the Plan Area west and south of Clifton Court Forebay that would not be impacted.
1734	83	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	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. The commenter offers there opinion on the effectiveness of GNC2.3. Control of burrowing mammals will be

DEIRS Ltr#	Cmt#	Comment	Response
		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.	reduced or eliminated within grasslands in the reserve system. Grasslands will be managed through grazing, prescribed burns, and other measures to optimize conditions for burrowing mammals and prey accessibility. Conservation Measure 11 further states: "The use of rodenticides or other rodent control measures will be prohibited in reserves except as necessary to address adverse impacts on essential structures in or immediately adjacent to reserves, including recreational facilities incorporated into the reserve system. The Implementation Office will introduce livestock grazing (where it is not currently used, and where conflicts with covered activities will be minimized) to reduce vegetative cover and thus encourage ground squirrel expansion and colonization. Burrow availability may also be increased on protected grasslands by encouraging ground squirrel occupancy through the creation of berms, mounds, edges, and other features designed to attract and encourage burrowing activity. The introduction of ground squirrel colonies will be considered when the natural recruitment of ground squirrels does not occur on protected or restored grasslands. The introduction of ground squirrels will be overseen by an agency approved biologist and will be approached in an experimental way given the mixed success with which it has been implemented in the past. Site conditions such as soils will be assessed for the potential for relocation success. Site pre-treatment and "soft release" methods will be considered to increase the potential for success."
1734	84	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).	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. This objective calls for the maintenance and enhancement of aquatic habitats in protected grasslands. Conservation Measure 11 include the following guidance: "Techniques used to enhance and manage hydrology may include invasive plant control, removal of adverse supplemental water sources into reserves (e.g., agricultural or urban runoff), and topographic modifications. Repairs may be made to improve water retention in stock ponds that are not retaining water due to leaks and, as a result, not functioning properly as habitat for covered species. Additionally, pond capacity and water duration can be increased (e.g., by raising spillway elevations) to support covered species populations. To retain the habitat quality of stock ponds over time, occasional sediment removal may be needed to address the buildup of sediment that results from adjacent land use or upstream factors. Dredging will be conducted during the nonbreeding periods of covered species." In the analysis for effects on California red-legged frog, the EIR/EIS does not that the conservation of grassland would occur in Conservation Zones 1, 2, 4, 5, 7, 8, and 11. Conservation Zones 8 and 11, where there are records of the species, are specifically called out for the protection of 1,000 and 2,000 acres of grassland protection, respectively. GNC1.3 specifically calls for the protection of stock ponds and other aquatic features within protected grasslands to provide aquatic breeding habitat for native amphibians and aquatic reptiles. The Plan does not call for the creation of ponds.
1734	85	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	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. 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

DEIRS Ltr#	Cmt#	Comment	Response
		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.	objectives that would benefit California tiger salamanders and referenced BDCP Chapter 3, Conservation Strategy. Regarding the specific objective, 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 act in itself would not 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.
1734	86	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 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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. 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.
1734	87	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.	The Draft EIR/EIS includes an analysis of BDCP effects on habitat linkages and movement corridors beginning at page 12-2576 for Alternative 4. Similar analyses are included for Alternatives 1A, 1B, 1C and 9. The analysis includes a description of how habitat expansion associated with CM2, CM3, CM4 and CM11 would improve habitat linkages in the Plan Area. It is not clear what measure is being referred to as the "first one listed". The previous landscape-scale goal (L2) relates to ecological processes and conditions that sustain and reestablish natural communities and native species. This goal does not relate directly to the linkages that support fish and wildlife species in the Plan Area. The landscape-scale goals in the Plan are intentionally broad and establish a Plan framework; the details are contained in the supporting objectives and subsequently in the conservation measures.
1734	88	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).	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred

DEIRS Ltr#	Cmt#	Comment	Response
		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.	alternative. The measure itself says they will be protected in CZ 1, CZ 8, and/or CZ 11. This analysis of the conservation is done at a programmatic level. The exact locations of where conservation will occur is not known at this time. As stated in Conservation Measure 3, when selecting sites for alkali seasonal wetland protection, priority will be given to sites that include the intact local surrounding watershed to sustain natural drainage patterns and sites that are not threatened by potential artificial flows (e.g., urban or agricultural runoff) from adjacent areas. Techniques may include invasive plant control, removal of adverse supplemental water sources (e.g., agricultural or urban runoff) into reserves, and removal of hydrologic barriers to seasonal flooding.
1734	89	Increase burrow availability for burrow-dependent species in grasslands surrounding alkali seasonal wetlands within restored and protected alkali seasonal wetland complex (Objective ASWNC2.3, 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). Also, the hills around this wetland support ample numbers of California ground squirrels that are under no threat other than the occasional dispensing of poisoned bait to reduce squirrel numbers. This mitigation measure is an empty promise.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Also, please see response to comment 1734-83 regarding increasing burrow availability.
1734	90	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) (Objective VPNC1.1, associated with CM3). The vernal pool complexes in CZ1 and CZ8 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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. The protection of vernal pool complexes would just be part of the conservation proposed for California tiger salamanders.
1734	91	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 CZ1, CZ8, and CZ11 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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. See Appendix 12D of the EIR/EIS, which evaluated the feasibility of conducting vernal pool restoration in CZs 1, 8, and 11.
1734	92	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	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. The protection and restoration of vernal pool complexes within a large, interconnected reserve system in Conservation Zones 1, 8, and 11 will benefit the California tiger salamander by providing suitable aquatic and upland habitat in areas known to support this species. The vernal pool complex natural community will be protected in association with the larger grassland acreage to be protected, as described above, contributing

DEIRS Ltr#	Cmt#	Comment	Response
		demographic units of the species (Smallwood 2001).	to an extensive interconnected reserve system for this species. Consistent with Objectives VPNC1.1 and VPNC1.2, vernal pool protection and restoration will occur in Conservation Zones 1, 8, and 11, primarily in areas identified as core recovery areas in the Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Vernal Pool Recovery Plan) (U.S. Fish and Wildlife Service 2005). Although California tiger salamander is not included in the Vernal Pool Recovery Plan, habitat and occurrences for this species in Conservation Zones 1, 8, and 11 are concentrated primarily in the core recovery areas.
1734	93	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?	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Protecting the range of inundation characteristics that are currently represented by vernal pools in the Plan Area will benefit the California tiger salamander by ensuring that a representative proportion of the protected vernal pools are sufficiently large and deep, with long inundation periods, to support the aquatic life cycle for this species. Optimal California tiger salamander breeding habitat consists of large vernal pools, playa pools, or ephemeral ponds that hold water until at least May. In coastal regions such as the Plan Area, California tiger salamander larvae may not metamorphose until late July, and pools holding water through July often have higher reproductive success for this species (Barry and Shaffer 1994). Typical NEPA and CEQA level mitigation is done on an acreage basis of comparable or better quality habitat. There is no requirement to demonstrate numbers of individuals lost versus numbers of individuals protected. 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 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 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.
1734	94	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 2000 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 2000 acres of brome grasses lacking California tiger salamanders might result.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. See Appendix 12D of the EIR/EIS, which presents a feasibility assessment of the BDCP.
1734	95	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). As explained in response to the same measure promised for red-legged frogs, protecting stock ponds seems unnecessary because cattle ranchers will either protect their stock ponds or not based on their needs. Committing ranchers to stock ponds seems impractical and unlikely to succeed. And how would such protection be carried out? By excluding cattle? If so, cattle are the reason stock ponds exist.	Please see response to comment 1734-82.

DEIRS Ltr#	Cmt#	Comment	Response
1734	96	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 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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. The commenter identifies the BDCP biological objectives listed on page 12-2231 as mitigation measures, though it should be noted that these are not mitigation measures identified by the EIR/EIS but rather part of the BDCP. The preferred alternative, 4A, no longer includes 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) 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.
1734	97	Within the 65,000 acres of tidal natural communities (L1.3), restore or create 24,000 acres of tidal freshwater emergent wetland in [Conservation Zone] CZ 1, CZ 2, CZ 4, CZ 5, CZ 6, and/or CZ 7 (Objective TFEWNC1.1, associated with [Conservation Measure] 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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. 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.
1734	98	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 1,200 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.
1734	99	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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. See Draft BDCP Chapter 8 for a discussion of addressing your comment; briefly, BDCP permittees would compensate farmers for growing a crop that may not be consistent with market demands. Note also that the Natomas Basin HCP experienced problems because it had a rather small Plan Area, within which availability of willing sellers was unpredictable; at the scale of the whole Delta, this problem is greatly diminished.

DEIRS Ltr#	Cmt#	Comment	Response
		This measure is empty in value, unless the EIR/EIS can explain how it would work. 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. 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. 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.	However, see Master Response 5 regarding removal of BDCP from 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. Under the revised Preferred Alternative, there are no biological goals and objectives; instead, giant garter snake conservation is addressed in both a Biological Assessment submitted to USFWS, and a 2081(b) permit application filed with CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/S. However, the FEIR/FEIS describes proposed measures related to protection and restoration of giant garter snake and its habitat. 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 emphasis 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. 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. 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. 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. The commenter is directed to Chapter 3 BDCP Goals and Objectives for Giant garter snake for this information.
1734	100	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	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Please see Master Response 2 for an explanation of the need for and validity of using a programmatic approach in the design and siting of large acreages of restoration. The commenter states that the Draft EIR/EIS needs to identify where and how Objective GGS1.2 would be

DEIRS Ltr#	Cmt#	Comment	Response
		many live there now. Also, it needs to be explained what is meant by "high-value" habitat.	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. • 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.
1734	101	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?	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. 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. 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.
1734	102	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	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Although rice fields are not optimum habitat for giant garter snake, it is clear that the snakes do seasonally use rice fields as habitat, and rice fields may serve to improve habitat connectivity vis-à-vis alternative crop types; see discussion in Draft BDCP Appendix 2.A. The BDCP does not propose to "force rice cultivation on landowners or farmer who may not wish to grow rice." Under the revised Preferred Alternative, giant garter snake conservation is addressed in both a Biological Assessment submitted to USFWS, and a 2081(b) permit application filed with CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/EIS. However, the FEIR/FEIS describes proposed measures related to protection and restoration of giant garter snake and its habitat.

DEIRS Ltr#	Cmt#	Comment	Response
		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 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.	
1734	103	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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. 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. 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 the effectives 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 1734-92. 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.
1734	104	To expand upon and buffer the newly restored/created nontidal perennial habitat in CZ 2, protect 700 acres of cultivated lands, with 500 acres consisting of rice land and the remainder consisting of compatible cultivated land that can support giant garter snakes. The cultivated lands may be a subset of lands protected for the cultivated lands natural community and other covered species (Objective GGS2.3, associated with CM3). Forcing rice cultivation seems ridiculous because market conditions will change and because rice cultivation more likely harms rather than helps giant garter snakes.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Under the revised Preferred Alternative, giant garter snake conservation is addressed in both a Biological Assessment submitted to USFWS, and a 2081(b) permit application filed with CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/EIS. However, the FEIR/FEIS describes proposed measures related to protection and restoration of giant garter snake and its habitat. Although rice fields are not optimum habitat for giant garter snake, it is clear that the snakes do seasonally use rice fields as habitat, and rice fields may serve to improve habitat connectivity vis-à-vis alternative crop types; see discussion in Draft BDCP Appendix 2.A. The BDCP does not propose to "force rice cultivation on

DEIRS Ltr#	Cmt#	Comment	Response
			landowners or farmer who may not wish to grow rice."
1734	105	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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. 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. 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.
1734	106	Impact BIO-83: Swainson's Hawk The following mitigation measures were proposed for Swainson's hawk (EIR/EIS page 12-2255). My comments follow each measure. "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 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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Please see Master Response 2 for an explanation of the need for and validity of using a programmatic approach in the design and siting of large acreages of restoration. Swainson's hawk conservation is addressed in a 2081(b) permit application filed with the CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/S. However, the FEIR/FEIS describes proposed measures related to protection and restoration of Swainson's hawk and its habitat.
1734	107	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. 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	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Please see Master Response 2 for an explanation of the need for and validity of using a programmatic approach in the design and siting of large acreages of restoration. There is no proposal to plant trees under electrical transmission lines. Under the revised Preferred Alternative, Swainson's hawk conservation is addressed in a 2081(b) permit application filed with the CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/S. However, the FEIR/FEIS describes proposed measures related to protection and restoration of Swainson's hawk and its habitat.

DEIRS Ltr#	Cmt#	Comment	Response
		cost. 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.	
1734	108	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.	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. 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 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 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. Under the revised Preferred Alternative, Swainson’s hawk conservation is addressed in a 2081(b) permit application filed with the CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/S. However, the FEIR/FEIS describes proposed measures related to protection and restoration of Swainson’s hawk and its habitat.
1734	109	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 response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Table 12-4A-36 in the EIR/EIS explains what is considered high-value foraging habitat. Easements would stipulate what crops can be grown. The EIR/EIS does refer the reader to SH1.3, which states it is to avoid the effects of sea level rise and the potential for a reduction in habitat value, protected Swainson’s hawk lands will be largely restricted to areas that have low risk of future inundation. However, some high-value habitats in the lower-lying areas of the central Delta (Conservation Zones 5 and 6) support numerous nesting pairs. This objective addresses the conservation of a relatively small portion of these high-value habitats that are potentially at risk.
1734	110	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	Please see response to comment 1734-1 regarding BDCP (Alternative 4) no longer being the preferred alternative. Please see Master Response 2 for an explanation of the need for and validity of using a programmatic approach in the design and siting of large acreages of restoration. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		something has changed recently, Swainson's hawks have not lived within the Grizzly Island Marsh Complex. There is only one California Natural Diversity Database 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.	The EIR/EIS refers to objective MWNC1.1 because it would provide potential foraging opportunities, though low value they would still provide some benefit. The objective says at least 1,500 would be protected there so the other acreage can be throughout the Plan Area. The analysis in the EIR/EIS is identifying all benefits from the BDCP, which would include the small patches of habitats referred to. There is requirement to identify specific conservation areas under an HCP/NCCP. Under the revised Preferred Alternative, Swainson's hawk conservation is addressed in a 2081(b) permit application filed with the CDFW. This permit review process is separate from the NEPA/CEQA review process in the EIR/S. However, the FEIR/FEIS describes proposed measures related to protection and restoration of Swainson's hawk and its habitat.
1734	111	ATT1:ATT2: Exhibit B: Center for Biological Diversity, Possible Adoption of Emergency Regulation to Add Tricolored Blackbird to the List of Endangered Species; August 6, 2014 Commission Agenda Item #11 (July 24, 2014) (Separately Attached)	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.
1734	112	The 2014 Statewide Survey was held from April 18-20, 2014. It appears to have been the most comprehensive Statewide Survey ever, with 143 participants surveying for tricolors at 802 locations in 41 counties. The California population estimate derived from the Survey was 145,000 birds. This is a 44% reduction from the 258,000 birds seen during the 2011 Survey and a 63% reduction from the 395,000 birds seen during the 2008 Survey. Thus, the number of tricolors in California continues a rapid decline. The number of birds declined most markedly in the San Joaquin Valley, where there were 78% fewer birds seen in 2014 than in 2008 (73,482 vs. 340,703), and along the Central Coast, where there were 91% fewer birds seen in 2014 than in 2008 (627 vs. 7014). The number of birds in the Sierra Nevada foothills was up 145% compared to 2008 (54,151 vs. 22,586), and the number of birds seen in southern California was up 126% compared to 2008 (12,386 vs. 5,487). The 143 participants in the 2014 Statewide Survey deserve a great measure of thanks for their time and efforts. A special thanks to the 38 county coordinators for assembling survey teams with tremendous local knowledge and experience. A final report for the 2014 Statewide Survey is in preparation and will be posted to the Portal at the end of July. [Footnote 1: http://tricolor.ice.ucdavis.edu/content/results-2014-tricolored-blackbird-statewide-survey.] As the Commission is aware, the Center petitioned [Footnote 2: http://www.biologicaldiversity.org/species/birds/tricolored_blackbird/pdfs/petictioj.pdf.] for an emergency listing of the Tricolored Blackbird in 2004 under both the California Endangered Species Act ("CESA") and the Federal Endangered Species Act ("ESA") based on then-already precarious status of the species due to declining populations. The new survey results combined with other factors detailed in the Center's 2004 petition, as well as other recent documents, clearly show that the Tricolor Blackbird indisputably warrants listing under CESA and that its status is so precarious an emergency listing is needed. Therefore, the Center fully supports the proposed emergency listing for the Tricolored Blackbird pursuant to CESA and urges the Commission to immediately adopt emergency regulations to list the tricolored blackbird as endangered under California Fish and Game Code Section	This comment provides information regarding past surveys of tri-colored blackbirds in California. It does not comment on the adequacy of Chapter 12 of the Draft EIR/EIS and does not request or require changes to the chapter.

DEIRS Ltr#	Cmt#	Comment	Response
		2076.5.	
1735	1	The North Coast Rivers Alliance, Winnemem Wintu Tribe, San Francisco Crab Boat Owners Association, Inc. and Pacific Coast Federation of Fishermen's Associations (collectively, "Conservation Groups") appreciate the opportunity to comment on the California Department of Water Resources' ("DWR's"), the Bureau of Reclamation's ("Reclamation's"), the U.S. Fish and Wildlife Service's ("USFWS'"), and National Marine Fisheries Service's ("NMFS'") (collectively, "Agencies'") Draft Bay Delta Conservation Plan ("Draft BDCP") and joint Draft Environmental Impact Report and Environmental Impact Statement ("DEIR/DEIS") thereon, which were concurrently published for public review on December 13, 2013.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1735	2	The largest and most productive estuary system on the west coast of North and South America - the Sacramento-San Joaquin River Delta - is collapsing for two principal reasons. First, agricultural diverters have discharged and continue to discharge too much contaminated agricultural run-off and return flows into the Delta. Second, the Central Valley Project ("CVP") and the State Water Project ("SWP") have diverted too much of the Delta's fresh water flows. These unsustainable levels of diversions and discharges greatly decrease fresh water flows while increasing salinity and the concentration of herbicides, pesticides, and toxic agricultural run-off in the Delta. These two threats to the Delta's health have grown steadily over the past five decades, and the resulting environmental devastation has pushed the Delta's imperiled fisheries to the brink of extinction. Seventeen species of fish endemic to the Delta have already gone extinct; just twelve indigenous species remain. Critical habitat for the endangered Sacramento River winter run Chinook salmon, Central Valley steelhead and spring run Chinook, the delta smelt, and the Southern Distinct Population Segment ("DPS") of the Northern American green sturgeon suffers progressively worsening degradation. [footnote 1: 1Winter run Chinook salmon were declared threatened under the federal Endangered Species Act ("ESA") in 1990 (55 Fed.Reg 46515), and then due to continuing population declines, declared endangered in 2005 (70 Fed.Reg 37160). Their critical habitat in the Sacramento River and its tributaries was designated in 1993. 58 Fed.Reg. 33212. Spring run Chinook salmon were declared threatened, and their critical habitat designated under the ESA in 2005. 70 Fed.Reg. 37160, 52488. Central Valley steelhead were declared threatened in 2000 (65 Fed.Reg. 52084) and their critical habitat was designated in 2005 (70 Fed.Reg 52488). The Southern DPS of North American green sturgeon was declared threatened in 2006 (71 Fed.Reg 17757) and its critical habitat was designated in 2008 (73 Fed.Red 52084). Delta smelt were declared endangered in 1993 (58 Fed.Reg. 12854) and their critical habitat was designated in 1994 (59 Fed.Reg. 65256).] The proposed project outlined in the Agencies' Draft BDCP and associated DEIR/DEIS, which includes three new North Delta water pumping and conveyance facilities each with an "intake capacity" of 3,000 cubic feet per second ("cfs"), might push those and other species to extinction. DEIR/DEIS at 3-12 (describing the "Proposed Project").	Although a viable alternative, please note that the BDCP (EIR/EIS Alternative 4) is no longer the preferred alternative. 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 the 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. Unlike the BDCP, Alternative 4A would not serve as a HCP/NCCP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. 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, Fish and Aquatic Resources of the Final EIR/EIS.
1735	3	The Draft BDCP is a draft Habitat Conservation Plan ("HCP") under the federal Endangered Species Act ("ESA"), 16 U.S.C. section 1531 et seq., and a draft Natural Community Conservation Plan ("NCCP") under the California Natural Community Conservation Planning Act, California Fish & Game Code section 2800 et seq. The BDCP and its associated permits and activities would last for 50 years, and have the dual purported goals of restoring the Sacramento-San Joaquin Bay-Delta ecosystem and securing reliable water supplies for California. In reality, however, while the proposed BDCP actions would help "[r]estore and	See Response to Comment 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information.

DEIRS Ltr#	Cmt#	Comment	Response
		protect the ability of the SWP and CVP to deliver up to full contract amounts" (i.e. up to several times the amount ever delivered on an annual basis to date), they would likely worsen rather than improve the Delta ecosystem and further imperil numerous fish species.	
1735	4	While the Draft BDCP proposes a number of activities aimed at restoring or protecting approximately 145,000 acres of Delta habitat, its centerpiece is the construction and operation of three new water intake facilities on the Sacramento River (just south of Clarksburg) that would connect to a dual-bore, 40-foot-diameter, 30-mile-long pipeline diverting up to 9,000 cubic feet per second (though likely more in the long term) around the Delta to the existing pumping facilities in the South Delta for export to Central Valley agricultural and industrial users and cities in southern California and parts of Santa Clara County. Draft BDCP at 4-7 to 4-21. As a result of these new intake and conveyance facilities (collectively, the "Peripheral Tunnels"), water that currently flows through the Sacramento River and sloughs to and through the Delta would be diverted, further reducing freshwater flows through the sloughs and Delta. These diversions would also likely necessitate changes in reservoir management in northern California, including on the Trinity, Shasta, Folsom, and Oroville Reservoirs, and as a result reduce flows in the Trinity, Sacramento, American, and Feather Rivers. With less water in the rivers and more water in the pipes of water exporters, the fish and the Delta ecosystem will suffer, while the wasteful and polluting practices of many of those who use the exported Delta water will be allowed to continue, if not expand.	See Response to Comment 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. The incremental changes in Delta outflow under Alternative 4A compared to baseline conditions are a function of both the facility and operations assumptions, including north Delta intakes capacity of 9,000 cfs, OMR flow requirements, Fall X2 requirements, and the reduction in water supply availability due to increased north of Delta urban demands, sea level rise, and climate change (the last three assumptions, plus Fall X2 requirements, are included in both the No Action Alternative (ELT) and Alternative 4A, but not in Existing Conditions). Results for the range of changes in Delta outflow under Alternative 4A are presented in more detail in Appendix 5A, BDCP/California WaterFix EIR/EIS Modeling Technical Appendix in the Final EIR/EIS. Changes in long-term average Delta outflow under Alternative 4A (ELT) as compared to the No Action Alternative (ELT) and Existing Conditions are shown in Figures 5-37 through 5-39 and Tables 5-10 through 5-12 in Chapter 5 in the Final EIR/EIS. Alternative 4A, the preferred alternative, will maintain compliance with Delta outflow regulatory requirements for all water years with the use of the North Delta intakes, as described in Chapter 5, Water Supplies and Chapter 6, Surface Water of the Final EIR/EIS. A detailed discussion of the specific Delta outflows under a range of seasons and water year types is contained in Appendix 5A of the Final EIR/EIS. Operation of the new north Delta facilities will be guided by permit requirements that are set by the SWRCB. Adaptive management and collaborative science will aid operators in managing the pumping schedule in the presence of sensitive species. Appendix B of the RDEIR/SDEIS shows supplemental modeling results for the new alternatives. In particular Section B.2.1 Alternative 4A the modeling demonstrates that under the preferred alternative (4A) reservoir levels (e.g., Trinity Lake, Shasta Lake, Folsom Lake, and Lake Oroville) would be similar to the No Action Alternative (ELT). The proposed project aims to stabilize water supplies, and exports could only increase under certain circumstances. Water deliveries from the federal and state water projects under a fully-implemented Alternative 4A are projected to be about the same to the average annual amount diverted in the last 20 years. Although the proposed project would not increase the overall volume of Delta water exported, it would make the deliveries more predictable and reliable, while restoring an ecosystem in steep decline.
1735	5	There is a fundamental logical flaw to a plan that aims to restore ecosystems that have been degraded by freshwater diversions by building new infrastructure enabling diversion of even more fresh water. This flaw pervades the Draft BDCP and the DEIR/DEIS and, along with other deficiencies discussed below including the Agencies' failure to complete the consultation and review required by the ESA, renders the DEIR/DEIS fatally inadequate under the National Environmental Policy Act ("NEPA"), 42 U.S.C. sections 4321 et seq., and the California Environmental Quality Act ("CEQA"), California Public Resources Code section 21000 et seq. For these reasons and others, Conservation Groups oppose the Peripheral Tunnels and the "Proposed Project" identified in the BDCP and the DEIR/DEIS.	See Responses to Comment 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information on sources of funding. See also Master Response 29 regarding timing of ESA compliance. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1735	6	The DEIR/DEIS does not comply with CEQA or NEPA.	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

DEIRS Ltr#	Cmt#	Comment	Response
		The "heart of CEQA" is the environmental impact report (EIR). Citizens for Goleta Valley v. Board of Supervisors (1990) 52 Cal.3d 553, 564. "The EIR, with all its specificity and complexity, is the mechanism prescribed by CEQA to force informed decision making and to expose the decision making process to public scrutiny." California Native Plant Society v. City of Santa Cruz ("California Native Plant Society") (2009) 177 Cal.App.4th 957, 978 (quoting Planning & Conservation League v. Department of Water Resources (2000) 83 Cal.App.4th 892, 910). Similarly, the environmental impact statement ("EIS") "serves NEPA's 'action-forcing' purpose" by ensuring that the agency "will have available, and carefully consider, detailed information concerning significant environmental impacts" and "guarantee[ing] that the relevant information will be made available to the larger audience." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989). Here, however, the DEIR/DEIS' analysis of the BDCP fails to foster informed decisionmaking or to expose the decisionmaking process to the public. California Native Plant Society, 177 Cal.App.4th at 978. CEQA and NEPA require more.	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. Resource areas are addressed separately in the EIR/EIS under sections for each of the new project Alternatives, including surface water, groundwater, water quality, fish and aquatic resources, terrestrial biological resources, agricultural resources, air quality and greenhouse gases, and others. Where impacts are determined to be significant, environmental commitments and mitigation measures will be implemented to avoid and/or offset these effects, where possible. For information on the length of the EIR/EIS refer to Master Response 38 and for information on the public outreach refer to Master Response 40.
1735	7	The DEIR/DEIS fails to describe and analyze the whole of the action. CEQA and NEPA require that "[t]he entirety of the project must be described" in the EIR/EIS, "not some smaller portion of it." San Joaquin Raptor Rescue Center v. County of Merced (2007) 149 Cal.App.4th 645, 654 (quote); 40 C.F.R. [Section] 1508.25. Here, the DEIR/DEIS fails to describe and analyze the "whole of [the] action" in at least two respects. CEQA Guidelines [Section] 15378(a). First, despite the fact that Natural Community Conservation Planning Act requires each NCCP (which the BDCP is supposed to be) to include an Implementation Agreement containing, among other things, "provisions for establishing the long-term protection of any habitat," "provisions ensuring implementation of the monitoring program and adaptive management program," and "mechanisms to ensure adequate funding to carry out the conservation actions," the DEIR/DEIS entirely fails to describe and analyze any Implementation Agreement for the BDCP. California Fish & Game Code [Section] 2820(b). Nor could it have. The Agencies did not publish the draft Implementation Agreement until May 30, 2014, more than five months after they published the DEIR/DEIS. By failing to describe and analyze this critical feature of the BDCP, the DEIR/DEIS fails to analyze the "whole of [the] action" and violates CEQA and NEPA. CEQA Guidelines [Section] 15378(a); 40 C.F.R. [Section] 1508.25. Second, while the DEIR/DEIS describes the "intake capacity" of the proposed project's Peripheral Tunnels, it fails to describe the likely far greater carrying capacity of the tunnels themselves. DEIR/DEIS at 3-12; Draft BDCP at Sections 4.2.1.1 and 4.2.1.2 (likewise failing to describe the carrying capacity of the conveyance tunnels). Nor does it discuss the likelihood that the intake screens would be enlarged and pump capacity increased in the future to export additional water using any such extra capacity in the tunnels. This failure to discuss reasonably foreseeable future uses of the project violates CEQA and NEPA. City of Santee v. County of San Diego (1989) 214 Cal.App.3d 1438, 1455; 40 C.F.R. [Section] 1508.25.	See Responses to Comments 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information on sources of funding. The Draft Implementing Agreement for the proposed project was made available for public review on May 30, 2014 and the public review period was extended by 46 days until July 29, 2014, in order to accommodate a 60-day review period consistent with the California Natural Community Conservation Planning Act. As described in the May 5 2014 posting to the BDCP website, the delayed publication of the draft Implementing Agreement was related to availability of key individuals whose drought response duties required significant time commitments, resulting in delays in finalizing the draft Implementing Agreement. Implementing agreements are a requirement under the California Natural Community Conservation Planning Act (NCCPA), and are routinely executed under the ESA Section 10 (HCP) permitting process. Since the current proposed project is no longer a NCCP or HCP, an implementing agreement was not released with the RDEIR/SDEIS or final EIR for the project. The proposed intakes would only be permitted to operate with regulatory protections, including river water levels and flow, which would be determined based upon how much water is actually available in the system, the presence of threatened fish species, and water quality standards. Flow criteria will be applied month by month and according to water year type. More information on the ranges of water project diversions, based on water year types and specific flow criteria, can be found in BDCP, Chapter 3, Conservation Strategy. Monitoring for compliance with D-1641 requirements or any future requirements for SWP/CVP water supply operations would be conducted year-round in the future under the proposed project. See also Master Response 8 regarding analysis of project as a whole.
1735	8	The DEIR/DEIS unduly constrains the project objectives and fails to analyze a reasonable range of alternatives. Both CEQA and NEPA require that the EIR/EIS analyze a reasonable range of alternatives to the proposed project. "CEQA requires that an EIR, in addition to analyzing the environmental effects of a proposed project, also consider and analyze project alternatives	See Responses to Comment 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Response 5 (BDCP) for additional information.

DEIRS Ltr#	Cmt#	Comment	Response
		that would reduce adverse environmental impacts." In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008) 43 Cal.4th 1143, 1162-1163 (citing Cal. Pub. Res. Code [Sections] 21061, 21001(g), 21002, 21002.1(a), 21003(c)). An EIR must "describe a range of reasonable alternatives to the project . . . which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.. . ." 14 Cal. Code Regs. [("CEQA Guidelines")] [Section] 15126.6 (a). Alternatives that would lessen significant effects should be considered even if they "would impede to some degree the attainment of the project objectives, or be more costly." Guidelines [Section] 15126.6(b); California Native Plant Society v. City of Santa Cruz ("CNPS") (2009) 177 Cal.App.4th 957, 991. The range of alternatives considered must "foster informed decisionmaking and public participation." Guidelines [Section]15126.6(a); CNPS, 177 Cal.App.4th at 980, 988. Alternatives may only be eliminated from "detailed consideration" when substantial evidence in the record shows that they either (1) "fail[] to meet most of the basic project objectives," (2) are "infeasibl[e]," or (3) do not "avoid significant environmental impacts." Guidelines [Section] 15126.6(c). Under NEPA, the alternatives analysis "is the heart of the environmental impact statement." 40 C.F.R. [Section] 1502.14. An EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives" so that "reviewers may evaluate their comparative merits." Id. "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." Friends of Yosemite Valley v. Kempthorne, 520 F.3d 1024, 1038 (9th Cir. 2008). Furthermore, because a project's purpose and need statement "dictates the range of 'reasonable' alternatives," the agency may not frame the purpose and need statement narrowly "to avoid the requirement that relevant alternatives be considered." City of Carmel-by-the-Sea v. United States Department of Transportation, 123 F.3d 1142, 1155 (9th Cir. 1997) (first quote); National Parks & Conservation Association v. U.S. Bureau of Land Management ("NPCA v. BLM"), 606 F.3d 1058, 1070 (9th Cir. 2010) (second quote) ("[a]n agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action, and the EIS would become a foreordained formality"). Here, the DEIR/DEIS violates both CEQA and NEPA because it unduly constrains the project purposes and objectives and fails to analyze a reasonable range of alternatives. The fundamental purpose of the BDCP is to "restore and protect ecosystem health [in the Delta], water supplies of the SWP and CVP south-of-Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations." DEIR/DEIS ES-8. This purpose "reflects the intent to advance the coequal goals set forth in the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act) of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem." Id. at ES-10. Yet the Agencies appear to interpret these coequal goals as instead prioritizing water supply reliability over ecosystem restoration and requiring them to "[r]estore and protect the ability of the SWP and CVP to deliver up to full contract amounts," which the Agencies adopted as a primary project objective. DEIR/DEIS at ES-8, 10. The Agencies' interpretations and assumptions are not only wrong, they impermissibly constrained the Agencies' selection and analysis of alternatives such that none of the 15 action alternatives the Agencies examined in the DEIR/DEIS would reduce water exports from the Delta, and only one of them excludes the Peripheral Tunnels.	. The proposed project was developed to meet the standards of the federal and state Endangered Species Acts, as such it is intended to be environmentally beneficial, not detrimental. By establishing a point of water diversion in the north Delta and new operating criteria the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility. Regarding development of alternatives for the EIR/EIS, a description of the process the Lead Agencies followed to develop and screen alternatives are provided in Master Response 4. For more information regarding purpose and need of the proposed project please see Master Response 3. For more information regarding compliance with the Delta Reform Act, please see Master Response 31. For more information regarding Environmental Commitments please see Appendix 3B of the Final EIR/EIS.
1735	9	The Agencies' interpretations and assumptions underlying their stated project objective of restoring and protecting "the ability of the SWP and CVP to deliver up to full contract	See Responses to Comment 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization

DEIRS Ltr#	Cmt#	Comment	Response
		amounts" are wrong for the following reasons. DEIR/DEIS at ES-10. First, coequal goals are coequal. The plain language admits of no other interpretation, and the Agencies do not have the authority to prioritize one over the other. Yet by focusing on alternatives that would "[r]estore and protect the ability of the SWP and CVP to deliver up to full contract amounts," i.e. increase Delta exports, the Agencies impermissibly do just that, since "increasing freshwater flows [in the Delta] is essential for protecting resident and migratory fish populations." DEIR/DEIS at ES-8, 10 (first quote); Environmental Protection Agency letter to California State Water Resources Control Board, March 28, 2013, p. 2-3 (second quote; emphasis added) (attached hereto as Exhibit 1); National Marine Fisheries Service, July 2014, Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-Run Chinook Salmon and Central Valley Spring-Run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead ("2014 Recovery Plan"), p. 127 (one of the first listed priority Delta recovery actions is to "[d]evelop, implement, and enforce new Delta flow objectives that mimic historic natural flow characteristics, including increased freshwater flows (from both the Sacramento and San Joaquin rivers) into and through the Delta and more natural seasonal and interannual variability"). [footnote 2: The 2014 Recovery Plan is available for download as a PDF here: www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/california_central_valley/final_recovery_plan_07-11-2014.pdf] Second, the Agencies' assumption that they could ever ensure the "ability of the SWP and CVP to delivery up to full contract amounts" ignores the stark reality that the hydrologic conditions and requirements of state and federal law have never allowed the delivery of full contract amounts. See, e.g., Planning and Conservation League v. Department of Water Resources (2000) 83 Cal.App.4th 892, 913 ("There is . . . no question that the SWP cannot deliver all the water to which contractors are entitled under the original contracts. It does not appear that SWP has ever had that ability. Nor do defendants suggest that full delivery of entitlement water is likely within the life of the contracts.").	under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. 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 results of the EIR/EIS analysis indicates that under the range of alternatives considered in the Draft BDCP EIR/EIS full contract amounts are not delivered in the majority of times to the SWP and CVP water contractors due to hydrologic, regulatory, and conveyance and storage facility limitations. The EIR/EIS analysis also indicates that less water will be available in the future under climate change and sea level rise to the SWP and CVP water contractors due to changes in hydrologic factors and the need to continue to meet Delta water quality criteria. Therefore, 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). The EIR/EIS evaluates the changes in the SWP and CVP water contract deliveries under the alternatives as compared to the Existing Conditions and the No Action Alternative within the upper limits of the contract amounts. The alternatives, including the No Action Alternative, were developed to deliver SWP and CVP water up to the upper limit of legal SWP and CVP contractual water amounts, with the understanding that full contract amounts would not be delivered on average for the alternatives considered in the EIR/EIS, as described in Chapter 2, Project Objectives and Purpose and Need in the Final EIR/EIS. The range of alternatives included in the Draft EIR/EIS would result in a wide range of changes in Delta inflow and outflow as compared to the Existing Conditions and the No Action Alternative. 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).
1735	10	It blinks at reality to assume that Delta Reform Act's coequal goals--improving California's water supply reliability and "protecting, restoring, and enhancing the Delta ecosystem"--can only be achieved by increasing Delta water exports or building the peripheral tunnels. Id. at ES-10. There are many ways to achieve both goals without increasing Delta water exports or building the peripheral tunnels. The Environmental Water Caucus' "Responsible Exports Plan," [footnote 3: The Responsible Exports Plan is attached hereto as Exhibit 2. The Plan has also been previously submitted to the Agencies, including as an attachment to Friends of the River's May 21, 2014 Comment Letter re Failure of BDCP Draft Plan and Draft EIR/EIS to Include a Range of Reasonable Alternatives Including the Responsible Exports Plan Submitted by the Environmental Water Caucus.] for example, does just that. Instead of building the peripheral tunnels and increasing water exports, the Responsible Exports Plan would, among other things, reduce exports to a maximum of 3,000,000 acre-feet, institute and improve water efficiency and demand reduction programs, including water recycling and stormwater capture and reuse, eliminate irrigation of drainage-impaired farmlands south of the Delta and institute numerous measures to protect fish and otherwise improve the Delta ecosystem.	Appendix 3A in the Final EIR/EIS 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. See also response to comment 1735-4 with respect to Delta outflows.
1735	11	Other proffered alternatives would also achieve those coequal goals while reducing California's reliance on water exports from the Delta. For example, the alternative developed by state Senator Lois Wolk, Chair of the Senate Select Committee on the Sacramento-San Joaquin Delta and member of the Senate Natural Resources and Water	See response to comment 1735-10.

DEIRS Ltr#	Cmt#	Comment	Response
		Committee, and crystalized as SB42, includes investments in ecosystem restoration and protection and flood control, while focusing on improving water supply reliability through recycling, expanded groundwater storage, desalination, and conservation. The Natural Resources Defense Council's "Portfolio" alternative likewise focuses on water recycling, conservation and other non-Delta-export mechanisms to improve water supply reliability in the State. Despite having a copy of these reasonable and feasible alternatives well before they published the Draft BDCP and DEIR/DEIS, the Agencies failed to consider anything like them in those documents, and thereby violated CEQA and NEPA. By including as a project purpose and objective of "[r]estor[ing] and protect[ing] the ability of the SWP and CVP to deliver up to full contract amounts," the Agencies unduly constrained their selection of alternatives to exclude reduced export and other viable alternatives in violation of NEPA and CEQA. DEIR/DEIS at ES-8 (quote), 10 (same); NPCA v. BLM, 606 F.3d at 1070. By failing to analyze the Responsible Exports Plan and other "viable but unexamined alternative[s]," the Agencies "render[ed]" the DEIR/DEIS "inadequate." Friends of Yosemite Valley v. Kempthorne, 520 F.3d at 1038 (quote); 40 C.F.R. [Section] 1502.14; CEQA Guidelines [Sections] 15126.6(a), (b).	
1735	12	The DEIR/DEIS Remains Incomplete Due to Its Long List of Unresolved Issues. As prescribed by NEPA and CEQA, the DEIR/DEIS includes a list of 13 issues representing "areas of known controversy and issues to be resolved." ES-41 through ES-43; 40 C.F.R. [Section] 1502.12; Guidelines [Section] 15123. The issues listed are complex, broad, and so important that the BDCP cannot be effectively evaluated until they are resolved. For example, one of the issues listed is "biological resources," for which the DEIR/DEIS notes that "the complexity of the BDCP raises many concerns over environmental consequences" for aquatic and terrestrial ecosystems and species, "changes in existing land uses and habitats," and "adverse effects on sensitive resources." ES-41. Another set of issues is "water supply, surface water resources, and water quality," which the DEIR/DEIS admits "remain highly controversial for a wide array of stakeholders." ES-41. Other unresolved issues include flood management, how the BDCP will affect agriculture, and "the potential conflict between conservation goals" and economic development. ES-41 through ES-42. CEQA and NEPA do not allow such critical issues to be simply listed and left unresolved.	The commenter notes that, as prescribed by NEPA and CEQA, the Executive Summary to the Draft EIR/EIS, on pages ES-41 through ES-43, includes a discussion of "Areas of Known Controversy and Issues to be Resolved." Such a section is indeed required in the summary sections of all Draft EIRs under CEQA, and all Draft EISs under NEPA. (State CEQA Guidelines, § 15123[b]; 40 C.F.R. §1502.12.) The commenter goes on, however, to argue that the inclusion of this required information in the Draft EIR/EIS somehow violates both CEQA and NEPA, which, purportedly, "do not allow such critical issues to be simply listed and left unresolved." The commenter does not explain how compliance with the precise letter of the law somehow violates the law. Nothing in the law indicates, as the commenter implies, that all such issues must be resolved prior to the release of a Draft EIR/EIS. Indeed, under the commenter's view, the Lead Agencies would have had to resolve such issues without the benefit of the public input that can only be gained through comments on a Draft EIR/EIS. Thus, the commenter's view is not only contrary to the plain language of the CEQA Guidelines section and NEPA regulation at issue, but is also contrary to public policies favoring public input into administrative agency decision-making. Furthermore, some issues of "controversy," by their very nature, may never be resolved, as it is common for major decisions affecting public policy to go forward in the absence of a complete societal consensus.
1735	13	Unacceptable levels of uncertainty pervade sections of the DEIR/DEIS. For example, the DEIR/DEIS made "no determination" findings on whether the water tunnels, even after mitigation, would have adverse impacts on spawning, incubation habitat, and migration conditions for endangered Chinook salmon, steelhead, and green sturgeon. DEIR/DEIS ES-73, ES-75, ES-77, ES-79, ES-81, ES-83.	See Responses to Comment 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. Uncertainty in aspects of the Draft EIR/EIS reflects lack of information with which to assess potential effects of the action alternatives. With respect to the "no determination" findings for covered fishes that the commenter expressed concern about, findings were provided in the RDEIR/SEIS that was developed and circulated in 2015 (see Appendix A, Chapter 11, of the RDEIR/SEIS).
1735	14	Programmatic environmental impact documents may be prepared for a series of related actions "that can be characterized as one large project" under CEQA (Guidelines [Section] 15168), or "connected actions" that "[a]re interdependent parts of a larger action" under NEPA. 40 C.F.R. [Section] 1508.25(a)(1). Program EIRs may omit site-specific information, but "[d]esignating an EIR as a program EIR . . . does not by itself decrease the level of analysis otherwise required." Friends of Mammoth v. Town of Mammoth Lakes Redevelopment Agency, 82 Cal.App.4th 511, 533 (2000). Therefore, the EIR still must "be	The Lead Agencies do not agree that the Project Description in the EIR/EIS is lacking in basic and essential information. 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. Chapter 3 provides details of all the alternatives, and Section 4 of the RDEIR/SDEIS provides details of the new sub-alternatives. For figure alignments of all tunnel alternatives please refer to the 2013 Public Draft EIR/EIS Chapter 3 Mapbook Figures as well as the RDEIR/SDEIS Mapbooks. Additionally, the Department of Water

DEIRS Ltr#	Cmt#	Comment	Response
		prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences." Id. at 534. Similarly, while a programmatic EIS may decline to fully evaluate site-specific impacts "until a critical decision has been made to act," it must still "provide 'sufficient detail to foster informed decision-making." Friends of Yosemite Valley v. Norton, 348 F.3d 789, 800 (2003) (quoting Northern Alaska Environmental Center v. Lujan, 961 F.2d 886, 890-891 (9th Cir. 1992)). The DEIR/DEIS here is so lacking in basic and essential information that it fails to meet this standard. The Delta Science Program Independent Review Panel also noted unacceptable levels of uncertainty in the DEIR/DEIS. See, e.g., Delta Science Program Independent Review Panel Report, BDCP Effects Analysis Review, Phase 3 ("DSP Report"), p. 5 ("most of the potential BDCP effects carry a relatively high level of uncertainty," but the effects analysis "did not sufficiently acknowledge or articulate this reality").	Resources released in 2013 the Conceptual Engineering Report that describes design details of the modified pipeline/tunnel option (MPTO). For more information regarding tunnel research and design please see http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Conceptual_Engineering_Report-Modified_Pipeline_Tunnel_Option.sflb.ashx. Additionally, Appendix 3C, Construction Assumptions, provides details about the conveyance facilities. 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. The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR strived to use the best available science throughout the effects analysis, consistent with the requirements of the ESA.
1735	15	The Agencies' treatment of Endangered and Threatened Species violates both NEPA and the Endangered Species Act (ESA). The Agencies violated NEPA and the ESA because they issued the DEIR/DEIS without first preparing and incorporating the required Biological Assessments and Biological Opinions analyzing how the proposed BDCP actions would affect the critical habitat of at least five listed fish species. The omission of this critical step means that the BDCP does not constitute an adequate HCP, and renders the DEIR/DEIS essentially useless as a disclosure document under NEPA. 40 C.F.R. [Section] 1502.25(a) ("[t]o the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with" analyses or studies requires by the ESA); 50 C.F.R. [Section] 402.14(a). By enacting the ESA, "Congress intended endangered species to be afforded the highest of priorities." Tennessee Valley Authority v. Hill, 437 U.S. 153, 174 (1978). "The plain intent of Congress in enacting [the ESA] was to halt and reverse the trend toward species extinction, whatever the cost." Id. At 184 (emphasis added.) The ESA's goal is to ensure not only that species survive, but that their populations recover to the point that they can be removed from the endangered and threatened lists. Alaska v. Lubchenko, 723 F.3d 1043, 1054 (9th Cir. 2013). Therefore, the ESA requires that federal agencies [footnote 4: The ESA's provisions for federal agencies apply here because the Bureau of Reclamation is a federal agency taking action with respect to the proposed water tunnels. See BDCP 1-6.] ensure that their actions, or actions that they fund or authorize, are "not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of [critical] habitat of such species." 16 U.S.C. [Section] 1536(a)(2) (quote); Pinchot Task Force v. U.S. Fish and Wildlife Service, 378 F.3d 1059, 1076 (9th Cir. 2004) ("existing or potential conservation measures outside of the critical habitat cannot properly be a substitute for the maintenance of critical habitat that is required by Section 7" of the ESA).	See Responses to Comment 1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. See also Master Responses 29 and 45 regarding ESA compliance and permitting, respectively. The EIR/EIS discloses the effects of each alternative, including Alternative 4A, on species and their habitats. No decision on the EIR/EIS will be made until ESA consultation is complete. The BiOp will describe the FWS' and NMFS' opinions about the potential to jeopardize species or adversely affect designated critical habitat. The EIR/EIS discloses the effects of each alternative, including Alternative 4A, on species and their habitats. No decision on the EIR/EIS will be made until ESA consultation is complete. The BiOp will describe the FWS' and NMFS' opinions about the potential to jeopardize species or adversely affect designated critical habitat. 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 prepared a biological assessment (BA) and submitted it 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 a 2081(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

DEIRS Ltr#	Cmt#	Comment	Response
			action to carry out the proposed project. For more information please see 1.1.5.2 of Section 1 Introduction of the RDEIR/SDEIS.
1735	16	To ensure that projects do not "tip a species from a state of precarious survival into a state of likely extinction," agencies must review their actions "at the earliest possible time to determine whether any action may affect listed species or critical habitat." National Wildlife Federation v. National Marine Fisheries Service, 524 F.3d 917, 929-930 (9th Cir. 2008) (first quote); Karuk Tribe of California v. U.S. Forest Service, 681 F.3d 1006, 1020 (9th Cir. 2012) (second quote), cert. denied, 133 S.Ct. 1579 (2013). "If such a determination is made, formal consultation [with the U.S. Fish and Wildlife Service ("FWS") and/or the National Marine Fisheries Service ("NMFS")] is required." 50 C.F.R. [Sections] 402.14(a), 402.12(a) (a biological assessment determines whether the action will adversely affect listed species or their critical habitats, "and is used in determining whether formal consultation is required"). At the conclusion of formal consultation, Fish and Wildlife Service prepares a Biological Opinion discussing whether the proposed action and its cumulative effects are "likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat." 50 C.F.R. [Section] 402.14(g)(4); see also Center for Biological Diversity v. Bureau of Land Management, 422 F.Supp.2d 1115, 1144-45 (N.D. Cal. 2006). If the Biological Opinion concludes that the action may adversely affect a species or its critical habitat but will not jeopardize its continued existence, it can include an incidental take statement permitting a specific level of take, and prescribing mandatory "reasonable and prudent measures" designed to minimize harm to the species. 50 C.F.R. [Section] 402.14(i)(5). For nonfederal applicants, such as the state agencies here, Fish and Wildlife Service or National Marine Fisheries Service may issue "incidental take permits" under section 10(a)(1)(B) of the ESA. An applicant for an incidental take permit must submit a "habitat conservation plan" ("HCP") (such as the BDCP is supposed to be) describing the potential impacts of the project and the taking, and mitigation measures to minimize the taking of the species. The HCP must ensure that the "taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild," and it must be adequately funded. 16 U.S.C. [Section] 1539(a)(2)(B)(iii)-(iv). A similar provision exists under state law, California Fish and Game Code section 2835, which provides for take of protected species "whose conservation and management is provided for in [an approved] natural community conservation plan." Unless it is authorized under either section 7 or section 10 of the Endangered Species Act, any taking of a listed species is strictly prohibited. 16 U.S.C. [Section] 1538(a)(1)(B). "Take" is defined broadly, including "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect." Id. at [Section] 1532(19). 50 C.F.R. [Section] 17.3 defines "harm" to include any act that actually kills or injures the species, including any death or injuries as a result of habitat modification or degradation that impairs essential behavioral patterns such as feeding, breeding, or sheltering. National Marine Fisheries Service regulations include spawning and migrating as "essential behavioral patterns." 50 C.F.R. [Section] 222.102. The California Endangered Species Act ("CESA") contains a similar prohibition and definition of take. Cal. Fish & Game Code [Sections] 2080, 86.	This comment includes reference to court cases and language from both the federal and state endangered species acts. There are no specific comments on the content of the EIR/EIS.
1735	17	By further reducing freshwater flows in the Delta, the Sacramento River, and sloughs	Flow-related effects of the action alternatives were analyzed in the Final EIR/EIS. See Responses to Comment

DEIRS Ltr#	Cmt#	Comment	Response
		including Elkhorn, Georgianna, Miners, Steamboat, and Sutter sloughs, the proposed BDCP actions would adversely modify designated critical habitat for at least five endangered and threatened species: the Sacramento River winter-run Chinook salmon, the Central Valley spring- run Chinook Salmon, Central Valley steelhead, southern distinct population segment of North American green sturgeon, and the delta smelt. Indeed, NMFS itself has warned that the proposed BDCP actions threaten the "potential extirpation of mainstream Sacramento River populations of winter-run and spring-run Chinook salmon." NMFS, April 4, 2013, Progress Assessment and Remaining Issues Regarding the Administrative Draft BDCP Document. Both Fish and Wildlife Service and National Marine Fisheries Service have also found that continued operation of the CVP and SWP are likely to jeopardize the continued existence of the delta smelt and other various fish species. See, e.g., NMFS, June 4, 2009, Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project; FWS, December 15, 2008, Biological Opinion of the Coordinated Operations of the Central Valley Project and State Water Project. And in its 2014 Recovery Plan for the Sacramento River winter-run Chinook salmon, the Central Valley spring-run Chinook salmon and the California Central Valley steelhead, NMFS confirmed that "recovery" of the three listed salmonid species "would require that no more populations are allowed to become extirpated and that habitat must be expanded" - not contracted - "to allow for the establishment of additional populations." 2014 Recovery Plan at 4.	1735-2. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. For more information regarding the updated CALSIM II modeling, including the new preferred alternative please see Appendix 11C of the Final EIR/EIS. For more information regarding impact to aquatic resources and its mitigation measures please see Chapter 11 of the FEIR/EIS. For more information regarding Environmental Commitments please see Appendix 3B of the Final EIR/EIS. The proposed project was developed to meet the standards of the federal and state Endangered Species Acts, as such it is intended to be environmentally beneficial, not detrimental. By establishing a point of water diversion in the north Delta and new operating criteria the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility.
1735	18	Despite known devastating threats, and the fact that the BDCP constitutes "agency action" triggering Endangered Species Act obligations, no Biological Assessment or Biological Opinion has been prepared. See Pacific Rivers v. Thomas, 30 F.3d 1050, 1053-1054 (9th Cir. 1994) ("agency action" includes programmatic plans). The DEIR/DEIS specifies that the agencies "are applying for incidental take permits (ITPs)" and "incidental take authorization by the California Department of Fish and Wildlife (DFW)." DEIR/DEIS ES-1; see also BDCP 1-8 (planned BiOp will address ESA Section 10 permits decision). The BDCP states that it will "provide the basis for a biological assessment (BA) that supports new ESA Section 7 consultations," BDCP 1-1, and "support the issuance of a joint BiOp under Section 7." BDCP 1-8. However, conducting NEPA analysis prior to and without the benefit of the ESA consultation process violates the ESA's mandate that the ESA process be commenced "at the earliest possible time," 50 C.F.R. [Section] 402.14(a), and violates NEPA's requirement that the NEPA and ESA processes be carried out "concurrently" and in an "integrated manner." 40 C.F.R. [Section] 1502.25(a).	The BDCP, released in 2013 along with the Draft EIR/EIS, includes the Biological Assessment. Both can be found at: http://baydeltaconservationplan.com/EnvironmentalReview/EnvironmentalReview/2013-2014PublicReview.aspx. See Responses to Comments 1735-2 and 1735-15. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. 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 in the Final EIR/EIS, describe effects of the proposed project and several alternatives on fish and wildlife species in the Plan Area. See also Master Responses 29 and 45 regarding ESA compliance and permitting, respectively. For more information please see 1.1.5.2 of Section 1 Introduction of the RDEIR/SDEIS.
1735	19	NEPA requires that if a draft environmental impact statement is "so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion" prior to releasing a final EIS. 40 C.F.R. 1502.9. Because the DEIR/DEIS here is not informed by the required but yet-to-be-completed Endangered Species Act (ESA) analyses of how the proposed BDCP actions would affect listed species and their critical habitats, it is precisely "so inadequate" that it "preclude[s] meaningful analysis." CEQA likewise prohibits an EIR that is so inadequate as to prevent meaningful public review and comment. Guidelines [Section] 15088.5(a)(4); Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova (2007) 40 Cal.4th 412, 449. Therefore, the agencies must conduct the required ESA consultation and analysis and revise the DEIR/DEIS in light of any information coming out of that process.	This comment refers to the 2013 Draft EIR/EIS. Subsequently, the RDEIR/SDEIS and Final EIR/EIS were published. The lead agencies believe that the Draft EIR/EIS, RDEIR/SDEIS, and Final EIR/EIS are complete in their evaluation of impacts, direct and cumulative, that project description is complete and satisfies the requirements of NEPA, that the project objectives are also precise and complete and satisfy the requirements of CEQA. The lead agencies agree that the Draft EIR/EIS, RDEIR/SDEIS, and Final EIR/EIS 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. A biological opinion is not required prior to the release of a Draft EIR/EIS. For the Proposed Action, the USFWS and NMFS will conduct an internal ESA section 7 consultation prior to issuance of an Section

DEIRS Ltr#	Cmt#	Comment	Response
			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 NEPA, consistent with federal regulations. In addition, the USFWS and NMFS will consult with the Reclamation to complete biological opinions or a joint biological opinion prior to federal action to carry out the proposed project. The Biological Assessment has been completed and formal consultation with NMFS and USFWS is underway. The ROD will not be signed until biological opinions are issued by USFWS and NMFS.
1735	20	The BDCP's effects analysis is inaccessible and difficult to understand, impeding effective public review. The BDCP's Effects Analysis (Chapter 5 of the BDCP) is so long and poorly organized and cross-referenced that even a panel of seven scientists had difficulty understanding the document. Delta Science Program Report at 5 (the "document was difficult to review and comprehend," was "fragmented in its presentation," and suffered from "inefficient organization and incomplete cross-referencing"). Therefore, the effects analysis cannot serve its purpose of providing the public with information and an opportunity to comment upon it. It is true that given the complexity of the BDCP and the relevant ecosystems, the effects analysis and environmental review will necessarily present complicated issues and uncertainties. However, the Delta Science Program's Independent Review Panel found much room for improvement. First, the scientists noted that the document's lack of organization and appropriate cross-referencing provided "insufficient guidance for the reader." Id. At 5. "[T]he Effects Analysis (Chapter 5) itself is still poorly substantiated and leaves too much to appendices and other BDCP chapters without explicit cross- references. The lack of accessibility to information within the chapter or clear reference to supporting detail inhibits rather than elucidates comprehension of the findings and thus conveys an unsatisfying 'trust us' message." Id. At 6. Even though much of the needed information was included in technical appendices, the scientists found it "difficult to readily track down key information," and noted that they "often found assumptions and conclusions stated in the Effects Analysis to be lacking in sufficient detail to stand alone." Id. At 16. Second, the scientists believe that the document fails to "sufficiently acknowledge or articulate" the high levels of uncertainty involved in the BDCP, particularly its effects on key species and the predictions regarding its beneficial effects. Id. At 5-6. See also id. At 7 ("A broad consensus exists among the Panel that Chapter 5 does not adequately acknowledge the extensive uncertainty associated with the BDCP's assumptions and predictions"), 15 ("[l]evels of uncertainty are not adequately addressed"), 17-18. Finally, the science panel found that the Effects Analysis' conclusions were not appropriately supported. Id. At 7. In assessing the BDCP's impacts on species, the Effects Analysis failed to consider crucial factors such as sensitive life cycle stages and variation in habitat quality. Id. At 14. When the extensive uncertainty involved meant that a variety of outcomes were possible, the Effects Analysis considered "only the more beneficial outcomes" in arriving at its conclusions. Id. At 8, 13 ("the conclusion is often overstated as the most beneficial result"). As a result, the "net effects analysis tends to overreach conclusions of positive benefits for covered fish species." Id. At 7. It also failed to appreciate the complexities involved in effectively implementing an adaptive management plan, especially in light of the	Please see responses to comment letters BDCP 1448 and RECIRC 2546 for a comprehensive response to comments from the Independent Scientific Review Panel.

DEIRS Ltr#	Cmt#	Comment	Response
		pervasive uncertainties. Id. At 8-9, 15. The excessively complicated and incompletely cross-referenced BDCP and DEIR/DEIS do not serve NEPA's purpose of ensuring informed decision-making and facilitating public participation. The court held in NPCA v. BLM, 606 F.3d at 1073, that "in determining whether an EIS fosters informed decision-making and public participation, we consider not only its content, but also its form." The court went on to hold that the EIS in that case was insufficient because it forced readers interested in a particular environmental issue to "cull through entirely unrelated section of the EIS and then put the pieces together." Id. The BDCP and DEIR/DEIS here are inadequate for the same reason. Their lack of organization, skewed treatment, vagueness and uncertainty fail to "foster[] informed decision-making and public participation."	
1735	21	The Agencies' Treatment of Public Trust Resources Violates both NEPA and the Public Trust Doctrine. The DEIR/DEIS and Draft BDCP violate the Public Trust Doctrine by failing to fully consider the impacts of the proposed BDCP actions on public trust uses and the mitigation measures and alternatives that could reduce the impacts of those actions on public trust resources. The Agencies' primary apparent goal for the BDCP - to enable the supply of full contract amounts despite the consequent harm to public trust resources - would itself constitute a violation of the Public Trust. Use of public trust resources may not be approved "without consideration of other competing public trust purposes." Carstens v. California Coastal Commission ("Carstens") (1986) 182 Cal.App.3d 277, 289. "The doctrine that the public owns the right to tidelands" and submerged lands "originated in Roman law, which held the public's right to such lands to be illimitable and unrestrainable and incapable of individual exclusive appropriation." City of Berkeley v. Superior Court of Alameda ("City of Berkeley ") (1980) 26 Cal.3d 515, 521. "[T]he English common law evolved the concept of the public trust, under which the sovereign owns all of its navigable waterways and the lands lying beneath them as trustee of a public trust for the benefit of the people." National Audubon Society v. Superior Court ("National Audubon") (1983) 33 Cal.3d 419, 434. California's sovereign ownership of all tidelands, submerged lands, and beds of navigable waters dates to its statehood in 1850. "When California was admitted to statehood in 1850, it succeeded to title in the tidelands within its borders not in its proprietary capacity but as trustee for the public." City of Berkeley, 26 Cal.3d at 521. California holds all public trust resources for the benefit of all Californians for public trust purposes such as waterborne commerce, navigation, fisheries, recreation related to the water, aquatic and terrestrial habitat preservation, scenic beauty, and open space. National Audubon, 658 P.2d at 709 (California is the "trustee of a public trust for the benefit of the people"); Marks v. Whitney (1971) 6 Cal.3d 251, 259-60. Today, the Public Trust Doctrine and article I Section 25 and Article X Section 4 of the California Constitution protect the public's rights to access, use and enjoy tidelands, submerged lands, and overlying waters for boating, fishing and other public trust uses. National Audubon, 33 Cal.3d at 425, 440-46. The Public Trust Doctrine is "an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands, and tidelands, surrendering that right only in rare cases where abandonment is consistent with the purposes of the trust." Id. Accordingly, the California Constitution has	See Responses to Comments 1735-2 and 1735-15. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. The guiding principle of California's water law and policy is contained in Article X, Section 2 of the California Constitution. This section requires that all uses of the state's water be both reasonable and beneficial. It places a significant limitation on water rights by prohibiting the waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of water Rights to use water are subject to State government's obligation under the Public Trust Doctrine as trustee of certain resources for Californians. The Public Trust Doctrine is a legal doctrine that imposes responsibility on the State agencies to protect trust resources associated with California's waterways. The origins of the public trust doctrine are traceable to Roman Law concepts of common property. Originally, the public trust doctrine only applied to the protection of fishing, navigation, and commerce on waterways. Its scope has been expanded to include environmental and recreational benefits. In California, these principles are found in Article 10, section 2 of the Constitution, regarding "reasonable and beneficial use", section 4 regarding navigation, in the California Endangered Species Act, the California Fish & Game Code, and the California Water Code. The State Water Resources Control Board (the Board) is charged with the comprehensive planning and allocation of water resources in California. Any change in purpose, place of use, or point of diversion requires approval by the Board. DWR is seeking to obtain the Board's approval for the proposed project through the permit process. Water rights permits carefully spell out the amounts, conditions, and construction timetables for proposed water projects. Before the Board issues a permit, it must take into account all prior rights and the availability of water in the basin. The Board considers, too, the flows needed to preserve in-stream uses such as recreation and fish and wildlife habitat. DWR, as the permit applicant, will follow the process set forth in the Board's regulations, which includes environmental review, public notice, and a hearing process to address objections. A key finding the Board must make before a permit can be issued is that the applicant's use is in the public interest, which is an overriding concern in all Board decisions. The difficulty comes in balancing the potential value of a proposed or existing water diversion with the impact it may have on the public trust. The courts also have concurrent jurisdiction in this area. The proposed project provides a way to improve ecosystem health while also and protecting water supply reliability; see Master Response 3 (Purpose and Need). The proposed project is grounded in concepts of efficiency and public benefit, and utilizes best available science for design and implementation. The Board will have a chance to evaluate these efforts of public trust compliance when an application is made under the proposed project to change the point of diversion.

DEIRS Ltr#	Cmt#	Comment	Response
		established the State's obligations with regard to these resources in the Public Trust Doctrine. Id. Pursuant to those obligations, the Agencies must ensure that the BDCP and all actions taken thereunder are consistent with the Public Trust Doctrine by evaluating the proposed water diversions for their impact on public trust resources. National Audubon, 33 Cal.3d at 446; Carstens, 182 Cal.App.3d at 288. Indeed, the California Department of Water Resources itself has called for just such an analysis, stating that, "Public Trust needs and water needed to meet water right permit terms and conditions and other regulatory requirements must be considered. The instream flows and Delta outflow must be sufficient to restore and support the interconnected ecosystem of the Bays, the Delta and the tributaries. The future availability of water for export if any will vary from year to year and it is probable that no water will be available during dry cycle hydrology such as occurred in 1929 through 1934 and 1987 through 1992. Climate change could produce dry cycles which are far more extended than those experienced in the last 100 years." DEIR/DEIS Chapter 1, Appendix 1D, part 3 (letter dated May 14, 2009). Furthermore, as the State Water Resources Control Board has pointed out numerous times, it "has an [independent] obligation" apart from that of the Agencies "to consider the effect of the proposed project on public trust resources and to protect those resources." See, e.g., DEIR/DEIS Chapter 1, Appendix 1D, E-161 (BDCP Scoping Report). Yet the DEIR/DEIS does not adequately discuss impacts to public trust resources, nor does it make necessary determinations concerning the amount of water required to maintain ecosystem integrity in the Delta estuary, the amount of surplus water beyond that - if any - that is available for exports, and the economic and environmental consequences of reduced or no export scenarios. Without such analyses and determinations, including an analysis of the State Water Resources Control Board's Delta Flow Criteria Report, [footnote 5: The flow reports recommended substantial increase in Delta outflow and include biological performance objectives, alternatives to protect water supply and Delta infrastructure against catastrophic events, a water availability analysis, evaluation of the waste and unreasonable use of water, a cost-benefit analysis, and a balance of the public trust. See Water Code [Section] 85086(c)(1).] any decision based on the present DEIR/DEIS would arbitrary and capricious. When and if the Agencies do conduct a public trust analysis, they should search for a project alternative that would both allow and protect all the public trust uses affected. If they find such an alternative, they must adopt it. National Audubon, 33 Cal.3d at 446-7; Carstens,182 Cal.App.3d at 288; Center for Biological Diversity, Inc. v. FPL Group, Inc. (2008) 166 Cal.App.4th 1349, 1372.	See also Master Responses 13 and 26 regarding Public Trust Doctrine and area of origin issues, respectively.
1735	22	The Agencies' refusal to make comments accessible to the public impedes informed review of the project. The Agencies have refused to make the public's comments accessible, and have offered no reason or explanation for this refusal. Keeping comments private serves no legitimate public purpose. The agencies should post all comments online and extend the comment period to allow members of the public to learn from and communicate with one another. Under CEQA, an agency must provide a "good faith, reasoned analysis in response [to comments]. Conclusory statements unsupported by factual information will not suffice." PRC [Sections] 21003.1, 21091(d)(2)(A); Guidelines [Sections]15002(j), 15087, 15088. Thus,	Since 2006, DWR has sought to include as many voices into the planning process as possible and has demonstrated that commitment with an unprecedented level of public involvement. More information on how DWR has developed the project in an open and transparent manner is provided in Master Response 41. More information about the public outreach conducted during the comment review periods for the Draft EIR/EIS and RDEIR/SDEIS is provided in Master Response 40.

DEIRS Ltr#	Cmt#	Comment	Response
		providing the public with the opportunity to review the comments of other interested parties is vital to the public participation and informational components of CEQA. This is especially important when a major environmental issue is raised. Guidelines [Sections]15064(c), 15088(c). "In particular, the major environmental issues raised when the lead agency's position is at variance with recommendations and objections raised in the comments must be addressed in detail giving reasons why specific comments and suggestions were not accepted." Guidelines [Section]15088(c); San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 725; People v. Kern (1974) 29 Cal.App.3d 830, 842. Such controversies cannot be brought to the public's attention when the Agencies block access to comments, hindering the ability of commenters to assess this component of the required CEQA review.	
1735	23	The Draft BDCP does not comply with the Endangered Species Act. A Habitat Conservation Plan must ensure that the "taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild," and it must be adequately funded. 16 U.S.C. [Section] 1539(a)(2)(B)(iii)-(iv). For at least three reasons, the Draft BDCP is not a permissible HCP, and any permits issued under Section 10 of the ESA are invalid. First, the Draft BDCP does not ensure that the actions proposed therein will avoid "appreciably reduc[ing] the likelihood of the survival and recovery of the species in the wild." 50 C.F.R. [Section] 17.22(b)(2)(i)(D); 16 U.S.C. [Section] 1539(a)(2)(B)(iv). The Draft BDCP lacks convincing evidence that it will protect or recover the threatened and endangered species at issue, and contains no emergency measures to protect populations if they begin to crash. To the contrary, as discussed above, the available evidence demonstrates that the proposed BDCP actions as a whole threaten the "potential extirpation of mainstream Sacramento River populations of winter-run and spring-run Chinook salmon." NMFS, April 4, 2013, Progress Assessment and Remaining Issues Regarding the Administrative Draft BDCP Document (emphasis added). Rather than the reduced flows in the Sacramento River and Delta that would result if the Peripheral Tunnels are built, the listed Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon and California Central Valley steelhead need "increased freshwater flows (from both the Sacramento and San Joaquin rivers) into and through the Delta" to recover. 2014 Recovery Plan.	See Responses to Comments 1735-2 and 1735-15. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. Please see Master Response 29 for more information on project compliance with the Endangered Species Act.
1735	24	The Endangered Species Act (ESA) requires that agencies implement the law based on "the best scientific and commercial evidence available" rather than doing so "haphazardly, on the basis of speculation or surmise." Bennett v. Spear, 520 U.S. 154, 176 (1997); 16 U.S.C. [Section] 1536(a)(2). As described above, instead of being based on the "best scientific . . . evidence available," many of the proposed BDCP actions run directly counter to it. Furthermore, the BDCP and its DEIR/DEIS are riddled with uncertainties - including uncertainties improperly downplayed by the agencies. Glossing over significant risks and unknowns is the epitome of haphazard planning - precisely what the ESA prohibits. The peripheral tunnels are the central feature of the Draft BDCP, but have nothing to do with habitat conservation. Simply calling a project an HCP does not make it one. The peripheral tunnels have no place in an HCP, and that aspect of the BDCP should be studied separately from the measures that are actually focused on habitat conservation.	See Responses to Comments 1735-2 and 1735-15. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. 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. Resource areas are addressed separately in the EIR/EIS under sections for each of the additional project Alternatives, including surface water, groundwater, water quality, fish and aquatic resources, terrestrial biological resources, agricultural resources, air quality and greenhouse gases, and others. Where impacts are determined to be significant, environmental commitments and mitigation measures will be implemented to avoid and/or offset these effects, where possible.

DEIRS Ltr#	Cmt#	Comment	Response
1735	25	The Draft BDCP and DEIR/DEIS violate NEPA, CEQA, the Endangered Species Act and the Public Trust Doctrine. For similar reasons, Conservation Groups oppose the Peripheral Tunnels and the "Proposed Project" identified in the Draft BDCP and the DEIR/DEIS, and urge the Agencies to reconsider the actions they propose to take.	See Responses to Comments 1735-2 and 1735-15. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information. The proposed project is a joint EIR/EIS prepared in compliance with the requirements of CEQA and NEPA. Before the selection and approval of an alternative considered, the Lead Agencies must comply with the necessary state and federal environmental review requirements. This document, along with the Draft EIR/EIS and RDEIR/SDEIS are intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives for either compliance strategy. As implementation of the proposed project or any of the action alternatives will require permits and approvals from public agencies other than the Lead Agencies, the CEQA and NEPA documents are prepared to support the various public agency permit approvals and other discretionary decisions. These other public agencies are referred to as responsible agencies and 20 trustee agencies under CEQA (State CEQA Guidelines Sections 15381 and 15386) and cooperating agencies under NEPA (e.g., USACE and EPA). 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 of the Final 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 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 prepared a biological assessment (BA) and submitted it 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 is consulting 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. Please see Master Response 45 regarding permitting requirements and Master Response 13 regarding the Public Trust Doctrine.
1735	26	ATT1: Letter from Tim Vendlinks, EPA, to Jeanine Townsend of the California State Water Resources Control Board on the Bay-Delta Water Quality Control Plan March 28, 2013	The comment describes a letter as 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

DEIRS Ltr#	Cmt#	Comment	Response
			are not already addressed in comments referencing the attachment of the Final EIR/EIS.
1735	27	ATT1: ATT1: Graph of Observed vs. Predicted % Unimpaired Flow at Vernalis	The comment describes a letter as 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 comments referencing the attachment of the Final EIR/EIS.
1735	28	ATT2: Responsible Exports Plan Developed by the Environmental Water Caucus April 2013	The comment describes a letter as an attachment to the comment letter that is addressed in the Final EIR/EIS Appendix 3A. 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 comments referencing the attachment of the Final EIR/EIS.
1735	29	ATT2: ATT1: Figure 1. Historic Delta Exports and Estuarine Fish Populations	The comment describes a figure as 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 comments referencing the attachment of the Final EIR/EIS..
1735	30	ATT2: ATT2: Figure 2. Projected Water Savings Per Million Acre Feet	The comment describes a figure as 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 comments referencing the attachment of the Final EIR/EIS.
1735	31	ATT2: ATT3: Photos of Growth Comparison of juvenile Chinook fish	The comment describes photos as 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 comments referencing the attachment of the Final EIR/EIS.
1735	32	ATT2: ATT4: Figure 3. Graph of Central Valley Chinook Salmon Population	The comment describes a figure as 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 comments referencing the attachment of the Final EIR/EIS.
1736	1	As a resident on Scribner Road in Sacramento County, I express profound concern that conservation and regional recycling of geographically available water would more safely serve the interests of our state. The reality of earth quake risks threatening existing levees makes it less than ideal to neglect levee maintenance in favor of the tunnel project. Terrorist damage to industrialized intakes could wipe out these focal sources of water, and a more widely diversified source of water for the south would add safety to the long term state needs.	The Delta is not subject to the same degree of overall seismic risk (i.e., threat of ground shaking and surface fault rupture) as much of the Bay area. However, although there is little threat of surface rupture in the Delta, the hazard of seismic ground shaking is moderate to high, based on expected seismic shaking modeling results conducted by the U.S. Geological Survey and DWR. See Section 3E.2.4.2 Ground Acceleration (Ground Shaking) of Appendix 3E and Section 9.1.1.4.2 Earthquake Ground Shaking in Chapter 9 of the 2013 Public Draft BDCP EIR/EIS. A moderate to strong earthquake could cause simultaneous levee failures on several Delta islands, which would result in island flooding with resultant island flooding. In 2002, the Working Group on California Earthquake Probabilities estimated that an earthquake of magnitude 6.7 or greater has a 62 percent probability of occurring in the San Francisco Bay Area before 2032, and could cause 20 or more islands to flood at the same time. The proposed project does not purport to protect existing levees from seismic ground shaking. Although the proposed project is not intended to provide enhanced flood protection, it does intend to reduce the vulnerability of the water delivery system by making it less reliant upon the Delta levee system (and associated risks thereto). Further, the proposed project does not envision a change in the state's flood protection policies or programs. For more information on levee stability and seismic risk please see Master Response 16. For more information regarding demand management please see Master Response 5. For more information regarding purpose and need please see Master Response 3.
1736	2	The long term access to residential domestic well water is a critical issue that affects all homes along the 30 mile length of the proposed tunnels. There is no public or county	As described under Section 7.3.3.2 of Chapter 7, Groundwater, of the EIR/EIS, groundwater impacts are related to dewatering activities during construction of the conveyance facilities (Impact GW-1); during

DEIRS Ltr#	Cmt#	Comment	Response
		water to homes along the proposed route, all of us have our own wells some of which serve multiple families. The depth of these wells varies between 60 and 120 feet. The process of digging and maintaining the tunnels will likely disrupt and possibly permanently inhibit access to potable water for all residences. There is existing evidence of residential well disturbance from the North-West waste water connector coming from the Roseville area under the Sacramento Rover to West Sacramento and again under the river to the waste water treatment plant by Freeport. This connector at a depth of 60 feet disturbed access to potable water to homes in the West Sacramento area demonstrating the effect of tunneling on access to safe ground water. We rely on our well water and are greatly concerned that the tunnel and road realignment of Highway 160 will compromise our access to well water and additionally will disrupt our leach line for our septic system. Each and every residence for the length of the proposed tunnels is at the same risk, lack of drinking water and septic systems would make our homes un-livable. Tunnel proponents only quote the loss of residences which will be torn down to achieve the tunnel intakes, but there is no mention that to live in a home without water and septic systems and without realistic road access effectively increases the number of residences that are no longer suitable for living. People who farm along the river live along the river and have done so for many generations. It makes sense to live on or next to the property that is farmed. We don't need to take this land out of production and eliminates the homes from residential habitation.	operation of the forebay facilities (Impact GW-5); and during operation of tidal, channel margin, and seasonally inundated floodplain restoration sites (Impact GW-6). During construction, dewatering wells would be installed at the intakes, levees, forebays, pumping plants, and tunnel shafts; and along the pipelines near the intakes and forebays. No dewatering would be required along the tunnel alignment. Following construction, the groundwater elevations would rise towards pre-construction elevations. Mitigation measures have been identified in the EIR/EIS. In most cases, the mitigation measures would reduce the impacts to become less than significant as compared to Existing Conditions. However, it is possible, that some impacts may not be mitigable depending upon specific information that would be collected during design and construction phase. The effects on agricultural activities, which could include agricultural activities on the refuges, 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 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 remain significant and unavoidable and adverse to agricultural resources. As described in Mitigation Measure AG-1 in Chapter 14, Agricultural Resources, in the EIR/EIS, adversely affected wells, pipelines, power lines, drainage systems, and other infrastructure that are needed for ongoing agricultural uses and would be adversely affected by project construction or operation would be relocated or replaced.
1736	3	The preservation of habitat for Sandhill cranes is an important issue. As a resident in a rural home, (situated in the middle of a field just south of Scribner Road), I watch and listen to the cranes every fall and winter. The Sandhill cranes typically feed in the stubble on corn fields, returning each year to the same fields on both the north and south side of Scribner Road. Cranes typically return year after year to the same locations. They feed locally during the daylight hours and they fly at night to shallow water where they spend the hours of darkness. The proposed road changes for widening and realignment of roadways will remove farmland from corn production which is necessary habitat for the seasonal fall and winter use of the migratory cranes.	Please see Master Response 17 which provides additional information on the Greater Sandhill crane
1736	4	Medical care has been available in Courtland for 90 years. The River Road (Highway 160) is the main route to and from the Doctor's office in Courtland. Emergency vehicles need to be able to each the residences along the river. There is a precedent for doctor's house calls to elderly homebound in the area. Construction and highway access deviation for a decade will seriously impact the patient's ease of getting to medical care in Courtland and for medical and emergency attendants promptly reaching residences along the proposed tunnel route. Emergency response vehicles are manned by an all volunteer fire department such that those who take these calls have to come from their respective farms and rural homes, get to the fire stations to activate an ambulance or fire engine and then travel to the site of need. The proposed reconstruction of the river road will impede emergency response times to those in need, thus, another plea to keep any water exporting confined to the present site at Tracy and not impair road travel and access along the	EIR/EIS Chapter 19, Transportation, page 19-36 identifies interference with emergency services as an effect. Impact TRANS-3 further discusses this problem and its effects. Mitigation Measure TRANS-1a includes provisions to ensure that construction vehicles allow continual access for emergency vehicles at the time of an emergency. Mitigation Measure TRANS-1c also seeks to work with affected jurisdictions to enhance capacity of congested roadway segments where construction traffic will substantially affect transportation facilities. However, some significant impacts may be unavoidable as discussed on page 19-70 of EIR/EIS Chapter 19, Transportation.

DEIRS Ltr#	Cmt#	Comment	Response
		Sacramento County portion of the River Road.	
1736	5	I respectfully ask that the tunnel project be abandoned in favor of more geographically responsible water sourcing for the south. The project is too risky for the health of the environment of fish and wildlife in addition to threatening the drinking water of Sacramento County residents and their access to regional medical care.	The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. Its environmental evaluation can be found in Sections 4 and 5 of the RDEIR/SDEIS. The following Master Responses provide clarification on issues raised: 4 (Selection of Alternatives Analyzed), 6 (Demand Management), 7 (Desalination), 37 (Storage), 5 (Operation of the Proposed CM1), and 24 (Delta as a Place). Extensive analyses were conducted on impacts to biological resources (refer to Chapters 11 and 12 in the Draft EIR/EIS and to Sections 3, 4, 5 and Appendix A [Chapters 11 and 12] in the RDEIR/SDEIS). The proposed project will not impact regional medical care facilities (see Chapter 20 [Public Services and Utilities], Section 20.3.3, page 20-35 of the Draft EIR/EIS). Access to medical care facilities during construction was analyzed for all action alternatives and were found to be less than significant (refer to Impact UT-1 in Chapter 20and/or the Executive Summary on page ES-123 of the Draft EIR/EIS). Similar findings occurred for the California WaterFix Project and the other sub-alternatives in Section 4 and Executive Summary on page ES-95 of the RDEIR/SDEIS. In all cases, Sacramento County residents would be able to access their regional medical care. 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.
1738	1	The project area in the BDCP and the project objectives/purpose in the EIR/EIS are defined in unreasonably narrow terms frustrating consideration of a reasonable range of alternatives. The EIR/EIS ("EIR") does not consider broad alternatives or compliments to the twin tunnels. For example, although virtually all sides in the California water debate agree that some form of additional storage is a necessary component of any long-term solution, the EIR does not consider any alternatives that include storage options. Likewise, the Public Draft Bay Delta Conservation Plan ("BDCP") does not include any storage components. Nor does the BDCP include actions outside the narrow geographic scope defined in the Plan Area, which is the statutory Delta and several immediately adjacent areas. See BDCP [Section] 1.4.1. A significant justification for the twin tunnels has been the "little sip, big gulp" rationale. Although this seems to have fallen by the wayside in BDCP promotional efforts of late, it still accurately describes the best policy rationale for the tunnels. By relocating the point of diversion and providing large capacity conveyance it would be possible to draw larger quantities of water at times of abundance (big gulp) thereby allowing diversions to be minimized at times of low flow and critical environmental need (little sip). Sounds good. But it does not work without storage. Although the tunnels would provide the ability to divert large quantities of water during peak winter flows, there is currently nowhere to store such diversions. The legislature has ordained that it is state policy to "[i]mprove the water conveyance system and expand statewide water storage." Cal. Water Code [Section] 85020(f). It is no accident that storage and conveyance are tightly yoked in legislative policy. Only with the provision of additional storage capacity can the tunnels actually function as a big gulp little sip device. Yet the BDCP does not contain any storage, and the EIR does not analyze a "tunnels plus storage" alternative.	The comment pertains to the BDCP or Alternative 4 evaluated in the 2013 Public Draft EIR/EIS. 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 4A does not include a habitat conservation plan/natural community conservation plan (HCP/NCCP). Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original HCP/NCCP alternative approach, and because it provides an important reference point from which the 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. Alternative 4A has been developed in response to public and agency input. While water storage is a critically important tool for managing California's water resources, it is not a topic that must be addressed in the EIR/EIS for the proposed project. This is because the proposed project does not, and need not; propose storage as a project component. Although the physical facilities contemplated by the proposed project, once up and running would be part of an overall statewide water system of which new storage could someday also be a part, the proposed project is a stand-alone project for purposes of CEQA and NEPA, just as future storage projects would be. Appendix 1B, Water Storage, of the 2013 Public Draft EIR/EIS, describes the potential for additional water storage. Please see Master Response 4 regarding the development of alternatives. Please see Master Response 6 for information on Demand Management. Please see Master Response 37 regarding water storage and in the Final EIR/EIS, Appendix 1B. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.
1738	2	The feasibility and benefits of expanding storage through increased groundwater recharge is beyond dispute. The necessity to provide additional storage and feasibility of doing so is	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. For more information regarding purpose and

DEIRS Ltr#	Cmt#	Comment	Response
		discussed in more detail in section II below. The project proponents have attempted to insulate the failure to consider storage and other defects in the BDCP and EIR from challenge by narrowly defining the Project Objectives/Purpose in the EIR and geographic scope in the BDCP. See EIR ES.2; BDCP [Section] 1.4.1. However, "a lead agency may not give a project's purpose an artificially narrow definition" in order to arrive at its own foreordained result. In Re Bay-Delta Programmatic Envtl. Impact Report Coordinated Proceedings, 43 Cal. 4th 1143, 1166 (2008). An "agency cannot define its objectives in unreasonably narrow terms." City of Carmel-By-The-Sea v. U.S. Dept. of Transp, 123 F.3d 1142, 1155 (9th Cir.1997). "Instead, agencies must look hard at the factors relevant to the definition of purpose ... Once an agency has considered the relevant factors, it must define goals for its action that fall somewhere within the range of reasonable choices." Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (9th Cir. 1991). The Project Objectives provide that a project objective is the "construction and operation of facilities ... for the movement of water entering the Delta from the Sacramento Valley watershed to the existing SWP and CVP pumping plants located in the southern Delta." EIR ES-9. This, however, is simply a definition of the twin tunnels. That is an end result of the decisional process, not a valid project objective. The project proponents have simply crafted a definition of Project Objectives so narrow that the only result can be to fulfill their own twin tunnel prophecy. However: We realize, as we stated before, that the word "reasonable" is not self- defining. Deference, however, does not mean dormancy, and the rule of reason does not give agencies license to fulfill their own prophecies, whatever the parochial impulses that drive them. Environmental impact statements take time and cost money. Yet an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action, and the EIS would become a foreordained formality. Citizens Against Burlington, Inc. v. Busey, 938 F.2d at 196. The actual purpose of the project is to provide regulatory stability to the operation of the entirety of the state and federal water projects while at the same time lessening and/or mitigating the impact of the operation of the water projects on Delta ecology, and increasing water deliveries with the goal of attaining full contract amounts. These are extraordinarily broad-based policy goals. However, the "Project Objectives" and "Project Purpose" sections in the EIR have been drafted with exceeding precision and care, likely involving many attorney hours in the crafting of these few paragraphs, to limit the range of actions that would fulfill the Project Purpose and Objectives to improving conveyance from the north Delta to the existing export pumps, and providing habitat within the statutory Delta and adjacent areas.	need and objectives of the proposed project please see Master Response 3. For information regarding selection of alternatives please see Master Response 4.
1738	3	The Project Purpose and Project Objectives sections are radically under-inclusive of the actual purposes, as betrayed repeatedly throughout the text of the BDCP: "The overarching goals of the BDCP are to advance the restoration of the ecological functions and productivity in the Delta and restore and protect water supplies provided by the SWP and CVP ..." BDCP 1-5. Successful completion of the BDCP is intended to "afford regulatory stability with respect to the operation of the primary water delivery systems for the State of California." BDCP 1-26. The BDCP "is intended to result in long-term regulatory stability for the state and federal water projects, while furthering the goals of the BDCP to restore and protect	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. The comment addresses the scope of the Biological Opinions, which are limited to the Plan Area and do not include areas outside the Delta. Please refer to Master Response 8 regarding the geographic scope of the

DEIRS Ltr#	Cmt#	Comment	Response
		ecosystem health, water supply, and water quality." BDCP 1-6. See also Draft Implementing Agreement for the Bay Delta Conservation Plan [Section] 2.1.8 ("The overall goal of the BDCP is to restore and protect ecosystem health, water supply, and water quality within a stable regulatory framework.") ("IA"). Surely if the actual goals are to provide regulatory stability for the entire state and federal water projects, protect the drinking water supply and quality for 19,000,000 Californians and millions of acres of irrigated agriculture, and restore the ecosystem health of the largest estuary on the west coast of north America then it is irrational to provide a legal description of those goals in terms so narrow that possible alternatives are limited to exclude almost all components of the state and federal water projects, exclude storage, exclude conservation, and exclude solutions that actually address the problem. The artificial and impermissible segmenting of Biological Opinions is another attempt to insulate broad effects of the project from challenge by narrowing its legal scope in a way that is inconsistent with its actual scope. BDCP section 1.3.2.2 provides: With respect to Reclamation's operation of the CVP, the joint BiOp for the BDCP will cover only those operations that occur after the new water conveyance facilities are operational which is expected to be in 2026. At that time, the joint BDCP BiOp is expected to supersede the existing BiOps (as revised) for the coordinated long-term operation of the SWP and CVP, but only for those operations that occur within the Plan Area. The BiOps on the coordinated long-term operation of the SWP and CVP are expected to continue to provide Section 7 Authorization for operations of the SWP and CVP that occur outside of the BDCP Plan Area. BDCP 1-9. This segmenting is inconsistent with the fact that "[t]he infrastructure of the state and federal water projects form an integrated system that extends beyond the boundaries of the Delta [and BDCP project area]; as such, the BDCP will affect water operations, species, and habitat both inside and outside the Delta." BDCP 1-3. For all its discussion of the importance of scale within the fledgling science of restoration ecology, the BDCP does not blush at turning a blind eye to scale when embracing the true dimensions of an issue becomes an impediment to breaking ground on tunnel construction.	impact analysis.
1738	4	The BDCP should be revised to include storage through groundwater recharge and the EIR should analyze a reasonable range of alternatives that include storage through groundwater recharge. The recently completed Delta Plan, promulgated after years of study and at the charge of the Legislature to set state policy for the Delta, concluded that the key to restoring the health of the Delta and providing a reliable water supply for the state is "Storing Floods to Ride Out Droughts (and Give the Delta a Break)." Delta Plan ES-6. As the Delta Plan is critical to informed decision making for the BDCP and for consideration of a reasonable range of alternatives for the EIR, it is attached in its entirety and made a part of these comments and the administrative record. The Delta Plan further found that groundwater recharge is the best way to achieve additional storage capacity: "using aquifers like bank accounts: to be filled up in wet times, in order that they may be drawn from in dry." Delta Plan ES-7. A critique of the BDCP by an eminent panel of scientists, commissioned by American Rivers and the Nature Conservancy, Saracino & Mount, LLC, Panel Review of the Draft Bay Delta Plan Prepared for the Nature Conservancy and American Rivers ("Mount Report") also concluded that although one of the objectives of the BDCP is "to increase exports during	The proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change. The proposed project is not a comprehensive, statewide water plan, but is instead aimed at addressing many complex and long-standing issues related to the operations of the SWP and CVP in the Delta. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures). For additional information regarding water storage, please see Master Response 37and in the Final EIR/EIS Appendix 1B. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.

DEIRS Ltr#	Cmt#	Comment	Response
		wet periods and decrease them during dry periods … it does not significantly reduce pressure on the Delta during drier periods." Mount Report 30. The Mount Report suggested that "Expanding potential storage, particularly groundwater storage, would have created considerably more flexibility in exports" allowing more water to be harvested in wet years (big gulp) and conserving environmental flows during periods of scarcity (little sip). Mount Report 22. The Mount Report is attached in its entirety and made a part of these comments and the administrative record. In Research Brief Issue #102, Does California Have the Water to Support Population Growth? The Public Policy Institute of California Concluded that groundwater storage can provide an additional two million acre feet of "new" water per year. (Attachment___). Moreover, increasing groundwater storage is the official policy of the state of California. The California Water Plan Update 2005 estimated that through groundwater banking there is "the potential to increase average annual water deliveries by 2 million acre-feet" in conjunction with reoperation of existing surface water reservoirs. California Water Plan Update Chapter 4, page 4-2. In the report, Groundwater Availability of the Central Valley Aquifer, published by the U.S. Geological Survey ("Groundwater Availability"), the authors discuss water banking through groundwater recharge generally and the new groundwater recharge water bank, the Madera Ranch Project, that "would divert floodwaters from the Delta" for storage and future use. Groundwater Availability 108. The Madera Ranch Project involves the banking of CVP water in collaboration between the Madera Irrigation District, A CVP water contractor, and the U.S. Bureau of Reclamation, a close collaborator on the BDCP. The parties to the BDCP have it well within their means to use additional groundwater banking as a component of the BDCP and it is proven feasible to bank CVP water in groundwater recharge throughout the state. Groundwater Availability is designed to "be used to identify favorable locations [for groundwater recharge] on a regional scale" and should be of use to BDCP planners in evaluating alternatives that build on the Madera Ranch model. Id. Attached are the Madera Ranch federal Record of Decision and Environmental Impact Statement for use in considering additional groundwater banking as an integral component of the BDCP and as part of a reasonable range of alternatives. Also attached are the following scientific reports on groundwater recharge for use in developing alternatives, as listed in Appendix 1. There is scientific consensus that additional storage through groundwater banking is an essential and feasible element in addressing California's water supply issues and in restoring the health of the Delta. Since these are the two actual goals of the BDCP, there is no reason why groundwater banking should not be a part of the BDCP and failure to consider an alternative that includes groundwater storage is failure to consider a reasonable range of alternatives. The artificial narrowing of possibilities for infrastructure to exclude groundwater recharge by limiting conveyance to the tunnels and the project area to the Delta by way of an inapt Project Objectives section is no bar to real solutions. Instead, the BDCP proponents "must look hard at the factors relevant to the definition of purpose … . Once an agency has considered the relevant factors, it must define goals for its action that fall somewhere within the range of reasonable choices." Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (9th Cir. 1991). Here, the range of reasonable choices must include storage, and any reasonable consideration of storage must include groundwater banking.	

DEIRS Ltr#	Cmt#	Comment	Response
		Investment in infrastructure throughout California to accomplish groundwater recharge is well within the range of reasonable choices available to the BDCP. The water contractor proponents of the BDCP have much of the state's groundwater resources under their collective purview. The water contractors have participated successfully in construction of regional groundwater banking facilities and with USBR in groundwater banking CVP water. As noted in the Delta Plan: Statewide water storage capacity, both above and below ground, is currently inadequate, especially south of the Delta, to facilitate export of water at times of surplus when the impacts on the Delta's ecosystem are reduced and the only impediment is lack of available storage capacity (DWR 2009). For example, in 2010, the SWP and CVP pump operations were slowed even though water was available to be pumped at a time when it would not have conflicted with endangered species or other water quality requirements. The SWP and CVP could not convey the surplus water through the Delta at that time because storage capacity south of the Delta was full. Delta Plan 86.	
1738	5	How much "new" water could be harvested from the existing pumps if lack of storage was addressed through provision of groundwater banking facilities? Construction of the tunnels will cause massive disruption of life in the Delta. The stretch of the Sacramento River and adjacent farmland between Clarksburg and Walnut Grove will be transformed from a peaceful boating and farming landscape into a vast industrial complex supporting tunnel infrastructure. The tens of billions of dollars involved in tunnel construction might be better spent on a series of smaller groundwater recharge projects that would be much less locally disruptive, spare Delta communities from annihilation, and would actually achieve the goals of providing a more reliable water supply to the state, restoring the Bay-Delta ecosystem, and expanding statewide storage capacity as mandated by the legislature. Or, perhaps, a smaller tunnel project in conjunction with additional storage would be the optimal solution. We will not know until the proponents of the BDCP roll up their sleeves and analyze a reasonable range of storage alternatives—not limited by an artificially narrow project description.	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. Please see Master Response 24 regarding impacts to the Delta. In 2009, the Delta Reform Act (SBX7 1) was passed by the Legislature to establish the overall water policy for the state of California. SBX7 1 has many provisions and elements. Among the many elements is the requirement that the DSC develop a comprehensive management plan for the Delta, called the "Delta Plan." The legislation's requirements for the proposed project are in Water Code Section 85320. This section of the law defines the requirements the BDCP must meet to be considered for inclusion in the DSC's Delta Plan. Those requirements do not assign the proposed project specific duties relating to the Delta Reform Act's "Delta as an evolving place" language. 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, Draft EIR/EIS. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS. Please see Master Response 4 regarding the development of alternatives and Master Response 3 regarding project objectives. Please see Master Response 6 for information on Demand Management. Please see Master Response 37 regarding water storage.
1738	6	The BDCP should be revised to include Storage/Management with the Sites Reservoir as an integral component and the EIR should analyze alternatives including Sites Reservoir as an integral component of the BDCP. The proposed Sites Reservoir project, also known as North of Delta Offstream Storage ("NODOS") is well along in planning and analysis. A preliminary draft environmental impact report and preliminary engineering design were completed in May 2014. Technical difficulties prevented download and inclusion of these documents herewith. They are incorporated by reference and will be provided under separate cover. They are available at http://www.water.ca.gov/storage/northdelta/index.cfm. A technical Memorandum, Sensitivity Analysis of Operation with the BDCP, has not yet been released to the public. The technical memorandum, however, should be currently available to the resource agencies	Please note that the BDCP is no longer the preferred alternative. Please refer to Response to Comment 1738-1. The preferred alternative is now Alternative 4A and no longer includes an HCP. Please see Master Response 37 regarding why an alternative focused on creating additional storage, either in the Delta or elsewhere, was not included in the EIR/EIS. 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, Draft EIR/EIS. Appendix 3A thoroughly explains why various proposals were carried over into the EIR/EIS as a project alternative.

DEIRS Ltr#	Cmt#	Comment	Response
		and it is incorporated into the administrative record by reference now even though it is not available to be attached hereto. NODOS would operate by diverting flows from the Sacramento River at times of high flow through a series of existing irrigation canals to a new surface storage facility. The stored water would then be released back to the river during periods of scarcity. NODOS is well upstream of the Delta, and water released from NODOS could be allocated between in-stream environmental needs and export needs. NODOS could operate in conjunction with any new or existing point of diversion in the Delta, including the tunnels. NODOS is projected to store up to 1.4 million acre feet. This would add considerable flexibility (which the Mount Report found lacking) to the BDCP for both water supply and environmental needs. The logic of incorporating Sites into the BDCP is obvious. Its technical development has been coterminous with the BDCP. Its function, is to bring to fruition the little sip big gulp approach sorely lacking in the BDCP. Failure to analyze an alternative that includes Sites makes the range of alternatives analyzed by the BDCP unreasonable. Incorporating Sites would allow the BDCP to become what it must be in order to be successful, a system that can "Store[] Floods to Ride Out Droughts." Delta Plan ES-6.	
1738	7	The BDCP should store floods to ride out droughts. As currently formulated, the BDCP fails the basic test for providing water supply and environmental solutions because it is a run-of-the-river project. It fails to comply with the coequal goals of the Delta Reform Act, "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem." Cal. Water Code [Section] 85054. Instead, it must continue to rob environmental needs of water at times of scarcity in order to provide water supply. As such, it simply continues the basic problem rather than offering any solution. The problem, in a nutshell, is that there is an overabundance of water that comes all at once, at the wrong time, in the wrong place, and erratically. Winter storms drop tremendous amounts of water in very short periods and there is currently no way to harvest or store this water. Instead, it is diverted through flood control structures around the Delta and out to sea. Attached is a DWR fact sheet entitled Sacramento River Flood Control Project Weirs and Flood Relief Structures. It shows historical diversions at the Moulton, Colusa, Tisdale, Fremont, and Sacramento Weirs. These weirs have combined capacity to divert 588,000 cfs. The Sacramento Weir alone, operating at a river stage of 31 feet, diverts over 31,000 cfs. To put this into perspective, that would be 1 million acre feet approximately every 16 hours, or the equivalent of the high end of total SWP and CVP yearly diversions (6 MAF) in a period of 4 days. From just one of the five weirs. The BDCP proposes to spend tens of billions of dollars on new water supply infrastructure. Yet no alternative that would harvest and store even a fraction of this abundance is considered.	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. For more information regarding project objectives and coequal goals please see Master Response 3. For information regarding selection of alternatives please see Master Response 4. Please see Master Response 37 regarding why an alternative focused on creating additional storage, either in the Delta or elsewhere, was not included in the EIR/EIS. For additional information regarding compliance with the Delta Reform Act, please see Master Response 31.
1738	8	Issuance Of Endangered Species Act Permits Is Not A Valid Project Objective And Mis-describes The Project.	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. For additional discussion of proposed project

DEIRS Ltr#	Cmt#	Comment	Response
		The stated objective of "[r]espond[ing] to the application for Incidental Take Permits for the covered species that authorize take," EIR, ES-8, is not a lawfully permissible project objective or purpose. Save the California Delta Alliance first pointed out the confusion around what the project actually is in its comments dated November 16, 2011. Our November 16, 2011, comments are attached and incorporated in full here as to project objectives and purpose and all the other issues raised therein. As we pointed out in those comments, the February 13, 2009, Notice of Intent to prepare an Environmental Impact Statement, 74 Fed. Reg. 7257 ("NOI") states that the proposed federal actions are issuance of ESA permits and implementation of one or more components of the BDCP. However that is not correct. The major federal action is the continued operation of the CVP at increased rates of export through implementation of conveyance improvements/alterations. See Delta Smelt Consol. Cases, 686 F. Supp. 2d 1026, 1042 (E.D. Cal. 2009) (major federal action was not the issuance of Biological Opinions but rather "planned coordinated operation of the Projects [CVP] that creates the jeopardy found by the BiOp."). See also U.S. Fish & Wildlife Service, Habitat Conservation Plans, available at http://library.fws.gov/Pubs9/hcp_section10.pdf (last visited Nov. 14, 2011) (noting that "[t]he purpose of the Incidental Take Permit is to authorize the incidental take of a listed species, not to authorize the activities that result in the take"). The mis-description of the project in the NOI and Project Objectives section of the EIR are part and parcel of the attempt to portray the tunnels as a "conservation measure" and/or integral part of a habitat conservation plan. The tunnels are a piece of water supply infrastructure. They are an operationally indivisible part of the system that causes the take. The vast habitat restoration projects are mitigation for operation of the tunnels/CVP/SWP. The BDCP's pervasive attempts to disguise as a habitat conservation plan a project aimed at increasing water exports through construction of large capacity conveyance facilities violates the Endangered Species Act and numerous other state and federal laws, including the federal Information Quality Act. The attempt to disguise and dissemble also means that the BDCP EIR/EIS fails to provide a stable and accurate project description, in violation of CEQA and NEPA. Rather than foster informed public participation, which is at the heart of CEQA and NEPA, the overly-clever scheme to disseminate misinformation about the true nature of the project is a wanton and willful violation of CEQA and NEPA. A major Project Objective is to "[r]estore and protect the ability of the SWP and CVP to deliver up to full contract amounts" of water as stated in water delivery contracts. EIR ES-8. The SWP and CVP have never been capable of delivering full contract amounts. Environmental consequences of such delivery and the fact that Delta water is vastly oversubscribed have made such exports impossible. Yet, the tunnels, which would make such vastly increased exports possible, are described as a conservation measure. And the project, including the objective of doubling or tripling water exports, is denominated as a Habitat Conservation Plan. Vastly increasing water exports has nothing to do with conserving habitat or arresting the decline of species. The two key quantitative guardians of maintaining in-stream flow necessary for environmental protection, X-2 and spring outflow, are made subject to manipulation in order to "minimize water supply effects." BDCP 3.4-11. In other words, the BDCP is a plan to shift water from environmental application to export. To meet the requirements of state and federal law, the project must be accurately portrayed as a water supply project with attendant habitat restoration as mitigation. As	objectives please see Master Response 3. For additional information regarding the ESA, please see Master Response 5.

DEIRS Ltr#	Cmt#	Comment	Response
		currently formulated, the BDCP is not a Habitat Conservation Plan, within the meaning of the federal Endangered Species Act.	
1738	9	The BDCP fails to comply with Water Code Section 85321 California Water Code section 85321 provides that: The BDCP shall include a transparent, real-time operational decision- making process in which fishery agencies ensure that applicable biological performance measures are achieved in a timely manner with respect to water system operations. The intent of the legislature was that real-time decision-making would "ensure that applicable biological performance measures are achieved in a timely manner." However, BDCP section 3.4.1.4.5 employs real-time decision-making as a way of maximizing water exports: The CM1 real-time operational decision-making process (real-time operations [RTOs]) allows for short-term adjustments in operations within the range of CM1 criteria described above in Section 3.4.1.4.3, Flow Criteria, in order to maximize water supply for SWP and CVP relative to the Annual Operating Plan and its quarterly updates subject to providing the necessary protections for covered species. BDCP 3.4-26. Species are an afterthought in the BDCP's version of real time operations. They were the only concern of the legislature in its specification of real time operations. The legislature said nothing about using real-time operations to maximize water supply or adjust the Annual Operating plan. The BDCP further lists the factors to be considered in adjusting real-time operations as "Covered fish species risks; Necessary actions to avoid adverse effects on covered fish species; Allocations in the year of action or in future years; End of water year storage; San Luis Reservoir low point; Delivery schedules for any SWP or CVP contractor; Actions that could be implemented throughout the year to recover any water supplies reduced by actions taken by the RTO team." BDCP 3.4-26-27. This further emphasis on operation of the tunnels as a water supply device simply confirms the obvious that the tunnels are a water supply device; they are not a conservation measure; nor are they properly described as part of a Habitat Conservation Plan. All real-time operations adjustments are further strictly limited in that they cannot override the bypass flow criteria established in the BDCP. In other words, no matter what, the water contractors are entitled to receive water in the range permitted by the bypass flow criteria. Real time operations cannot reduce exports beyond these levels. See BDCP Chapter 3.4.1.4 and Implementing Agreement [Section] 10.2.2.3. That is not what the legislature ordained. Pasting this additional guarantee of water deliveries into real-time operations that were intended to "ensure that applicable biological performance measures are achieved in a timely manner with respect to water system operations" is contrary to the legislative intent and directive. To be sure, consistent with its penchant for providing result-oriented legal descriptions that endorse its predetermined course of conduct, the BDCP declares that "[t]he RTO's will satisfy Water Code, section 85321." BDCP 34-26. But saying does not make it so. Particularly when no analysis or reasoning is provided as to how, given the glaring disparities described above, the BDCP RTOs satisfy section 85321. Moreover, this one-sentence feat of statutory	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. 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 Draft IA for the proposed project was made available for public review on May 30, 2014 and the public review period was extended by 46 days until July 29, 2014, in order to accommodate a 60-day review period consistent with the California Natural Community Conservation Planning Act. As described in the May 5 2014 posting to the BDCP website, the delayed publication of the draft Implementing Agreement was related to availability of key individuals whose drought response duties required significant time commitments, resulting in delays in finalizing the draft Implementing Agreement. Implementing agreements are a requirement under the California Natural Community Conservation Planning Act (NCCPA), and are routinely executed under the ESA Section 10 (HCP) permitting process. Since the current proposed project (Alternative 4A) is no longer a NCCP or HCP, an implementing agreement was not released with the RDEIR/SDEIS or final EIR for the project. Please also see Master Response 5 regarding the implementation agreement.

DEIRS Ltr#	Cmt#	Comment	Response
		interpretation, along with the other criteria provided in the BDCP to implement section 85321, is an illegal underground regulation with respect to DWR and California Department of Fish and Wildlife (CDFW). The Draft IA proffers CDFW's finding that the BDCP complies with section 85321. IA [Section] 4.2.2. However, the drafters have misread the Water Code. Section 85320 is within CDFW's purview (although with limited effect and subject to appeal). Section 85321 is not within CDFW's purview at all. The legislature charged a different state agency (the Delta Stewardship Council) with adjudging in the first instance whether the BDCP complies with section 85321.	
1738	10	The BDCP lacks effective Adaptive Management Capability. Despite the lavish attention paid to general concepts of adaptive management and the celebration of adaptive management as essential to any hope of success of the project, adaptive management is effectively hobbled with respect to the variable most crucial to the success of the plan: water exports. The IA [Implementing Agreement] provides that any "change to a Conservation Measure in a manner that would potentially result in the modification of water supplies [must be] consistent with Section 9.3.7" of the IA. "9.3.7" appears to be a typo and should read 10.3.7. Section 10.3.7, in turn, provides that the "limits and constraints" on adjusting water operations through adaptive management "are set out in Chapter 3.4 and Chapter 8." Chapter 3.4, in turn, contains all the flow criteria, including bypass flows, that have been ardently negotiated into the agreement by the water contractors. Thus, adaptive management is no more available to reduce exports below the flow criteria set out in BDCP section 3.4.1.4.3 than is real time management. Under withering public criticism, state and federal officials finally backed down from previous agreements (in prior drafts of the BDCP) extracted by the water contractors that reductions in guaranteed levels of exports could only be accomplished through a years-long appeal process that ultimately had to be decided by the Secretaries of the Interior and Commerce and Governor of California (virtually assuring that exports would never be reduced). However, in yet another glaring example of regulatory capture, the water contractors appear to have improved their position in the latest BDCP draft. Under regulatory assurances, the IA specifies that "quantity and timing of [water] delivery" may not be altered under the no surprises rule, and additional measures required of the water contractors to address emergent circumstances may not involve "resource restrictions."	Please see response to comment 1738-9. Additionally, with regards to adaptive management and monitoring, please see Master Response 33.
1738	11	By providing an exhaustive list of what constitutes changed circumstances in BDCP section 6.4.2, the BDCP insulates the water contractors from reductions in water exports under the no surprises rule for anything that is not listed. Glaringly absent from the list is the simple proposition that the BDCP will simply not work as projected. Much of the BDCP can, most charitably, be described as at the frontier of scientific knowledge.	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The proposed project incorporates adaptive management. Please refer to Master Responses 5 and 33 regarding implementation of adaptive management and monitoring.
1738	12	The BDCP assumes that wetland creation on farmland that has been reclaimed for over a hundred years and has subsided dozens of feet will be wildly successful. This, despite the fact that no wetland creation in similar circumstances has ever been attempted. It assumes that changes in the point of diversion will achieve all hoped for benefits. None of this is proven from experience. All BDCP projections rely on modeling. And as every good scientist	Please see response to comment 1738-11 for discussion of adaptive management and monitoring.

DEIRS Ltr#	Cmt#	Comment	Response
		knows, all models are wrong but some models are useful. To make the BDCP models useful to species recovery (rather than lethal to it), the list of changed circumstances should be amended to include "any component of the BDCP not performing as projected," and "jeopardy to any species.	
1738	13	Calling the tunnels a conservation measure has lead to a perversion of the Endangered Species Act whereby the largest single stressor to endangered species, water exports, are guaranteed against reduction (even if reduction is needed to assure species recovery) by the no surprises rule. The ESA and HCP here function as a guarantors of economic benefit to the water contractors and not as tools of species recovery. This is not what Congress intended in enacting the ESA and allowing for HCPs.	Please see response to comment 1738-11 for discussion of adaptive management and monitoring.
1738	14	If it was not the intent of the state and federal resource agencies to guarantee export levels no matter what, the IA [Implementing Agreement] and BDCP should be amended to include the following: "Nothing herein, including but not limited to Section 3.4.1.4.3 of the BDCP and Section 14.1 of the IA, shall limit or constrain any reduction in water exports determined to be appropriate to achieve the biological goals and objectives through the adaptive management process."	Please see response to comment 1738-11 for discussion of adaptive management and monitoring.
1738	15	Along with much of the BDCP, DWR's interpretation of Section 85321 and promulgation of implementing criteria are illegal underground regulations. California Government Code section 11342.600 provides: "Regulation" means every rule, regulation, order, or standard of general application or the amendment, supplement, or revision of any rule, regulation, order, or standard adopted by any state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure. California Government Code section 11340.5 in turn provides in pertinent part: No state agency shall issue, utilize, enforce, or attempt to enforce any guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule, which is a regulation as defined in Section 11342.600, unless the guideline, criterion, bulletin, manual, instruction, order, standard of general application, or other rule has been adopted as a regulation and filed with the Secretary of State pursuant to this chapter. These provisions of the California Administrative Procedure Act (APA) apply to the BDCP. The BDCP implements, interprets, and makes specific numerous state laws, including the Delta Reform Act. "The provisions of the BDCP were developed to satisfy the requirements of the Sacramento-San Joaquin Delta Reform Act of 2009, California Water Code (Water Code) [Section] 85300 et seq." IA 2.1-9. The criteria promulgated to implement Water Code section 85321 are regulations within the meaning of the APA. The criteria selected and the statutory interpretation involved therein (for example, that real time operations cannot override pre-established flow criteria) are subject to the APA. "Absent an express exception, the APA applies to all generally applicable administrative interpretations of a statute." Morning Star Co., v. State Bd, of Equalization, 38 Cal. 4th 324, 335 (2006). The sole exception, that the agency's interpretation is "the only legally tenable interpretation of a provision of law,' Cal. Gov. Code [Section] 11340.9(f) cannot apply here. The "lone 'legally tenable' reading of the law applies only in situations where the law can reasonably be read only one way." Morning Star Co., 38 Cal. 4th at 337.	The commenter states that the project proponents must promulgate regulations in compliance with the Administrative Procedure Act (Government Code section 11340 et seq.) in order for the proposed project to satisfy the requirements of Water Code section 85321, which provides: "The BDCP shall include a transparent, real-time operational decisionmaking process in which fishery agencies ensure that applicable biological performance measures are achieved in a timely manner with respect to water system operations.". The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The commenters' recitation of the law under the APA speaks for itself. DWR, acting as the state lead agency under CEQA, is not promulgating regulations with its review and consideration of the proposed project. Rather, the proposed project was developed to meet the rigorous standards of the federal and state Endangered Species Acts, as such it is intended to be environmentally beneficial, not detrimental. By establishing a point of water diversion in the north Delta and new operating criteria to improve water volume, timing, and salinity, the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility. For more information regarding the proposed project's objectives and purpose and need, please see Master Response 3.

DEIRS Ltr#	Cmt#	Comment	Response
		Only where "the agency's actions or decisions in applying the law are essentially rote, ministerial, or otherwise patently compelled by, or repetitive of, the statute's plain language," does the exception apply. Morningstar, 38 Cal. 4th at 336. The interpretation and implementation of section 85321 here involves an exercise of discretion as to how the statute will be applied. The choices made are by no means the only ones possible under the statute.	
1738	16	The BDCP is not limited to a single project but rather is of general application to an entire class of cases and projects: the BDCP's designated "Covered Activities." This is acknowledged by the parties to the BDCP -- the BDCP "[s]ets out a comprehensive approach to coordinating and standardizing applicable requirements for covered activities and associated federal actions within the plan area" [Implementation Agreement (IA) 3]. The BDCP "[e]stablishes a more efficient and effective approach to regulatory compliance with sate and federal endangered species laws than through project-by-project, species-by-species planning" [Draft IA for the Bay-Delta Conservation Plan, Section 2.1.8]. Where implementation or interpretations "apply generally, rather than in a specific case," the rulemaking provisions of the APA apply [Morning Star Co., v. State Bd, of Equalization, 38 Cal. 4th 324, 334 (2006)]. The Biological Goals and Objectives and performance standards are further examples of regulations. "'Performance standard' means a regulation that describes an objective with the criteria stated for achieving the objective" (Cal. Gov. Code Section 11342.570). The BDCP is of monumental public interest and importance, essentially governing the operation of the state's water supply infrastructure and managing the Delta's biological resources over the next fifty years. The Department of Water Resources (DWR) and the California Department of Fish and Wildlife (CDFW) may believe that operating the SWP and managing Delta resources are a matters of internally managing their own infrastructure and not, therefore, subject to the California Administrative Procedure Act (APA). However, matters "of serious consequence involving an important public interest" cannot escape the requirements of the APA on grounds that the agency is simply determining how it will handle its own internal affairs [City of San Marcos v. Cal. Highway Com., 60 Cal. App. 3d 383, 408 (1976)].	Please see response to comment 1738-11 for discussion of adaptive management and monitoring and Master Response 33.
1738	17	California Department of Fish and Wildlife has engaged in underground rulemaking by promulgating section 9.5 of the Draft IA, which specifies procedures and standards of future general application for evaluating "Approval, Adoption or Amendment of Future Plans or Projects," which could result in suspension or revocation of state permits; section 11.1.2, which specifies procedures for "Addressing Failure to Maintain Rough Proportionality." The instances of underground rulemaking in the BDCP are too numerous and extensive to be exhaustively listed here. Wherever the BDCP implements, interprets, or makes specific state law for general future application, that exercise must comply with the APA.	Section 9.5 of the Draft IA implements a required provision of the NCCP Act Section 2820(b)(3)(C) that is intended to ensure that other plans approved locally do not undermine the success of an approved NCCP. Similarly, Section 11.1.2 implements Section 2820(b)(3)(B) of the NCCP Act. Maintaining rough proportionality between impacts and conservation is a requirement of all NCCPs. Failure to maintain rough proportionality is ground for permit suspension or revocation. Please see response to comment 1738-11 for discussion of adaptive management and monitoring. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). Implementing agreements are a requirement under the California Natural Community Conservation Planning Act (NCCPA), and are routinely executed under the ESA Section 10 (HCP) permitting process. Since the current proposed project (Alternative 4A) is no longer a NCCP or HCP, an implementing agreement was not released with the RDEIR/SDEIS or final

DEIRS Ltr#	Cmt#	Comment	Response
			EIR for the project.
1738	18	U.S. Fish and Wildlife Service And National Marine Fisheries Service Have Engaged In Disguised Negotiated Rulemaking With The Water Contractors In Violation Of The Administrative Procedure Act And The Negotiated Rulemaking Act. All rules issued by federal agencies are subject to the requirements of the federal Administrative Procedure Act. A rule is defined as "an agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy or describing the organization, procedure, or practice requirements of an agency" in carrying out its functions. 5 U.S.C. [Section] 551(4). All rules promulgated by federal agencies are subject to notice and comment requirements and publication in the Federal Register, not met here. Further requirements are imposed by federal law on "negotiated rulemaking" whereby federal agencies negotiate, as here, the outcome of the rulemaking process with affected entities. See generally the Negotiated Rulemaking Act of 1990, the Federal Advisory Committee Act. The BDCP and Draft IA contain numerous binding pronouncements of the federal agencies of both general and particular applicability and future effect designed to implement and interpret numerous federal statutes, including the Endangered Species Act, the Fish and Wildlife Coordination Act, the Fish and Wildlife Act of 1956, and the Central Valley Improvement Act. These commitments have been arrived at through negotiation with the Water Contractors. As such, both the BDCP and IA are subject to the Administrative Procedure Act, the Negotiated Rulemaking Act, and the Federal Advisory Committee Act. Indeed, the entire "adaptive management" component of the BDCP was arrived at through disguised negotiated rulemaking and specifies little more than a procedure for future disguised negotiated rulemaking, intended to subvert the requirements of federal law. Section 10.2.1.3 of the IA acknowledges that specific outflow criteria are integral to the issuance of take permits. However, it further provides that the outflow criteria may be altered by following a process outlined in section 10.2.1.2, without amending the permits. Likewise, section 10.3.6 specifies that a Conservation Measure or a biological objective may be changed through the adaptive management process set out in section 10.3 of the IA without amending the BDCP or any incidental take permit or other regulatory authorization. First, this is unlawful in any event as permit conditions cannot be altered except by amending the permit. Second, specifying a procedure and substantive criteria that are to be used, and the agency is legally committed to using, in order to alter the terms of permits it issues or to alter the terms of the BDCP is an "agency statement of general or particular applicability and future effect" within the meaning of 5 U.S.C. [Section] 551(4). Moreover, the parties seem blind to the fact, even if the adaptive management process could be used in the way intended by the IA, that each such change would be subject to environmental review pursuant to NEPA and CEQA. The management of outflow criteria, the amount of freshwater that flows from the Delta into San Francisco Bay and the Pacific Ocean, is of monumental scope and public importance. The federal agencies have bound themselves to future conduct with respect to their responsibilities in this regard. Section 10.2.1.4 further limits the discretion of the federal agencies to act with regard to outflow through the adaptive management process of the BDCP.	Please see response to comment 1738-11 for discussion of adaptive management and monitoring.

DEIRS Ltr#	Cmt#	Comment	Response
1738	19	The BDCP and Draft Implementing Agreement Violate The Delta Reform Act Because They Contain No Provisions Providing For A Statewide Reduction In Reliance On Delta Water Supplies. The Draft IA acknowledges that the BDCP must comply with the Delta Reform Act of 2009. Draft IA [Section] 4.2.2. However, the BDCP and IA entirely overlook the Delta Reform Act mandate that "[t]he policy of the State of California is to reduce reliance on the Delta in meeting California's future water needs" through regional self-sufficiency. The pervasive preoccupation with finding a path to reduce outflow criteria conflicts with state policy to reduce reliance on the Delta. Rather it is a formula to reduce water committed to environmental needs so more water can be exported from the Delta and reliance on Delta water can be increased.	Please see response to comment 1738-11 for discussion of adaptive management and monitoring. Please also see Master Response 31 for additional information regarding compliance with the Delta Reform Act.
1738	20	The BDCP Lacks Required Assurances of Adequate Funding. The BDCP relies on funding from new state water bonds, yet to be approved by the legislature for placement on the ballot and of uncertain fate with the voters if placed on the ballot. The water bond described in section 8.3.5.1 is, at best, a political football in the state legislature and likely to contain provisions that bar use of any funds for anything related to the BDCP. Several legislators have announced intentions to place such restrictions on the water bond. The statement that "[t]he BDCP is expected to secure a large portion of the funds allocated [by the new water bond] to Delta sustainability as well as smaller portions of funds allocated to conservation and watershed protection" is at best wishful thinking. The BDCP's reliance on the use of funds from existing water bonds, already approved, is subject to legal challenge as the monies designated by these bonds were not approved by the voters for construction of the BDCP. As to federal funding, the BDCP acknowledges that "new federal appropriations would be needed to support the BDCP." BDCP [Section] 8.3.6. A wish that Congress will appropriate funds, or the intent to request funds for your pet project, is not an assurance of adequate funding within the meaning of state and federal law. The IA statement that "there is no federal position as of this time regarding potential funding obligations of the United States," IA [Section] 13.1.2, is accurate. However, the IA's statement that "[t]he parties anticipate reaching agreement on a federal" share of funding seems blissfully ignorant of the fact that "No Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law." U.S. Const. Art. 1, Sec. 9, cl. 7. Until appropriated by Congress, federal funding is not assured.	Please see response to comment 1738-11 for discussion of adaptive management and monitoring. Please see Master Response 5 for a discussion of funding.
1738	21	Impacts on Discovery Bay Are Not Analyzed In The EIR And The BDCP Lacks Adequate Monitoring For Discovery Bay. Representatives from Discovery Bay have requested at BDCP public meetings and through other channels that specific analysis of the project's water quality impacts on Discovery Bay be included in the Draft EIR/EIS. They have not been included. Discovery Bay is different than the rest of the Delta. It consists of 16 shallow water bays, ranging in size from less than an acre to several acres. There is little circulation in the bays. The impacts on water quality in nearby open water sloughs and channels do not translate to water quality impacts in the bays, where reduction in high quality fresh water will translate to much greater degradation of water quality. In order to adequately assess the impacts of	Please refer to Master Response 14 for a discussion of water quality impacts and Master Response 40 regarding stakeholder outreach. The water quality analysis presented in the RDIER/RDEIS sections covering the new proposed Alternatives and Appendix A provide a thorough analysis of important water quality constituents of concern at multiple locations throughout the Delta to present the potential water quality effects that could result from implementing the project alternative. There are numerous water quality monitoring stations at locations throughout the Delta that are currently operating and will continue to be operational in the future. These stations are operated by the United States Geological Survey, the United States Bureau of Reclamation, the California Department of Water Resources, the Interagency Ecological Program, and numerous local agencies. Monitoring locations already present in Old River near Discovery Bay are sufficient to support and inform these activities with regards to salinity (including both chloride and electrical conductivity) and organic carbon. Monitoring of mercury and

DEIRS Ltr#	Cmt#	Comment	Response
		the project on water quality in Discovery Bay it will be necessary to perform a fine grain RMA or other analysis of the specific impacts on Discovery Bay. The EIR/EIS fails to adequately address water quality impacts in Discovery Bay. The EIR/EIS also fails to adequately take account of existing and expected baseline conditions for Discovery Bay and other areas of the Delta where invasive aquatic weeds have significantly hampered circulation and degraded water quality. The weeds result in algal blooms and dangerous reductions in dissolved oxygen. Planned operational changes to the cross-Delta gates, which supply high quality water to the central Delta, including Discovery Bay, must be analyzed at a fine grain level with respect to Discovery Bay and taking account of weed infested baseline conditions. The mitigation and monitoring/adaptive management program lacks monitoring specific to Discovery Bay. Nearby monitoring stations in open water are inadequate to capture conditions in the sheltered bays.	selenium will be further defined in site specific monitoring and management plans associated with the restoration areas. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.
1738	22	ATT20: NODOS Report Powerpoint -- Generating Ecosystem Restoration Flows through Storage Augmentation. Reservoir Reoperation with Groundwater Backstopping	This comment describes an attachment to the comment letter. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.
1738	24	[ATT15] The process got off on the wrong foot by inaccurately stating what the major federal action under contemplation actually is. We believe that one important problem with the BDCP process thus far is the failure to accurately describe and categorize the actions that are being taken within the well-established NEPA regulatory framework. Once actions are accurately described and categorized a better understanding of what is being done and what is and is not appropriate (and lawful) follows. We believe that the entire process got off on the wrong foot because Reclamation has never accurately stated what the "major federal action" being contemplated is. 42 U.S.C. [Section] 4332©. The February 13, 2009, Notice of Intent to prepare an Environmental Impact Statement, 74 Fed. Reg. 7257, ("NOI") states that the proposed federal actions are issuance of ESA permits and implementation of one or more components of the BDCP. However, this is incorrect. The major federal action is continued operation of the CVP at increased rates of export through one of three alternative conveyance options ("Peripheral Canal"). Reclamation may recall that in recent litigation against the CVP Contractors it successfully argued that the major federal action at issue in that litigation was not the issuance of Biological Opinions but rather "planned coordinated operation of the Projects [CVP] that creates the jeopardy found by the BiOp." Delta Smelt Consolidated Cases, 686 F. Supp. 2d 1026, 1042 (E.D. Cal. 2009); see also U.S. Fish & Wildlife Service, Habitat Conservation Plans, available at http://library.fws.gov/Pubs9/hcp_section10.pdf (last visited Nov. 14, 2011) (noting that "[t]he purpose of the incidental take permit is to authorize the incidental take of a listed species, not to authorize the activities that result in the take"). Here, it is the continued operation of the CVP and SWP at increased export levels and with a Peripheral Canal that creates the jeopardy to the smelt and other listed species (and the take); the Habitat Conservation Plan ("HCP") and the take permits are incidental to the underlying activity. The NOI's misstatement of the major federal action [footnote 1: We are aware that BDCP prevailed against a similar claim in Cent. Delta Water Agency v. U.S.F.W.S., 653 F. Supp. 2d 1066 (E.D. Cal. 2009). Two observations are in order with regard to Central Delta Water	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. Under the California WaterFix alternative (and other non-HCP/NCCP alternatives presented in the RDEIR/SDEIS), do not include a habitat conservation plan or natural community conservation plan. Instead, the proposed facilities would secure compliance with the federal Endangered Species Act (ESA) via the interagency consultation provisions contained in Section 7 of the ESA. Similarly, compliance with the California Endangered Species Act would be secured via an incidental take permit issued by California Department of Fish and Wildlife, pursuant to Section 2081(b) of the California Fish and Game Code. Under the California WaterFix (and other non-HCP/NCCP alternatives presented in the RDEIR/SDEIS), habitat restoration and preservation would be limited to what is needed to mitigate the impacts of the construction and operation of the proposed water conveyance facility. Please refer to Master Response 5 for additional explanation.

DEIRS Ltr#	Cmt#	Comment	Response
		Agency: first the court dismissed the action on standing and ripeness grounds. See id. At 1083. The court did not reach the merits of whether the NOI was inadequate. Challenge to the project based on an inadequate NOI upon issuance of the Record of Decision is in no way impaired by Central Delta Water Agency. Second, and more to the point for BDCP policy guidance going forward, the court and the parties in Central Delta Water Agency entirely missed the appropriate claim, which is "informational injury." Had a properly framed complaint bringing an informational injury claim been brought, none of the factors cited by the court would have precluded the standing, ripeness, and finality requirements being satisfied. See, e.g., Ctr. For Biological Diversity v. Brennan, 571 F. Supp. 2d 1105, 1118 (N.D. Cal. 2007) (noting that "[i]t is well settled that plaintiffs may suffer injury as a result of a denial of information to which they are statutorily entitled" and "recognizing that a purely informational injury may be sufficient to confer standing") (citation omitted); see also Daniel L. Mandelker, Nepa Law and Litigation [Section] 4.17 (informational and procedural injury as injury in fact). Because informational injury was not litigated Central Delta Water Agency has no preclusive effect with respect to informational injury claims.] has carried through the process and resulted in widespread public perception that the BDCP is "a twelve billion dollar canal dressed up as a habitat plan."	
1738	25	[ATT15] The term "peripheral canal" is the conventional label for transporting water from the north Delta to the Clifton Court Forebay outside of the rivers and sloughs of the Delta. Its use engenders instant public recognition and understanding of what is at stake. And it provokes instant response and controversy. Not using a conventional label when one is available strongly suggests to the reader that the writer is not referring to the object conventionally so labeled. It is misleading, particularly to the general public. See also Railroaded Salmon, available at http://vimeo.com/31740676 (last visited November 15, 2011) (noting "outrageous claim that new diversion facility is a conservation measure"); San Jose Mercury News, October 30, 2011, Federal Delta water pact fails on every count, available at http://www.mercurynews.com/opinion/ci_19217860 (last visited November 15, 2011) (criticizing BDCP "lack of transparency" and "favoritism toward water-export agencies"). The habitat plan and conservation measures are actually very much needed and if properly fleshed out and evaluated could provide great benefit to the Delta. We think a robust habitat plan deserves broad public support. It would receive public support more readily if Reclamation were more forthcoming about identifying the Peripheral Canal for what it is, more clearly making a commitment to the HCP with or without a canal attached to it, and clearly stating an enforceable, ironclad, mechanism for ensuring that harmful levels of water export will never occur. The current Water Contractor problem is another aspect of the mis-designation and lack of clarity in the BDCP process.	Please refer to Response to Comment 1738-24. Please review Master Response 36 as it relates to the differences of the proposed project and the peripheral canal concept.
1738	26	[ATT15] The amendment dramatically changes the role of the Water Contractors from that contemplated in all previous documents and understandings by inappropriately designating them as "Responsible Agencies" under CEQA and "Cooperating Agencies" under NEPA. The Water Contractors are described for the first time in the BDCP process in the Amendment as "responsible agencies." Amendment, Recital E and Paragraph II(I). The Federal White Paper on the 2011 Bay Delta Conservation Plan Memorandum of Agreement ("White Paper"), issued in response to concerns expressed by Congressman Miller, is the first document to describe the Water Contractors as "Cooperating Agencies." White Paper	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. Please refer to Master Response 5 for a discussion of the role of water contractors to the proposed project and response to comment 1738-27 below regarding the role of water contractors in project planning.

DEIRS Ltr#	Cmt#	Comment	Response
		at 2. The term "Responsible Agency" is a statutorily defined term with a specific role under CEQA. Cal. Pub. Resources Code [Section] 21069; CEQA Guidelines [Sections] 15096, 15381. The term "Cooperating Agency" is a term defined by the NEPA Implementing Guidelines with a specific role under NEPA. 40 C.F.R. [Sections] 1501.6 & 1508.5. Elevation to Responsible Agency and Cooperating Agency status gives the Water Contractors the ability to influence the process shielded from public view. See 43 C.F.R. [Section] 46.225(d) (requiring Cooperating Agencies to make "a commitment to maintain the confidentiality of documents and deliberations during the period prior to the public release by the bureau of any NEPA documents, including drafts"). It also provides them with much more influence over the process. See 40 C.F.R. [Section] 1501.6(a)(2) (Lead Agency must "[u]se the environmental analysis and proposals of cooperating agencies . . . To the maximum extent possible"); 40 C.F.R. [Section] 1501.6(b)(3) (Cooperating Agency may prepare "environmental analysis including portions of the environmental impact statement"); 40 C.F.R. [Section] 1501(b)(4) (Cooperating Agency to provide its own staff to work on preparation of EIS); 43 C.F.R. [Section] 46.230 (Cooperating Agency may analyze data; develop alternatives; evaluate alternatives; estimate effects of implementing alternatives; carry out any other task related to the development of the EIS); 40 C.F.R. [Section] 1506.5(c) (Cooperating Agency may select consultants engaged to prepare EIS). Elevating the Water Contractors to Cooperating Agency status through a federal white paper that explains and defends the Amendment, when the term Cooperating Agency was nowhere used with respect to the Water Contractors prior to the White Paper, including in the Amendment, is not consistent with NEPA implementing regulations or standard agency practice. Rather, NEPA implementing regulations contemplate that Cooperating Agencies will be designated through a formal process and will be publicly announced prior to beginning the scoping process, usually in the NOI. See 40 C.F.R. [Section] 1501.5 (c) ("lead agencies shall determine by letter or memorandum which agency shall be the lead agency and which shall be cooperating agencies") (emphasis added); 40 C.F.R. [Section] 1501.6(b)(2) (requiring that "[e]ach cooperating agency shall . . . [p]articipate in the scoping process") (emphasis added); Memorandum for the Heads of Federal Agencies, Subject: Reporting Cooperating Agencies in Implementing the Procedural Requirements of the National Environmental Policy Act (Dec. 23, 2004) (requirement for all federal agencies for "reporting the designation of Federal and non-federal cooperating agencies"); Memorandum for the Heads of Federal Agencies From James Connaughton, Subject: Cooperating Agencies in Implementing the Procedural Requirements of the National Environmental Policy Act (Jan. 30, 2002) (instructing heads of agencies to "identify as early as practicable" Cooperating Agencies); Memorandum For The Heads of Federal Agencies From James L. Connaughton, Subject: Report on Cooperating Agencies in Implementing the Procedural Requirements of the National Environmental Policy Act (May 26, 2005) (noting Lead Agencies are "designating formal cooperating agencies when beginning their NEPA process"). Here Reclamation did in fact comply with the regulations and standard agency practice by formally announcing the Cooperating Agencies in the Notice of Intent (NOI). However the Cooperating Agencies selected did not include the Water Contractors. Instead Reclamation properly designated The Army Corps of Engineers ("ACOE") and the United States Environmental Protection Agency ("USEPA") as the Cooperating Agencies. NOI, 74 Fed. Reg. at 7257. On the other hand, the NOI designates the Water Contractors as "Potentially Regulated Entities or PREs." NOI, 74 Fed. Reg. at 7258. It is clear that at issuance of the NOI, which is the appropriate time to select Cooperating Agencies, the Water Contractors were	

DEIRS Ltr#	Cmt#	Comment	Response
		not to be designated as Cooperating Agencies because it is not appropriate for a regulated entity to serve as a Cooperating Agency. Rather the federal regulators, ACOE and USEPA, were appropriately designated as the Cooperating Agencies. [footnote 2: For an example of the formalities observed in the Cooperating Agency designation process see Letter From U.S.E.P.A to U.S.F.W.S., Nov. 12, 2008, available at http://www.epa.gov/region9/water/watershed/sfbay-delta/pdf/EPA_CooperatingAgencyStatus_BDCP_111208.pdf (formally accepting designation as BDCP Cooperating Agency, outlining EPA's expected role, and identifying areas of EPA expertise that will be applied).] Likewise, if the Water Contractors were to be Responsible Agencies under CEQA, the Notice of Preparation ("NOP") filed by DWR did not follow required procedures for doing so. CEQA Guideline [footnote 3: We refer to the Guidelines by their common name. The Guidelines, however, are not suggestions. They are published in the California Code of Regulations at Title 14, Chapter 3. They are "binding on all public agencies in California." Guideline [Section] 1500.] section 15082(a) provides that "the lead agency shall send to the Office of Planning and Research and each responsible and trustee agency a notice of preparation stating that an environmental impact report will be prepared." The distribution list attached to the NOP indicates that it was sent to twenty- two public agencies. The list does not include the Water Contractors. CEQA Guideline [Section] 15096(b)(2) provides in pertinent part that "not longer than 30 days after receiving a Notice of Preparation from the Lead Agency, the Responsible Agency shall send a written reply by certified mail or any other method which provides the agency with a record showing that the notice was received. The reply shall specify the scope and content of the environmental information which would be germane to the Responsible Agency's statutory responsibilities in connection with the proposed project." The reply must also be sent to the State Clearinghouse. The State Clearinghouse website indicates that no reply was received from the Water Contractors. See SCH Number: 2008032062. That DWR did not follow required procedures for designating the Water Contractors as Responsible Agencies is not surprising because, like the NOI, the NOP identifies that Water Contractors not as Responsible Agencies but as "Potentially Regulated Entities." NOP at 2. Public accountability is the cornerstone of CEQA. Whatever discussions or understandings the Water Contractors may have had with DWR regarding their roles at the time of preparation of the NOP are irrelevant. CEQA requires a specific public process to be followed in designating Responsible Agencies. The original Memorandum of Agreement Regarding Collaboration on the Planning Preliminary Design and Environmental Compliance for the BDCP ("Original MOU") referred to the Water Contractors as "SWP contractors" and "CVP contractors." Original MOU at 1. Like the NOI and NOP, the Original MOU designates the Water Contractors as "Potentially Regulated Entities." Original MOU, Recital B. Paragraph II(H) of the Original MOU deals with roles under NEPA and CEQA and describes DWR as the "lead agency under CEQA" and Reclamation as "one of the lead agencies under NEPA." Paragraph B(3) identifies the California Department of Fish and Game as a Responsible Agency but does not designated the Water Contractors as Responsible Agencies. The Agreement Regarding Preparation Of A Joint Environmental Impact Report/Environmental Impact Statement For The Bay Delta Conservation Plan ("Lead Agency Agreement") spells out how tasks will be assigned to the consultant and how the work of the consultant will be directed. Lead Agency Agreement at C(1)(b). It reserves all these tasks to the Lead Agencies. Under the Amendment much of this critical phase of environmental review may well be ceded to the Water Contractors.	

DEIRS Ltr#	Cmt#	Comment	Response
		Through the White Paper, Reclamation has reached out to calm public concern about the new role of the Water Contractors by explaining that there is really nothing new or different. But that is not consistent with elevation to Cooperating and Responsible Agency status, which the record demonstrates is a new development, and which the relevant statutes and regulations demonstrate is a very different and elevated role.	
1738	27	[ATT15] The Underlying Purposes Of Cooperating/Responsible Agency Status Are Not Served By Designating the Water Contractors as Cooperating/Responsible Agencies. The underlying purpose of Responsible Agency designation under CEQA is to ensure that an agency will consider the environmental impacts and develop mitigation measures to the maximum extent practicable before carrying out or approving any portion of a project for which it is responsible. CEQA Guideline [Section] 15096. The underlying purpose of Cooperating Agency designation under NEPA is to help the Lead Agency identify and analyze environmental impacts. 43 C.F.R [Section] 46.230. These purposes are not served, or intended to be served, by designating the Water Contractors as Responsible/Cooperating Agencies. The special expertise to identify impacts and require mitigation measures and the discretionary approval power for the project do not lie with the Water Contractors, but with other agencies (DWR, Bureau of Reclamation, Department of Fish and Game, National Marine Fisheries Service, U.S. Fish and Wildlife Service, U.S. Environmental Protection Agency and several others who are already intimately involved in the project). Further expertise on Delta ecology and impacts will be obtained by engaging the California Bay-Delta Authority (CalFed) Delta science team for independent peer review at the appropriate time. The Water Contractors' interest here is to obtain more water for their customers. This is a legitimate and essential purpose, but it is not commensurate with the underlying environmental protection purposes of Responsible and Cooperating Agency status. We (Save the California Delta Alliance) find unpersuasive the argument that because the Water Contractors must participate in decisions about diversion rates and are responsible for developing and implementing the HCP they need to be intimately involved in non-public portions of a coterminous NEPA/CEQA review of that plan as it is being developed. We also believe that this combined process is contrary to NEPA-implementing regulations. On the other hand, it is standard practice for project beneficiaries to finance, in part or in whole, the costs of preparing an EIR with explicit guarantees to the public that they will have no control over or participation in the process as a means of assuring the public that there is no undue influence. For example, typically developers applying to build a shopping center or hotel collaborate with planning staff on developing their project, make a payment into a trust account to cover the cost of preparing an EIR, then sit back and wait like everyone else while the EIR is being drafted. Why isn't this well-settled procedure, aimed at maintaining public trust, applicable here?	The EIR/EIS Executive Summary, ES.1, identifies the lead, cooperating, responsible, and trustee agencies that will use the EIR/EIS as part of their decision-making process. In addition to the project proponents – DWR and six SWP and CVP water contractors – the project is being prepared with the participation of Reclamation, USFWS, NMFS, USACE, the California Natural Resources Agency, CDFW, the State Water Board, and various stakeholders. Per the Draft EIR/EIS Chapter 1, Table 1-2, certain state and federal water contractors have been identified as potential CEQA and NEPA responsible agencies as they may contribute to and rely on information prepared as part of the environmental compliance process for the project. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The proposed project is a cooperative project sponsored by California (State) and federal agencies and includes activities that are, or could be, subject to multiple state, federal and local environmental regulations or policies that require approval, authorization, or formal permits. Implementation of the proposed project will require permits and approvals from various public agencies, including agencies other than the lead agencies directly involved in planning. Also see Master Response 45 for more information on approvals and permits and the permitting agencies identified in the EIR/EIS.
1738	28	[ATT15] The combining of scoping, project development and EIS preparation on the fly leads to outcome-driven results rather than objective analysis, is contrary to NEPA implementing regulations, and is particularly troublesome if the water contractors are cooperating/responsible agencies. The melding of scoping, project development, and formal environmental review tends to lead to outcome-driven results rather than an effective development of alternatives and an objective appraisal of the project's impacts. A better process would be to fully develop the	The Federal and State Lead Agencies have done their best to make the EIR/EIS 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. The Lead Agencies (DWR for CEQA and Reclamation for NEPA) will make the final decisions regarding the selection of an alternative (and therefore, an operational scenario) for the purposes of CEQA and NEPA.

DEIRS Ltr#	Cmt#	Comment	Response
		Peripheral Canal alternatives and other elements of the project in a public scoping process before beginning the formal EIS/EIR preparation process. At this point the description of the canal alternatives is skeletal and several important alternatives have not yet been considered at all (at least not publicly). The most controversial aspects of the project remain as wholly unsettled controversies. [Save the CA Delta Alliance] are aware that a menu of algorithms to determine levels of water export has been included in the latest public draft of the BDCP at section 3.4.2.1. The introduction to that section appears to indicate that adaptive management protocols might be used to determine how the diversion rates stated in section 3.4.2.1 might be modified if conditions require it. The introduction also seems to indicates that "a process has begun" to determine how long term operating criteria will be established. We are unsure if it is this process that will address adaptive management protocols. The introduction also refers the reviewer to the February 11 steering committee agenda and attached handouts for more information. However, the steering committee agenda/handout link on the website appears to be broken. Although the short time allowed to prepare these comments did not afford us the luxury for a comfortable review of all BDCP documents, from what we have seen so far is appears that operating criteria, adaptive management protocols and triggers, and scoping of alternatives for diversion rates is very preliminary. Section 3.7.3.2 reveals that no "decision body" has yet been formulated to decide when water export levels need to be curtailed. Section 3.7.3.2, as it is currently formulated, could result in an indefinite impasse in any effort to change export rates in response to new information. For thirty years the crux of the Peripheral Canal issue has been how to attach ironclad guarantees that the canal cannot be operated in a way that will harm the Delta. Colloquially put, once the canal is built how will we ever be able to wrest control of the faucet from the water contractors? This issue must be resolved through public dialog before any NEPA review begins. Frankly, failure to address this issue up front spells doom for the Peripheral Canal this time around just as it did in 1982.	USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see Section 4.1.2, Description of Alternative 4A, RDEIR/SDEIS for additional information on Proposed Project operations. For a discussion on alternative development, please see Master Response 4. With regards to adaptive management, please see Master Response 33. Please also see Master Response 5 regarding ESA. Master Response 39 addresses the length of the public review period. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.
1738	29	[ATT15] The BDCP appears to take the approach of using a simplistic algorithm to determine diversion rates. We believe that if a simplistic algorithm is to be used (which, given an algorithm's ability to peg a bright line standard, might well be the best approach), the trigger for allowing diversion to commence should be set at flood stage of the Sacramento River. This would require building additional storage capacity as flood flows may exceed the capacity of the CVP. It would seem at first blush that diverting only peak flows would produce abundant water (if there was capacity to store it) and would have the least potential for environmental harm. It would also set a bright line standard as to when diversion could take place. We would also like to ask how the algorithms published thus far capture a situation in which the preceding several years have been very dry years? Aren't ecological conditions different and in-stream flow more critical after a series of dry years? We did not see this in the materials that we were able to find. We think all of this needs to be addressed in one complete document with adequate time for the public to digest it and offer suggestions before NEPA review can begin. We think that these questions, and the fact that the reader has to scurry around gathering up meeting agendas to understand what the BDCP is about when EIS preparation is but weeks away confirms that the process is unduly rushed.	Please refer to Master Response 28 regarding the adequacy of operational criteria, Master Response 6 regarding demand management, and Master Response 37 regarding water storage. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.
1738	30	[ATT15] The combination of scoping with EIS preparation is not consistent with NEPA implementing regulations. CEQA regulations indicate that if an agency intends to engage in combined scoping and EIS preparation, it should first adopt procedures that will govern such a combined process through notice and comment rulemaking. See 40 C.F.R. [Section]	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. The Lead Agencies for the proposed project have provided all public notices required by law under both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) in the preparation and publication of the 2013 Public Draft EIR/S and

DEIRS Ltr#	Cmt#	Comment	Response
		1501.7(b)(3) & [Section] 1507.3. Neither Department of Interior nor Bureau of Reclamation has adopted the required regulations. We believe that such regulations would provide much needed guidance as to how a condensed scoping/EIS process would work and would provide safeguards that would prevent rushing into the process in a way that truncates public participation when it is needed in the development of alternatives. [footnote 4: Where a regulation contemplates notice and comment before adopting a procedure and the regulation is not followed a cause of action stating a claim for procedural injury immediately accrues. Brennan, 571 F. Supp. 2d at 1118.]	RDEIR/RSEIS. The lead agencies conducted an extensive scoping in 2008 and 2009 to gather public input on the scope of the EIR/EIS and to involve stakeholders, other agencies, and the public early in the decision-making process to identify issues and concerns to examine in the preparation of the EIR/EIS. During the scoping process, 2,950 comments were received and considered as the process moved forward to develop alternatives and in conducting the impact analysis. Section 1.7 in Chapter 1 of the EIR/EIS describes the scoping process supported by details of the scoping process provided in EIR/EIS Appendix 1D Final Scoping Report. Refer to Master Response 40 for information on the adequacy of public outreach efforts.
1738	31	[ATT15] One of the most contentious of the open questions is what level of water exports are being guaranteed to the Water Contractors. This is related to the failure to properly describe what the major federal action is. See supra Section I. The statement of project purpose in the NOI provides that deliveries of "full contract amounts" will be restored to the Water Contractors. However, this would be inconsistent with law because California Water Code section 85021 states that "the policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs" and that each water district should develop its own supplies regionally. What is meant by restoring full contract amounts has never been settled and is the subject of heated controversy. See, e.g., Letter from U.S.E.P.A. to Reclamation, USFWS, and NMFS, June 10, 2010, available at http://www.epa.gov/region9/water/watershed/sfbay-delta/pdf/EpaR9CommentsBdcpPurpStmt6-10-2010.pdf (noting unclear purpose statement because "within the federal family, as well as in the broader debate, there seems to be little agreement on exactly" what is being promised to the Water Contractors). [footnote 5: We are aware that the Lead Agencies replied to EPA's concerns by letter dated October 26, 2010.] Reclamation has been subject to repeated criticism for lack of transparency for this kind of issue from both the scientific community and the public at large. See generally CalFed Science Review of the 2-Gates Project. It is our understanding that the project purpose statement will be revised and that revision will be announced to the public through publication of the draft EIR/EIS. This is particularly inappropriate. The project purpose statement and the effect of Water Code section 85021 are threshold questions. They should be addressed through public scoping at the very beginning of the process. It is also offensive to the public that issues of central public concern and controversy will be decided behind closed doors through negotiations with the Water Contractors, justified by the fact that the Water Contractors are Responsible/Cooperating Agencies.	The EIR/EIS evaluates the changes in the SWP and CVP water contract deliveries under the alternatives as compared to the Existing Conditions and the No Action Alternative within the upper limits of the contract amounts. The alternatives, including the No Action Alternative, were developed to deliver SWP and CVP water up to the upper limit of legal SWP and CVP contractual water amounts, with the understanding that full contract amounts would not be delivered on average for the alternatives considered in the EIR/EIS, as described in Chapter 2, Project Objectives and Purpose and Need. DWR and Reclamation are responsible to deliver up to the full contract amounts in accordance with their authorizations for the SWP and CVP, respectively. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The range of alternatives included in the Draft EIR/EIS included 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). It is assumed that water users would need to implement separate methods to reduce water demands or provide alternative water supplies in drier years, such as those methods currently used during droughts.
1738	32	[ATT15] The rushed process has overlooked important alternatives and may amount to impermissible segmenting. The Yolo Bypass Alternative has been overlooked. One of the BDCP guiding concepts is the "big gulp, little sip" principle, meaning that water diversion will be greatest at periods of high river flow and minimized when flow is less. We want to suggest that this concept should be applied to the canal alternatives through what we will call the Yolo Bypass Alternative(s). [footnote 6: This in no way implies that STCDA (Save the California Delta Alliance) supports a Peripheral Canal. However, we point out that if a Peripheral Canal is to be analyzed under NEPA, all reasonable and prudent canal configurations should be analyzed.] The Yolo Bypass intake is located upstream of the City of Sacramento and provides flood control for the City of Sacramento. During periods of very high river stage, the river overtops the Freemont Weir and vast quantities of water are	It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. See Master Response 4 for discussion of the scope of the proposed project and alternatives (such as water storage) that were not carried forward for analysis in this document due to the fact that required actions beyond the scope of the proposed project. The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals

DEIRS Ltr#	Cmt#	Comment	Response
		diverted from the Sacramento River and down the Yolo Bypass. The limited time available to prepare these comments did not allow for hydrological research and exact figures, but those involved with the BDCP will be well aware that very large quantities of high quality water are diverted in this way. An intake for the Peripheral Canal could be located in some portion of the Yolo Bypass so a portion of these very high stage flows could be diverted and stored for use during the summer months. A variation of the Yolo Bypass Alternative would be to place an intake for the Peripheral Canal upstream of Sacramento on the Sacramento River. This intake would then capture the flood flows (and only the flood flows) and divert them for storage and beneficial use. Perhaps this intake could relieve the Yolo Bypass of its flood control function and the Freemont Weir could be operated solely for conservation values, enhancing the habitat and conservation functions of the Yolo Bypass. We are aware that the current capacity of the CVP is 15,000 cubic feet per second (cfs) and this might present an operational limitation on how much water could be diverted at peak flow. Could some of the flood flow (in excess of 15,000 cfs) be stored underground? Could any of the Delta Islands be converted to storage (perhaps with a conservation and recreation benefit as well)? Could Los Vaqueros Reservoir accommodate some additional storage? What other storage options might be available? Again, we do not endorse any of these measures, but they are important aspects of the Peripheral Canal problem not currently being considered because they are the only canal alternatives thus far broached that would take no water that currently flows through the central and south Delta.	that were considered by the Lead Agencies are discussed in Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS, including the NRDC Portfolio-Based Proposal, Congressman Garamendi's Water Plan, and other similar concepts that would require actions that are beyond the scope of the proposed project. For more information regarding the differences between the proposed project and the peripheral canals please see Master Response 36. For additional information regarding storage, please see Master Response 37 and Appendix 1B in the Final EIR/EIS.
1738	33	[ATT15] The Yolo Bypass Alternative also presents a tight fit with the purpose of the CVP: [The CVP's purpose is to] improve navigation, regulate the flow of the San Joaquin River and the Sacramento River, control floods, provide for storage and for the delivery of the stored waters thereof, for the reclamation of arid and semiarid lands and lands of Indian Reservations, and other beneficial uses, and for the generation and sale of electric energy. Westlands Water District v. U.S., 337 F.3d 1092, 1095 (9th Cir. 2003) (citing Pub. L. No. 75-392, 50 Stat. 844, 850 (1937) (emphasis added)). In creating the CVP, Congress intended that flood control and providing water for beneficial use were two sides of the same coin: water diverted to control floods would go to beneficial use. Failure to consider the Yolo Bypass Alternative, with its flood control and storage features, and unique attribute of taking no Delta flows, might amount to failure "to consider an important aspect of the problem" and/or a failure to consider "the relevant factors" as specified by Congress. Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983). In this same vein, we have not yet seen where BDCP has considered improvements to navigation or even impacts on navigation. Save the California Delta Alliance intends to look more closely at the BDCP and to provide substantive comments on the issue of navigation under separate cover.	Please see Chapter 19 (Transportation), FEIR/EIS, for potential impacts of the project alternatives on navigation. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. Conservation Measure 2 (Yolo Bypass Enhancements) is included in the original BDCP EIR/EIS HCP alternatives; however, the new proposed project, Alternative 4A, does not include Yolo Bypass Enhancements. Instead, Yolo Bypass Enhancements would be assumed to occur as part of the No Action Alternative because they are required by the existing BiOps. For more information regarding alternatives, refer to Master Response 4. For more information about Conservation Measures and the Yolo Bypass Enhancements, refer to Master Response 5 and DWR's website that will provide up-to-date information on the progress of Yolo Bypass improvements and habitat efforts.
1738	34	[ATT15] Save the California Delta Alliance believes that the formal preparation of the EIS/EIR is not ready to start; that more time and public involvement should be put into identifying alternatives and fleshing out what are now skeletal plans into a complete plan before preparation of the EIR/EIS begins.	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. See Master Response 4 for discussion of the scope of the proposed project and alternatives (such as water storage) that were not carried forward for analysis in this document due to the fact that required actions beyond the scope of the proposed project. The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals that were considered but ultimately rejected by the Lead Agencies are discussed in Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1.

DEIRS Ltr#	Cmt#	Comment	Response
			For more information regarding public outreach efforts please see Master Response 40. For more information regarding the public review period duration please see Master Response 39.
1738	35	[ATT15] Failure To Include The 2-Gates Project And Other Gates Projects May Amount To Impermissible Segmenting. The Bureau of Reclamation has been considering the 2-Gates Project and other gates projects in the Delta for some time. Recent inquiries were unable to determine what the exact status of these projects is. We understand that Reclamation is trying to validate the smelt- turbidity hypothesis through research currently being conducted by Jon Burau and Bill Bennett. It appears that the gates projects are still under consideration. The gates projects are within the BDCP project area and are intimately related to the water supply purpose of the BDCP as well as being proffered to benefit the smelt and reduce or eliminate the incidental take of smelt by operation of the CVP and SWP. Unless the Bureau of Reclamation has made a decision and will shortly be issuing a Record of Decision on the gates projects adopting the no project alternative, failure to include the gates projects under the BDCP could well be impermissible segmenting of environmental review. The gates projects should be included as part of the BDCP (if they are still under consideration) or as alternatives to the Peripheral Canal. NEPA review of the gates projects should be conducted as a part of BDCP NEPA review. Given the potential for impermissible segmenting if the gates are not considered as part of BDCP review, the entire BDCP EIR/EIS might be found inadequate if the gates are not addressed.	Please see Master Response 8 which provides additional information on how the lead agencies analyzed the proposed project as a whole. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.
1738	36	[ATT15] Improving The Stakeholder Process. The Save the California Delta Alliance (STCDA) believe that the credibility of the BDCP as a stakeholder driven process (as opposed to the current perception of a water grab by the Water Contractors) can only be restored by reconstituting the steering committee. We understand that the Brown administration has considered and rejected this idea. We believe that recent events portend an abrupt downhill slide for the BDCP in the court of public opinion unless decisive action is taken. We urge the Brown administration to reconsider. All current members of the steering committee should be invited to stay on. It should be made clear that reconstituting the steering committee does not imply that current members have done anything other than contribute heroic amounts of time and energy in a selfless effort of public service. A public outreach effort aimed at defining the additional slots on the steering committee should be undertaken. At a minimum, we believe additional slots should include representation of 1) navigation (this would include the interest of Delta marinas); 2) fishing (certain salmon fishing organizations have been among the BDCP's most vocal critics and they should be considered to fill a stakeholder slot); 3) local government; 4) Delta related business (perhaps the Delta Chamber of Commerce); and 5) Discovery Bay.	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The proposed project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder presentations/ Q&As. Documents, studies, administrative drafts, and meeting materials – more than 3,000 documents – have been posted online since 2010 in a commitment to public access and government transparency. See Master Response 40 for additional information on the Steering Committee and the public outreach process.
1738	37	[ATT15] Save the California Delta Alliance include Discovery Bay because of the unique position of Discovery Bay and its extreme vulnerability to impacts of the BDCP. Discovery Bay is a community of waterfront homes built around a series of deep water bays connected to Delta waterways. An engineered water circulation system maintained by Reclamation District 800 moves water from Kellogg Creek to Old River through the bays. Approximately 3500 homes have attached docks fronting the bays. There is approximately two billion	Please refer to Master Response 14 for a discussion of water quality impacts and Master Response 40 regarding stakeholder outreach. The water quality analysis presented in the RDIER/RDEIS sections covering the new proposed Alternatives and Appendix A provide a thorough analysis of important water quality constituents of concern at multiple locations throughout the Delta to present the potential water quality effects that could result from implementing the project alternative.

DEIRS Ltr#	Cmt#	Comment	Response
		dollars worth of investment in direct boating access to the wider Delta from the bays and recreational use of the bays themselves. First, Discovery Bay represents by far the largest concentration of waterfront homes in the Delta. Virtually all 13,000 residents of Discovery Bay are regular users of the Delta for recreation and many of them derive their livelihood from Delta related businesses. A broad cross section of currently unrepresented Delta interests would be captured by a Discovery Bay slot. Second, all BDCP alternatives are designed to change the hydraulic regime of the rivers and sloughs that feed our bays. What might appear as a minimal impact from the perspective of a coarse grained Delta-wide analysis might well prove catastrophic if examined with a specific focus on the bays of Discovery Bay. Silting of the bays could well result from increases in hydraulic residence time, which is a stated goal of several BDCP elements. Increases in dissolved oxygen are also of significant concern, as are changes in turbidity. Recent years have seen an epidemic of invasive weeds in Discovery Bay. The weeds have just recently been gotten under control. Changes in any or all of the parameters mentioned above could thwart our efforts to control these invasive species, which, if left unchecked, would obliterate the boating and recreational value of our bays. Upon proper study, mitigation measures might be identified that could ameliorate these impacts. Such measures might include BDCP funding for ongoing weed control, BDCP funding for construction and operation of wing dams or other hydraulic structures at the mouth of each bay that could offset changes in circulation patterns, BDCP funding for implementation and ongoing operation of other yet to be identified measures to offset impacts to water quality. Likely, Discovery Bay mitigations measures could also contribute to enhanced habitat value and recovery of listed species.	There are numerous water quality monitoring stations at locations throughout the Delta that are currently operating and will continue to be operational in the future. These stations are operated by the United States Geological Survey, the United States Bureau of Reclamation, the California Department of Water Resources, the Interagency Ecological Program, and numerous local agencies. Monitoring locations already present in Old River near Discovery Bay are sufficient to support and inform these activities with regards to salinity (including both chloride and electrical conductivity) and organic carbon. Monitoring of mercury and selenium will be further defined in site specific monitoring and management plans associated with the restoration areas. Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.
1738	38	[ATT15] Specific Recommendations Based upon the foregoing, we (Save the California Delta Alliance) offer the following specific recommendations: 1. Reconstitute the Steering Committee as discussed above. 2. Reverse the decision to appoint the Water Contractors as Cooperating/Responsible Agencies. 3. Establish a process for the Water Contractors to fund the preparation of the EIR/EIS but with hands off the process itself. 4. Separate scoping, project development, and preparation of the EIR/EIS into distinct sequential phases with a tentative schedule as follows: complete scoping by June 30, 2012; complete project development by Jan 30, 2013; preparation of draft EIR/EIS Jan 30, 2013 - June 30, 2013; public comment draft EIR/EIS June. 30, 2013 - Nov. 30, 2013; preparation final EIR/EIS Nov. 30, 2013 - Feb. 30 2014; public comment final EIR/EIS Feb. 30, 2014 - May 30, 2014; adopt Record of Decision (ROD) July 30, 2014. 5. Explicitly identify the most contentious issues and resolve them or develop a menu of resolutions for study through the public scoping process. 6. Reorganize the BDCP plan chapters so the Peripheral Canal is no longer referred to as a conservation measure and has its own chapter titled "Peripheral Canal Alternatives."	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. Please refer to Response to Comment 1738-36 and 1738-37. Please refer to Master Response 5 for a discussion of the role of water contractors to the proposed project and proposed project funding. Please also refer to Response to Comment 1738-26 and 1738-27. In December 2013 the public review Draft BDCP and associated Draft EIR/EIS were released for a 228-day formal review and comment period, and in July 2015 the RDEIR/SDEIS was released for formal review and comment. See Master Response 40 for additional information on public outreach efforts and adequacy. 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 (NEPA) while DWR will continue to act as the state Lead Agency (CEQA). USFWS and NMFS will act as NEPA cooperating agencies. The Final EIR/EIS will present all issues raised by commenting parties during the public comment period, including the most contentious issues, and will provide written responses to all comments. 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. See Master Response 36 for how the proposed project is different from the peripheral canal. Refer to Response to Comment 1738-30 for discussion of how the Lead Agencies are following the appropriate legal process and are complying with CEQA and NEPA in preparing the EIR/EIS for the proposed

DEIRS Ltr#	Cmt#	Comment	Response
		7. If the agencies wish to engage in combined scoping and EIS preparation in the future, initiate notice and comment rulemaking to adopt the appropriate procedures.	project.
1738	39	[ATT15] Invitation To Make Public Presentation At Discovery Bay Town Hall Meeting And Conclusion. We would like to take this opportunity to extend an invitation to hold a town hall meeting in Discovery Bay some time after the new year. We would envision a presentation of the BDCP by appropriate agency staff followed by a Q & A. Likely many attendees will be adamantly opposed to any Peripheral Canal. But talking to opponents is part of the NEPA process. This also might serve as an opportunity to explain the very real benefits of the HCP. It would also be an important gesture in reaching out to the general public, as opposed to interest group representatives who have dominated the BDCP process to date.	Please note that as described in response to comment 1738-1 the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. For information regarding public outreach efforts completed to-date please see Master Response 40.
1738	40	[ATT 1: Natural Heritage Institute. "Designing Successful Groundwater Banking Programs in the Central Valley". 2000]	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.
1738	41	[ATT 2: Natural Heritage Institute. "Estimating the Potential for In---Lieu Conjunctive Water Management in the Central Valley"]	Please see response to comment 1738-40.
1738	42	[ATT 3: Natural Heritage Institute. "The Hydrogeological Suitability of Potential Groundwater Banking Sites in the Central Valley". September 2001]	Please see response to comment 1738-40.
1738	43	[ATT 4: Natural Heritage Institute. "Feasibility Study of Maximal Program of Groundwater Banking". December 1998]	Please see response to comment 1738-40.
1738	44	[ATT 5: Public Policy Institute, Research Brief Issue #102, "Does California have the Water to Support Population Growth"]	Please see response to comment 1738-40.
1738	45	[ATT 6: DWR, "Fact Sheet, Sacramento River Flood Control Project Weirs and Flood Relief Structures".]	Please see response to comment 1738-40.
1738	46	[ATT 7: Northern Sacramento Valley Conjunctive Water Management Investigation, "Feasibility Investigation of Re---Operation of Shasta and Oroville Reservoirs in Conjunction with Sacramento Valley Groundwater System to Augment Water Supply and Environmental Flows in the Sacramento and Feather Rivers"]	Please see response to comment 1738-40.
1738	47	[ATT 8: California Water Plan, Bulletin 160---05, April 1, 2005, "Chapter 4, Conjunctive Management and Groundwater Storage"]	Please see response to comment 1738-40.
1738	48	[ATT 9: Saracino & Mount, LLC. "Panel Review of the Draft Bay Delta Conservation Plan: Prepared for the Nature Conservancy and American Rivers"; also attached to BDCP 1672]	The commenter references an attachment which was responded to as part of the response to comments made by The Nature Conservancy and American Rivers. Please see table of comments.
1738	49	[ATT 10: ACWA. 2011. Sustainability from the Ground Up. Groundwater Management in California -- A Framework".]	Please see response to comment 1738-40.
1738	50	[ATT 11: AGWA. 2000. "Groundwater and Surface Water in Southern California: A Guide to Conjunctive Use".]	Please see response to comment 1738-40.
1738	51	[ATT 12: California Natural Resources Agency. 2008. "Managing an Uncertain Future: Climate Change Adaption Strategies for California's Water."]	Please see response to comment 1738-40.

DEIRS Ltr#	Cmt#	Comment	Response
1738	52	[ATT13: Famiglietti, J.S., et al., "Satellites measure recent rates of groundwater depletion in California's Central Valley". Geophysical Research Letters Vol. 38, L03403]	Please see response to comment 1738-40.
1738	53	[ATT 14: Nelson, Rebecca. 2011. "Uncommon Innovation: Developments in Groundwater Management Planning in California"]	Please see response to comment 1738-40.
1738	54	[ATT 16: U.S. Department of the Interior, "Madera Irrigation District Water Supply Enhancement Project: Final Environmental Impact Statement"]	Please see response to comment 1738-40.
1738	55	[ATT 17: U.S. Department of the Interior, "Record of Decision: Madera Irrigation District Water Supply Enhancement Project"]	Please see response to comment 1738-40.
1738	56	[ATT 18: Northern Sacramento Valley Conjunctive Water Management Program, "Final Report Public Briefing"]	Please see response to comment 1738-40.
1738	57	[ATT 19: Delta Stewardship Council, The Delta Plan. 2013.]	Please see Master Response 31.
1739	1	Dewatering the Delta for the length of the proposed tunnel projects will cause permanent loss of high quality well water that currently serves our homes for drinking, bathing, cooking and gardening. To survive 10 years of construction of with tank car water while our neighborhood, the construction zone, is dewatered, is next to impossible, and even more disastrous is the fact that the aquaphors may be permanently destroyed or damaged to the point that good quality well water may never be available for our domestic use.	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) also 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.
1739	2	Family ownership of many farm properties in the area of the tunnel project goes back to a 150-year history. Easily 3rd and 4th generations are farming and caring for the land, and future generations want to remain involved in family businesses and home sites. Two younger generations in our family frequently are home for visits and have their heart set on the time that they will be the next responsible generation in charge of our properties. The proposed tunnel construction will ruin access and livability of our residential and farming operation. We will be squeezed between a tunnel intake and a muck pile with the proposed shift in the Hwy 160 to be moved behind and around the intakes, resulting in loss of farm buildings, well pump house, and productive agricultural acreage.	A description of the process the Lead Agencies followed to develop and screen alternatives is provided in Master Response 4, and the Appendix 3A, Identification of Water Conveyance Alternatives, EIR/EIS. As described in Chapter 16, Socioeconomics, where required, DWR would provide compensation to property owners for economic losses associated with implementation of the proposed BDCP.
1739	3	Recreational use of both the Highway 160 and the Sacramento River in this region is imperative to the health of our community. Without wasting automobile fuels (reduced air pollution from travel and car exhaust) many come only short distances to fish, both off the river banks and by boat and to bicycle along the length of Highway 160. As a medical doctor I can vouch for the fact that recreation time and physical activity are great for health maintenance, and we should not destroy the easy access to such scenic river access. As I drive between my home and my office I daily witness the steady stream of fishermen and cyclists who maintain a healthy lifestyle by accessing this area.	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.

DEIRS Ltr#	Cmt#	Comment	Response
1739	4	Sandhill cranes return each fall and winter on properties in the planned tunnel project. Construction activities would remove critical farmland where these birds feed daily. They consistently return to the same areas. I stop along Scribner Road and watch them feed during their winter residence. In fact, I can watch them from my drive way, from my front porch, and on cold wintery days, can still see them out the windows of my home Your construction plans would sacrifice areas where they feed, and further more, your construction noise would frighten then away. If you are failing to give regard to the people living locally, please let the sandhill cranes fit into the future of wildlife protection in our area.	The preferred alternative in this Final EIR/EIS has changed since the time of the Draft EIR/EIS and includes improvements on Staten Island and elsewhere that reduces effects and avoids take of Sandhill Cranes Please see Master Response 17 which provides additional information on the Greater Sandhill crane.
1739	5	Interference with access to emergency assistance ambulance and fire calls will be inhibited by your construction plans. The Doctor's Office in Courtland has been a center for care for farm workers, their families, and the many retired elderly who remain in their homes. The volunteer fire department crews need easy access to the residences along the River Road;10 years of heavy construction will interfere with easy transportation for medical emergencies, or even more routine access to medical care There are few places to cross over Interstate highway 5, and much of the medical traffic is north and south on the River Road. Please respect the need of individuals to travel to their doctor's office in Courtland.	EIR/EIS Chapter 19, Transportation, identifies interference with emergency services as an effect. Impact TRANS-3 further discusses this problem and its effects. Mitigation Measure TRANS-1a includes provisions to ensure that construction vehicles allow continual access for emergency vehicles at the time of an emergency. Mitigation Measure TRANS-1c also seeks to work with affected jurisdictions to enhance capacity of congested roadway segments where construction traffic will substantially affect transportation facilities. However, some significant impacts may be unavoidable as discussed in Chapter 19, Transportation. Further, construction traffic impacts on congested roadway segments would only be considered significant and unavoidable if local transportation agency agreements are not successful. DWR will work in good faith towards successful transportation capacity agreements. This approach for these mitigation measures is appropriate given the level of construction design available for this project. Construction traffic would be focused on several locations in the Delta, including at proposed intake structures, TBM shaft structures, the intermediate forebay and Clifton Court Forebay. The vast majority of the tunnel alignment would be underground and would not affect transportation or emergency access.
1739	6	On behalf of family, neighbors, and concerned residents of Sacramento and Yolo Counties, I ask you to abandon the tunnel plans in the BDCP.	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/EIS documentation.
1739	7	Meanwhile, please publish your best information on realistic funding sources for this project so that people can understand that ultimately the taxpayers fund this water grab. Please publish alternatives to the proposed tunnel project. Water conservation and recycling serve us better than a non-sustainable water grab.	Please see Master Response 5 for an explanation of the proposed funding for BDCP. Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the BDCP. As an HCP/NCCP, the BDCP cannot impose obligations on third parties that are not applicants under BDCP. It is important to note that the BDCP is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.
1739	8	Please allow those of us who work, live and farm in the Delta to continue to do so. We live in a beautiful area rich in wildlife and successful agriculture production and enhanced with recreational opportunities. Your tunnel plan will only ruin livability and access to the Delta with your industrialization with the tunnel construction. Please make the many submissions of opposition available to the general public.	The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. Its environmental evaluation can be found in Sections 4 and 5 of the RDEIR/SDEIS. The Natural Resources Agency and DWR staff will continue seeking improvements and refinements to the current proposal in order to enhance species benefits and to avoid, reduce or mitigate for negative impacts to people, communities, sensitive species and habitats. The commenter is referred to the following Master Responses: 3 (Purpose and Need), 5 (Overview of Restoration and Enhancement Activities), 34 (Beneficial Use of Water), 35 (MWD Water Supply), 25 (Upstream Reservoir Effects), 17 (Impacts on Smelt), and 24 (Delta as a Place). For the project's agricultural impacts and proposed mitigation, please refer to Chapter 14 of the EIR/EIS and of the RDEIR/SDEIS Appendix A (Agricultural Resources). 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. The overall recreation experience for boaters or fishermen in the vicinity of intake construction areas would be reduced during construction activities, because of the elevated noise levels as well as visual setting disruptions. These temporary construction-

DEIRS Ltr#	Cmt#	Comment	Response
			related effects would last for up to 5 years in the vicinity of intake and barge unloading facilities and could alter fish populations such that recreational fishing opportunities in the study area would be affected. Weekday construction would reduce the amount of fish and other wildlife in recreation areas in the vicinity of the intakes, resulting in decreased recreation opportunities related to wildlife and fish, causing recreationists to experience a changed recreation setting. Chapter 15 of the Draft EIR/EIS and of Appendix A (Chapter 15) of the RDEIR/SDEIS describe potential impacts to on-water recreation and fishing and proposed mitigation—refer also to applicable environmental commitments (Appendix 3B). See Chapter 16 of the Draft BDCP for clarification on economic impacts to recreational facilities. A Draft BDCP Statewide Economic Impact Report has also been published, which indicates that the project would result in a substantial economic net benefit to the State. 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. Once the Final EIR/EIS is published and posted online, the commenter will be able to view all written comments (i.e., submissions) on the Draft EIR/EIS and on the RDEIR/SDEIS, including those in opposition.
1740	1	In recent years, both state and federal project deliveries have been repeatedly interrupted and reduced due to operational conflicts with threatened and endangered Delta species. Additionally, both projects risk complete failure given the vulnerability of the Delta levee system to catastrophic earthquake and flood events ... threatening water supplies for all of California for up to three years. The proposed BDCP, being developed under provisions of the State and federal endangered species protection laws, is the most promising plan developed to date to solve these challenges and resolve decades of conflicts between agricultural, urban and environmental water users with a comprehensive solution that achieves California's Co-Equal goals of a reliable water supply and a restored Delta ecosystem for the benefit of all water users.	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.
1740	2	I am supportive of the BDCP's proposed alternative #4 -- the twin-tunnel conveyance system that isolates and protects drinking water supplies and helps restore natural flow patterns in the Delta for the benefit of native species, as well as the complementary habitat restoration, water quality and predator control measures outlined in the BDCP.	The description of Alternative 4 is consistent with the description of this alternative in the Draft BDCP EIR/EIS. Please note that the new preferred alternative is now Alternative 4A (California WaterFix) and does not involve an HCP component.
1740	3	The proposed BDCP is the most comprehensive effort ever undertaken to address the chronic water challenges facing the state and federal water projects in a manner that is protective of the Delta environment. I urge the state to move forward with the draft plan and focus on resolving those remaining issues needed to provide assurances that the plan will achieve California's co-equal goals of water supply reliability and ecosystem restoration in a cost-effective manner	The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. 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.
1741	1	Water Board Information Needs: The BDCP will require multiple water right and water quality approvals from the Water Boards that will take a year or more to process. To the extent the EIR/EIS will be used to support these approvals pursuant to California Environmental Quality Act, they should be clearly described, including the proposed changes to water right requirements for Department of Water Resources and U.S. Bureau of Reclamation. While not all of the project details the Water Boards will need to consider for various approvals need to be included in the EIR/EIS, that information must be provided to the Water Boards in a timely fashion to avoid delays. The Water Boards' comments on the Second Administrative Draft EIR/EIS address many of these issues in more detail. Water Board staff encourage the BDCP proponents to identify point staff familiar with Water Board permitting issues to coordinate	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 the Final EIR/EIS 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.

DEIRS Ltr#	Cmt#	Comment	Response
		with Water Board staff and identify what permits are needed by when and what additional information is required.	The Lead Agencies appreciate the opportunity to continue coordination with the SWRCB through the development of all required permits. The water rights process to obtain approval from the SWRCB for a change of point of diversion for DWR and Reclamation has begun. In addition, the lead agencies have coordinated with SWRCB staff to include additional analysis that is relevant to the Water Board considerations of the proposed project (Alternative 4A). – see Appendix 5E of the Final EIR/EIS.
1741	2	BDCP Analytical Method: Because of the complexity of the biological and physical factors considered within the BDCP, and the changes anticipated during its 50-year planning horizon, it is difficult to produce accurate and precise quantitative data that can be used to determine the magnitude and direction of the effects of the BDCP over its entire planning period. BDCP attempts to address this issue through qualitative modeling and adaptive management. Under the adaptive management process, qualitative results are converted into semi-quantitative results by updating the current knowledge that is used in the modeling scenarios over the duration of the 50-year planning horizon. The distinction between qualitative planning and quantitative prediction is not, however, clearly identified in the BDCP and supporting EIR/EIS. The numerous model results reported in the BDCP and the EIR/EIS comprise a suite of hypothetical futures in which specified alternative conveyance construction, water operations, and habitat restoration scenarios are compared. According to the modeling appendices of the BDCP and the EIR/EIS, the majority of the model results can only be appropriately compared qualitatively at monthly time steps. This limitation is often violated in both the BDCP and the EIR/EIS. The explicit caution that it is only appropriate to use model results for planning and scenario analyses is stated in the technical appendices for the BDCP and the EIR/EIS, and not in the BDCP effects analysis and in the EIR/EIS alternatives analysis. To address this issue, the caution should be clearly stated and appropriately adhered to throughout the analyses.	The lead agencies have determined that the description of model limitations is best suited for the technical appendices for the EIR/s. However, this caution is clearly stated throughout the Final EIR/EIS modeling presentations as well as the Biological Assessment. For further information, please refer to responses to comment letter 1448 for a comprehensive response to comments from the Independent Scientific Review Panel, which addresses this issue.
1741	3	Consideration of Uncertainty: Significant negative impacts tend to be discounted and positive results tend to be inflated in the EIR/EIS and the BDCP. The assumed effectiveness of various conservation measures, for example, appear to be overly optimistic, especially with regard to the effectiveness of habitat restoration, where it is assumed that habitat restoration will be 100 percent effective. This overly optimistic assumption is frequently used to offset impacts from water operations associated with Conservation Measure (CM) 1 (the new conveyance facility) and to support a potentially over-constrained range of operations for the protection of covered species under CM1. To address this issue, it would be appropriate to assume a more realistic rate of success for conservation measures and a wider range of adaptive management provisions, such as for Delta Outflows.	The Final EIR/EIS includes a more detailed discussion regarding the uncertainty of the modeling and impact analysis. It identifies specific uncertainties and suggests research or monitoring actions, through the adaptive management program, that could reduce these uncertainties. These potential research and monitoring actions have also been added to the research and monitoring program description in Section 3.6. In addition, the analysis of restoration benefits to delta smelt in the FEIR/FEIS assumes 0% and 100% effectiveness in providing abiotic rearing habitat.
1741	4	BDCP Decision Tree and Adaptive Management: The general structure of the BDCP decision tree and adaptive management processes have been described in the documents but the details for how the adaptive management provisions will be implemented are not provided, and are instead proposed to be developed in the future by the Implementation Office and the Adaptive Management Team. Further, those provisions are assumed to be adequate without provisions for contingency plans or specific thresholds for actions. It is therefore difficult to determine whether the measures will have the expected results or be adequate to reasonably protect beneficial uses of water and the public trust. Further, the range for adaptive management may be overly	Please note that the proposed project (Alternative 4A) no longer includes the BDCP. Please see Master Response 33 regarding adaptive management under Alternative 4A. Also, please see Master Response 44 for further information about the Decision Tree, including monitoring and adaptive management, although this only applies to Alternative 4.

DEIRS Ltr#	Cmt#	Comment	Response
		constrained given the high degree of uncertainty regarding the effectiveness of the conservation measures.	
1741	5	Reporting of Early vs. Long Term Analyses: A single comparison of the BDCP effects at the Late Long Term (LLT) analysis point (Alternative 4 vs. the No Action Alternative [NAA] for example) may not accurately describe the potential effects of the BDCP on covered fish. For example, the BDCP Appendix 5C.5.2-60 concludes that the negative effect of the BDCP in the Early Long Term (ELT) on spawning weighted usable area for winter-run Chinook salmon would be rendered moot by the late long term due to climate change driven reductions in the population size of winter-run Chinook. Similarly, in the analysis of the IOS model effects on winter-run Chinook, it was determined that the model results were sensitive to water-year starting conditions, with dry starting conditions leading to lower levels of escapement for decades under the BDCP while wetter starting years would have resulted in the BDCP providing a benefit (BDCP Appendix 5.G-81, line 37). In both cases, the BDCP has significant short term negative effects on winter-run Chinook that could significantly reduce the size of its single population and render it more susceptible to extinction long before the effects of climate change could affect the population at the LLT analysis point. Except for some analyses conducted during the development of the BDCP Effects Analysis, model results for the ELT analysis point are not reported. For the purposes of determining the impacts of the new conveyance facility, the effects of the project at the ELT point are important to understand, especially since the Water Boards will not necessarily be considering the 50-year Endangered Species Act (ESA) related approvals that the fisheries agencies will be considering. Further, to differentiate between the effects of the project and other confounding and uncertain effects like climate change, ELT results should be reported. The 50-year timeframe for the LLT analyses may mask significant effects of the project. These effects are important to understand given the high degree of uncertainty with future conditions, including climate change. CEQA and NEPA Baselines in section 4.2.1.1 of the EIR/EIS explicitly recognize the requirement for consideration of both short-term and long-term impacts of the proposed project, and include quotes from Neighbors for Smart Rail v. Exposition Metro Line Construction 10 Authority (2013) 57 Cal.4th 439 (Smart Rail): For example, "[e]ven when a project is intended and expected to improve conditions in the long term--20 or 30 years after an EIR is prepared--decision makers and members of the public are entitled under CEQA to know the short- and medium-term environmental costs of achieving that desirable improvement." (Ibid.) Further, "[a]n EIR stating that in 20 or 30 years the project will improve the environment, but neglecting, without justification, to provide any evaluation of the project's impacts in the meantime does not 'giv[e] due consideration to both the short-term and long-term effects' of the project … and does not serve CEQA's informational purpose well." (Ibid., quoting CEQA Guidelines, [Section] 15126.2, subd. (a).) While the EIR/EIS states that its use of the Existing Conditions as the CEQA baseline is consistent with the Smart Rail decision, use of the differencing method of comparing the baseline as of the date of the Notice of Preparation against alternative effects more than 50-years distant, prevents any short-term analysis of the effects of the project.	The commenter's concern is that the BDCP effects are focused on the late long term, with less consideration of the early long term. Whereas the BDCP as previously proposed as Alternative 4 comprised an HCP with a 50-year term (i.e., the focus of the late long term), the new preferred alternative (Alternative 4A/California WaterFix) considers operational effects only in the early long term (2030) following completion of north Delta intake construction. This time period will be used for the ESA consultation and the considerations of the State Water Resources Control Board. For more information regarding environmental baselines please see Master Response 1. 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.

DEIRS Ltr#	Cmt#	Comment	Response
1741	6	Modeling of Climate Change and Reservoir Operations: While explicitly recognizing that climate change will affect the BDCP as well as the operations of the upstream reservoirs such as Shasta and Oroville, the BDCP does not provide a corresponding range of adaptive changes in reservoir operations under climate change. Not considering adaptive reservoir operations responses to climate change confounds the impacts assessment and comparison of alternatives, and may result in over or understatement of impacts that could be attributable to reservoir reoperations, including the No Action Alternative. Comparing alternatives to the NAA is one way to distinguish climate change effects from project effects. However, if climate change impacts are overstated, comparisons between a proposed alternative and the NAA may exaggerate the positive benefits of an alternative. Similarly, impacts that may be addressed by reservoir reoperations may be overstated. In addition, if an alternative is shown to have an erroneous positive or null effect then it may be excluded from necessary adaptive management and mitigation. To address these issues, sensitivity results could be provided. For example, reservoir reoperations could be included in the climate change analyses or the analyses could be presented without either climate change or water operational changes. The second option would provide a clearer distinction of project effects versus erroneous conclusions resulting from climate change assumptions.	As described in Chapter 3, Description of Alternatives, and Chapter 5, Water Supply, the projections of climate change and sea level rise are only projections. However, the purpose of the BDCP EIR/EIS analyses is not to provide absolute values, but to provide a comparison of conditions under the action alternatives as compared to the Existing Conditions and the No Action Alternative so the decision makers can select the most appropriate alternative. It is acknowledged in Chapter 5 that the model results are only to be used in a comparative manner, and that absolute conditions in the future probably will be different. During the preparation of the Draft BDCP 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 EIR/EIS only evaluates the incremental differences, and not absolute values, between the Existing Conditions and the No Action Alternative and the action alternatives, the incremental changes appear to be similar under a range of climate change scenarios. 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 Final EIR/EIS analyzes all alternatives, including Alternative 4A. As described in Chapter 5, Water Supply, the BDCP EIR/EIS analyses assume continued implementation of reservoir operations criteria due to climate change or other reasons, in accordance with the requirements under the CEQA definition of Existing Conditions and under the NEPA definition of the No Action Alternative. It would be speculative to consider future changes to reservoir operations in the No Action Alternative and Cumulative Impact Analysis. Such changes are not included in the action alternatives because they would not support the Project Objectives or Purpose and Need statement. Changes in reservoir operations criteria would only occur following detailed analyses, including project-specific CEQA and NEPA analyses, if appropriate. Following adoption of changes to reservoir operations criteria, DWR and Reclamation would need to determine if changes in the SWP and CVP would be necessary.
1741	7	Synthesis of BDCP Effects on Covered Fish The EIR/EIS does not provide an explicit analytical framework for synthesizing the individual effects conclusions for each covered fish into a coherent statement describing the overall effect of BDCP on each covered fish. We recognize that given the large number of sometimes contradictory results considered for each covered fish that this is a difficult task. However, relying exclusively on professional opinion without specifying critical biological thresholds or how the various results contributed to the expert opinion provides little useful information for evaluating the adequacy of the opinion and the impacts assessment. The BDCP explicitly recognizes this approach but seems to misstate the transparency of the analysis (5.2.7.10, Page 5.2-27).	CEQA and NEPA do not require that a final 'roll-up' conclusion be included; only that any significant impacts are identified. The RDEIR/SDEIS included a revised description of the methods used and more specifically how CEQA and NEPA conclusions were determined and this has been updated and presented in the Final EIR/EIS. A similar analysis focused on species listed under the ESA is provided in the Biological Assessment.
1741	8	Use and Representation of Data: The BDCP effects analysis converts qualitative data to quantitative data (page 5.5-1, line 20), and then performs mathematical operations on the numerical codes for the ranked data as if the coded scores were quantitative ratio scale data. Because there is no method to determine if the intervals between ranks are constant, it is mathematically incorrect to perform addition, subtraction, multiplication, etc. on the numerically coded scores. The subsequent "transformation" of the scores back to a "qualitative scale" demonstrates that	Please refer to comment letter 1448 to see responses to the Delta Independent Science Board's comments, including the issues related to modeling results and quantitative impact analyses in the EIR/EIS. Please also 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 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

DEIRS Ltr#	Cmt#	Comment	Response
		the intervals between ranks are not constant, as the very low to low rank interval is one unit while the rank interval from high to very high is seven units. These re-ranked results are then used to generate "net effect" tables (see Figure 5.5.1-5 for an example) that are the foundation of the BDCP effects analysis and, presumably, the professional judgment that forms the basis of the impact assessment conclusions in the EIR/EIS alternatives analyses. The Delta Independent Science Board (ISB) came to a similar conclusion. The ISB also described how the improper use of qualitative data compounds the uncertainty inherent in attributing importance among multiple attributes of the covered fish and their habitat (Page B- 43). The ISB also described the multiple sources of uncertainty present in both documents and recommended that "uncertainty and the many underlying assumptions be dealt with upfront, forcefully, and directly". Even with perfect data, in the execution of scenario analyses it is expected and desirable that different models produce different results, and that some may show negative impacts while others may not. This situation is described as uncertainty in both documents, and in the effects and impacts analyses is postponed as an issue for the adaptive management program to resolve. No method is provided to determine how this will be addressed when the adaptive management process must consider multiple models and conflicting results.	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 see the response to Comment 3 for additional information about uncertainty in the analyses.
1741	9	Chapter: General Section: General Comment: The EIR/EIS relies on a large number of sometimes unclearly labeled and numbered EIR/EIS appendices, the BDCP and its appendices, and primary source documents to support its methods and results. This reliance on a suite of documents produced at different times appears to have caused inconsistencies and errors in the documents and makes it difficult to verify which methods were used for analyses. Additionally, chains of references from the EIR/EIS to its appendices and then to the BDCP and its appendices sometimes lead to dead ends that provide no relevant information. These issues should be addressed.	The Final EIR/EIS reconciles the complexities that were a part of issuing a Draft EI/EIS and the RDEIR/SDEIS. The Final EIR/EIS presents an executive summary as well as an introduction chapter to explain the organization of the information presented for the resource analysis and the supporting appendices for the analysis. For more information regarding the document's length and complexity please see Master Response 38.
1741	10	Chapter/Section: General Comment: The EIR/EIS and BDCP appear to assume that natural community restoration will be 100 percent successful. This is highly optimistic given the current status of the science regarding this issue. Is there an assumption of a success rate for any of the restoration projects? If so, please provide that assumption and detailed support for it. If not, a discussion of the success rate among restoration projects for each of the natural communities is appropriate for providing the reader an understanding of the potential for restoration to be successful and reduce impacts.	The RDEIR/SDEIS, released in 2015, introduced a new preferred alternative, 4A, which does not include a HCP or conservation measures. Under Alternative 4A, substantially less habitat restoration would occur than under Alternative 4. The alternative implementation strategy allows for other state and federal programs to address the long term conservation efforts for species recovery in programs separate from the proposed project. Please also refer to Master Response 33 regarding adaptive management. Please refer to Chapter 3, Alternatives, for additional detail about the habitat restoration proposed under Alternative 4A. The commenter questions the assertions made in the Draft EIR/EIS related to the mitigation for CM1 impacts being accomplished through implementation of CMs2-22. The BDCP was developed with CM1 as part of an HCP/NCCP and thus developing specific compensatory mitigation for a specific project included as part of an HCP/NCCP is not appropriate. Other CMs have their own impacts that the Draft EIR/EIS does evaluate along with BDCP's proposed conservation and AMMs to offset any such effects. As described in the Draft EIR/EIS and BDCP the timing of implementation of portions of the CMs that were developed to address the mitigation needs for implementation of CM would be on a "project level" basis and would not be undefined and uncertain and timing of implementation of those elements of the CMs that are for mitigation of impacts of CM1 would be consistent with the impacts. The Draft EIR/EIS evaluated whether the conservation measures committed to in the BDCP provide sufficient acreages to offset any losses, provide a framework to develop more detailed restoration plans, and provide performance standards to demonstrate success, which is a sufficient level of detail for NEPA and CEQA review. Alternative 4A provides mitigation specific to the

DEIRS Ltr#	Cmt#	Comment	Response
			impacts that may occur related to the construction of the north Delta Diversions and associated facilities. The commenter is referred to Master Response 5 for more discussion the feasibility of mitigation.
1741	11	Chapter/Section: General Comment; There is no explicit analytical framework for synthesizing the individual effects conclusions for each covered fish into a statement describing the overall effect of BDCP on each covered fish making it difficult to confirm the validity of the impacts determinations. The presentation of the conclusions is arranged by tunnel construction related impacts and by conservation measure. A series of individual life stage analyses specific to each covered fish is nested within the construction/conservation measure organization. Nested within each life stage analysis are multiple analyses that are supported using different model runs. Interpretations of each model result and effect conclusions follow the results. A summary table then lists the conclusion for each of the life stages. However, there is no explicit synthesis and explanation to support the overall California Environmental Quality Act and National Environmental Protection Act conclusions of the effect of BDCP on a particular covered fish. There is generally only a statement that all impacts considered in total were deemed to be a significant impact or a less than significant impact. This approach is described in the BDCP Effects analysis 5.2.7.10, Page 5.2-27, Line 36 as: "The net effects analysis assumes that there is no overarching analytical framework [emphasis added] that integrates all effects and derives a quantitative estimate of the overall effect of the BDCP. Instead, the BDCP effects analysis is designed to provide a transparent, systematic, and comprehensive process for combining results from quantitative and qualitative analyses. This process is described below. The conclusions represent qualitative judgments [emphasis added] of the effects of the BDCP that are grounded in the detailed quantitative and qualitative analyses in the appendices."	Please see response to comment 7. 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) also is the proposed project. 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.
1741	12	Chapter/Section: General Comment: The use of model results sometimes appears to deviate from the stated limitations for their use (Section 4.3 Overview of Tools, Analytical Methods, and Applications, page 4-13) (See also EIR/EIS Appendix 5A-C5): "The models were used to compare and contrast the effects among various operating scenarios. The models incorporated a set of base assumptions; the assumptions were then modified to reflect the operations associated with each of the alternatives. The output of the models is used to show the comparative difference in the conditions among the different alternative scenarios. The model output does not predict absolute conditions in the future; rather, the output is intended to show what type of changes would occur. This type of model is described as comparative rather than predictive. Because of the comparative nature of these models, these results are best interpreted using various statistical measures such as long-term and year-type averages and probability of exceedance. Additionally, results from one model cannot be quantitatively compared to results from another model; therefore, comparisons between alternatives must be based on results that are derived from a consistent modeling approach." If the appropriate use of model results is as stated then the use of those results should be limited to the evaluation of relatively coarse metrics for purposes of ranking and selecting alternative scenarios. However, in the EIR/EIS the coarse scale results were incorporated into models with daily to hourly time steps to generate predictive results such as daily temperature thresholds. The appropriateness of these numerical comparisons should be clearly explained.	Please see response to comments 2, 3, and 8. As described in this comment, the models are to be used in a comparative manner only. When the model results were compared to water quality or other thresholds, the impact analysis was focused on the change in the frequency of non-compliance between the action alternatives and the Existing Conditions and the No Action Alternative. Descriptions of procedures for developing sub-monthly time steps for use in some models, such as DSM2, can be found in Appendix 5A. Please note that the BDCP is no longer the preferred alternative, as described in the response to Comment 1.

DEIRS Ltr#	Cmt#	Comment	Response
1741	13	Chapter/Section: General Comment; When multiple models are run to analyze the same impact, such as water temperature below Keswick, it is expected that the models will produce different results and that some may show negative impacts while others may not. This uncertainty in the analysis is proposed to be addressed through the adaptive management plan. However, the adaptive management plan is not fully developed and as such it is difficult to determine whether it will be adequate to address potential impacts as proposed.	This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. In the Final EIR/S, the analysis related to this impact has been updated and there are no "Uncertain" conclusions remaining related to Alternative 4.
1741	14	Chapter/Section: General Comment: For the purposes of informing potential changes to water rights and water quality approvals needed for construction of the project in the near term, the EIR/EIS should include an analysis of all of the Early Long Term operational and construction related effects of the project. The Late Long Term analysis point represents the end of the term of the requested take permits and while relevant for producing an estimate of take during the period of the permits may not adequately inform the Water Board's decision making processes.	Please see the response to comment 5 for a discussion of ELT vs. LLT analysis periods. The BDCP and impacts of all the HCP alternatives were analyzed based on the implementation of the alternatives over the "Late Long Term." However, as described in the RDIER/SDEIS, the non-HCP alternatives were analyzed based on implementation in the "Early Long Term" within a much shorter timeframe. Both impact horizons are presented in the Final EIR/EIS.
1741	15	Chapter/Section: General Comment: There are 9 flow requirements and 6 of those have potential Real Time Operations (RTO) restrictions (BDCP Chapter 3.4.1.4.3): --OMR flows - RTO --HORB - RTO --Delta outflow/X2 --North Delta bypass flow - RTO --E:I --Sac River at Rio Vista flow --DCC - RTO --Suisun Marsh Salinity Gates --Fremont Weir - RTO There are several factors that could be considered in the RTO process including: --Covered fish species risks --Actions to avoid adverse effects on covered fish --Allocations in year of action or future years --End of water year storage --San Luis Reservoir low point	For a description of the real-time operations and the real-time operational decision making process proposed under California WaterFix (Alternative 4A) (and also applicable to other alternatives where RTO is relevant), please see the Final EIR/EIS in general, as well as the Biological Assessment, Section 3.1.5, Real-Time Operations Upstream of the Delta, and Section 3.3.3, Real-Time Operational Decision-Making Process.

DEIRS Ltr#	Cmt#	Comment	Response
		--Delivery schedules for any SWP or CVP contractor --Actions that could be implemented throughout the year to recover any water supplies reduced by actions taken by the RTO team. --Obligations to meet the SWRCB water quality standards --Will take into account upstream operational constraints such as coldwater pool management, instream flow, and temperature requirements. As of the date of the Public Drafts of the BDCP and EIR/EIS no agreement had been reached concerning how RTOs will affect the BDCP flow related requirements. These requirements are relied upon in the EIR/EIS to reduce impacts to less than significant levels. However, it is unclear whether the RTOs will be adequate until they have been fully developed and reviewed, especially given that the considerations for RTOs may have mutually exclusive purposes.	
1741	16	Chapter/Section: General Comment: The tables in EIR/EIS Appendix 5A, Section C should be clarified. The data in the tables is arranged in the format required to plot cumulative frequencies of monthly data but the implied cell by cell analysis of the data as presented in the tables appears to be in conflict with the appropriate use of the data described in EIR/EIS Appendix 5A.4.6, page A31. In contrast, the associated figures all present cumulative frequencies of long-term monthly data. This issue also appears elsewhere, including EIR/EIS Appendix 11C, page 11C-218, Table 1, Mean Monthly Flows (cfs) for Model Scenarios in the Sacramento River at Keswick. A table that appears to illustrates the appropriate use of the data is shown on page 11C-220, Table 2, Differences (Percent Differences) between pairs of Model Scenarios in the Sacramento River at Keswick, Year-Round which shows differences between alternatives across the long-term data and across water-year data.	The representation of the model results in Appendix 5A, Section C, Modeling Results, are with respect to monthly-data which is consistent with the statement on page A-31 in Appendix 5A, Section A. The model results in Appendix 5A, Section C, in general, were presented as values and differences between the values instead of percentage differences between the values. However, the percentage values could be calculated from the data presented in Appendix 5A, Section C. It should be noted that the statement on page A-31 is specifically related to the temperature models which are discussed in Chapter 11, Fish and Aquatic Resources. The information from the Draft EIR/EIS and the RDEIR/SDEIS have been updated, as appropriate, and presented in the Final EIR/EIS.
1741	17	Chapter/Section: General Comment: For the Water Boards to consider any water quality and water rights applications or petitions for the BDCP, environmental documentation prepared for the project must disclose the significant effects of the proposed project and identify a reasonable range of interim and long-term alternatives that would reduce or avoid the potential significant environmental effects. The BDCP does not appear to propose interim water project operational measures needed to protect fish and wildlife beneficial uses beyond those requirements associated with Biological Opinions. The measures required by the Biological Opinions are designed to avoid jeopardy of listed species which is not the same standard as the standard of reasonable protection of beneficial uses. Since the State Water Board is required by law to periodically review and update, as appropriate, the Bay- Delta Plan, it will continue its independent review and update of the Bay-Delta Plan, and will establish requirements during the interim that are based on the best available science at the time of the update. The Water Boards will also need to independently evaluate the long- term measures proposed by BDCP and reach an independent conclusion on whether to approve changes associated with the project.	The preferred alternative, 4A/California WaterFix, includes operations only for after the North Delta diversion facilities are constructed and operational; it does not include proposed changes in the interim (before the facilities are constructed and operational). As such, there are no impacts from existing operations of the SWP and CVP in the interim. The EIR/EIS assumes that, as part of the No Action Alternative, the existing biological opinions and applicable Water Quality Control Plan (WQCP) would remain in place. However, it is acknowledged that the SWRCB is in the process of revising the Bay-Delta WQCP. Whatever the outcome of that review and update, the CVP and SWP will need to comply with the applicable WQCP both prior to and during implementation of the proposed operations under Alternative 4A/California WaterFix. In addition, the lead agencies, as petitioners for a change in point of diversion with the SWRCB, are participating in the petition hearing process and acknowledge SWRCB's independent authority to address impacts to legal users of water, as affected by water quality impacts, as well as impacts to beneficial uses related to fish and wildlife resources.
1741	18	Chapter/Section: General Comment: The Alternative 4 Decision Tree for Delta outflow includes four operational	Operations under the new Preferred Alternative (Alt 4A/California WaterFix) include the concept of the "decision tree," where the initial operations criteria may be altered consistent with the adaptive management program (as administered by the DWR, Reclamation, USFWS, NMFS, and DFW; and managed

DEIRS Ltr#	Cmt#	Comment	Response
		scenarios. Compared to the No Action Alternative (NAA), these operational scenarios decrease total Delta outflow in the late-long term with some exceptions for critical water-years and for below normal, dry and critical water-years for the H4 high outflow scenario (EIR/EIS Appendix 5A.C.7). The justification for this limited range of Delta outflow scenarios is not clear given that there is significant information supporting the need for more Delta outflow for the protection of aquatic resources and the substantial uncertainty that other Conservation Measures [CMs] will be effective in reducing the need for Delta outflow. For this reason a broader range of Delta outflows should be considered for the preferred project. Regardless of the BDCP proposed project, the State Water Board may establish higher Delta outflow requirements in the future and may allocate responsibility for those flows differently than proposed in the BDCP.	consistent with SWRCB authorities). Regarding outflow requirements, the initial operations criteria for Alternative 4A will include meeting the USFWS (2008) RPA, including Fall X2 requirements for Delta smelt in September, October, and November. In addition to those flow requirements, spring outflow will occur as part of the proposed project to avoid negative affects to longfin smelt. To address scientific uncertainty in the ecosystem, including the biological implications of increasing Delta outflow during various times of the year, a Collaborative Science and Adaptive Management Program will be used to inform implementation of the operational criteria and will be included in the Biological Opinion and 2081b. Operations of the Proposed Project would also be required to comply with other Federal and State regulatory standards, including those of the State Water Board. For more information on additional analyses on higher outflow scenarios, please see Appendix 5E, Supplemental Modeling Requested by the State Water Resources Control Board Related to Increased Delta Outflows, in the Final EIR/EIS.
1741	19	Chapter/Section: General Comment: The geographical scope of the BDCP impacts assessment excludes San Pablo and San Francisco Bays from the analysis. CEQA requires the evaluation of impacts to the affected environment regardless of the scope of the project. The impacts assessment should both evaluate potential impacts downstream of the Delta and propose appropriate monitoring and mitigation to address those impacts. Specifically, the EIR/EIS should evaluate project effects on water quality and the various beneficial uses of water in the Bay area, including effects on anadromous and other fish species.	CEQA requires the lead agency to assess the potential impacts for the proposed action and alternatives on the physical environment, without regard to legal boundaries. The CEQA document's scope for environmental impact analysis was determined through a preliminary estimate of the range of both direct and reasonably foreseeable indirect impacts. The scope of the impact analysis for the RDEIR/SDEIS and the Final EIR/EIS includes analyses of effects of each alternative on San Pablo and San Francisco Bays. For fish, these impacts are found in Ch 11, Impacts AQUA-218 through AQUA-220. For water quality, these impacts are found in Chapter 8, Impact WQ-34.
1741	20	Chapter: 12 Page/Line or Section: 4.14.2 (page 3.4-88, lines 1-14), 4.14.4 (page 3.4-290,lines 19-33) 6.3.3 (pages 3-155 to 3-157) Comment: While the EIR/EIS states that CM1 will not substantially change dissolved oxygen levels in the Delta, CM1 will periodically increase the load of oxidizable material entering the Stockton Deep Water Ship Channel (DWSC) from the upper San Joaquin Basin. The increased load will occur when the project is diverting most of its water from the North Delta while allowing San Joaquin River flows to enter the South Delta through the DWSC. This increased load of organic material may reduce the assimilative capacity of the DWSC and cause a depression of water dissolved oxygen levels that may be greater than the capacity of the existing aeration facility to reoxygenate. The BDCP includes CM14 (Stockton Deep Water Ship Channel Dissolved Oxygen Levels). The purpose of CM14 is to ensure continued funding for and operation of the aeration facility and to improve the facility's effectiveness in meeting the BDCP's biological goals and objectives and Dissolved Oxygen Total Maximum Daily Load objectives. The BDCP will share in funding the long-term operation and maintenance costs associated with operation of the aeration facility. The BDCP recognizes the current limitations of the existing aeration facility to provide sufficient oxygen at all times and places. If oxygen levels fall below the Water Quality Objective after implementation of CM1 potential causes of noncompliance will be evaluated and the means to achieve compliance identified. BDCP states that it will consider funding modifications to the Aeration Facility and/or construction of additional aeration facilities to increase DO levels in the DWSC. The BDCP should explicitly identify whether it will fully mitigate this impact or whether full	The Draft EIR/EIS is not predicting for CM1 (equivalent to facilities associated with the proposed project (Alternative 4A/California WaterFix) that an increased oxidizable load in the San Joaquin River, and thus Deep Water Ship Channel (DWSC), would occur as a result of implementation of CM1. As noted by the commenter, a component of the project is to support and improve the current aeration facility in the DWSC. Because the impacts to dissolved oxygen with implementation of CM1 (and CM14) are considered less than significant, no mitigation is required. It should be noted that the RDEIR/SDEIS (and Final EIR/EIS) made similar conclusions for Alternative 4A.

DEIRS Ltr#	Cmt#	Comment	Response
		mitigation is not feasible and why.	
1741	21	Chapter: EIR/EIS 8 Page or Section: 8.2.1.7 Comment: The EIR/EIS/S does not clearly state that Suisun Marsh wetlands are listed on the 2010 303(d) list as impaired for low Dissolved Oxygen/organic enrichment, mercury, nutrients and salinity. Potential impacts related to dissolved oxygen conditions, nutrient concentrations and mercury levels are not fully considered in the document. Only effects of changes in salinity levels are considered in detail. Please include this information in the document, including appropriate monitoring and mitigation.	This section does acknowledge ongoing TMDL development for methylmercury, dissolved oxygen, and nutrient enrichment. Effects on dissolved oxygen (DO) for the Delta Region, which includes Suisun Marsh, are fully assessed in Impact WQ-9 in Chapter 8, Water Quality, for each alternative. Effects on San Francisco Bay are addressed in Impact WQ-34. Similarly,, methylmercury is addressed Impact WQ-13 and nutrients (ammonia, nitrate, phosphorus) are addressed in Impacts WQ-1, WQ-15, and WQ-23 in the western Delta, which includes Suisun Marsh, are characterized for each alternative. Detailed information regarding salinity changes at specific locations of Suisun Marsh were provided, because the DSM2 model output allowed or quantifying electrical conductivity changes within the marsh. Mitigation has been included for significant impacts identified for salinity.
1741	22	Chapter: EIR/EIS 8 Page or Section: 8-423 & 8-436 Comment: The EIR/EIS concludes that preferred Alternative 4 may cause unavoidable adverse impacts to chloride and electrical conductivity (EC) levels in the Delta and Suisun Marsh which will increase the frequency of violations of DWR's and USBR's water right permit and license conditions to meet water quality objectives included in State Water Board Decision 1641 (D-1641). The EIR/EIS states that these impacts may be detrimental to municipal, agricultural, and fish and wildlife beneficial uses of the water. DWR and USBR must comply with their water right permits and license or pursue a change in those requirements. Changes to permit and license requirements to implement water quality objectives may also require changes to the Bay- Delta Water Quality Control Plan (Bay-Delta Plan). Change to the Bay-Delta Plan will require substantial support to demonstrate reasonable protection of beneficial uses. Changes to water right requirements will require support to indicate that there will not be impacts to other legal users of water or unreasonable effect on fish and wildlife before any such changes will be considered.	Please see the response to comment 1 in this letter for information about the change preferred alternative to Alternative 4A. Alternative 4A would have substantially less effect on Delta water quality such that significant impacts were only identified for electrical conductivity (EC) at Emmaton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based. In addition, the lead agencies, as petitioners for a change in point of diversion with the SWRCB, are participating in the petition hearing process and acknowledge SWRCB's independent authority to address impacts to legal users of water, as affected by water quality impacts, as well as impacts to beneficial uses related to fish and wildlife resources.
1741	23	Chapter: EIR/EIS 8 Page or Section: 8.4.3.9 (pages 475-476) 8.4.3.15 (pages 692-693 Comment: The EIR/EIS indicates that quantitative modeling for CM1 Alternative 4 water operations would have little to no effect on selenium concentrations in water and in fish tissues in Delta channels. In contrast, similar modeling for CM1 Alternative 8 shows that there may be an increase in selenium concentrations in fish in the western Delta. BDCP proposes to validate their bioaccumulation model with site specific monitoring if CM1 Alternative 8 is selected. Selenium cycling in the Delta is complicated and insufficiently well understood to accurately model concentrations in water and in fish under any of the CM1 alternatives. Monitoring and assessment of selenium fish tissue concentrations in the Delta should be conducted after implementation of CM1, regardless of the alternative selected to better understand actual project effects and associated mitigation, adaptive management and regulatory activities by the Water Boards and others.	For the alternatives that did not result in significant or adverse impacts associated with selenium, no additional monitoring programs were developed. It should be noted that as discussed in Section 3B.1.21 of Appendix 3B, Environmental Commitments, a Selenium Monitoring and Management Plan would be developed for tidal wetlands actions.
1741	24	Chapter: EIR/EIS Chapter 8	In the Final EIR/EIS, the assumed selenium source concentrations were updated and the related impact analyses in Chapter 8 were revised.

DEIRS Ltr#	Cmt#	Comment	Response
		Page or Section: 8.2.3.15 Comment: The EIS/EIR defines the existing conditions in the Sacramento River based on mean selenium concentrations at Knights Landing of 0.32 µg/L, which are much higher than the concentrations found downstream at Freeport (mean<0.1 µg/L). Similarly, the existing conditions in San Francisco Bay were assumed to be higher (0.21 to 0.31 µg/L at Mallard Island) than the observed concentrations across multiple sampling events in Suisun Bay (0.08-0.12 µg/L). As a result, it appears that the EIR/EIS overestimates baseline selenium conditions which as a result may under estimate the effects of the alternatives when compared to this overestimated baseline condition. Depending on the hydrological conditions, it actually appears that the preferred alternative may result in increases in water column selenium concentrations by 8 to 20 percent compared to the change estimated in the EIS/EIR of 1 to 2 percent. This issue should be clarified in the EIR/EIS. In addition, as discussed above, regular monitoring of the system should be conducted to better understand actual project effects and associated mitigation, adaptive management and regulatory activities by the Water Boards and others.	
1741	25	Chapter: EIR/EIS Chapters 8 and 31 Page or Section: 8.4.3.9 (pages 445-446), 8.4.3.15 (pages 673-674) Table 31.1 Comment: Table 31.1 of the EIR/EIS lists the projected increase in mercury in fish as a significant and unavoidable adverse impact of restoring wetlands under Alternative 4. Similar conclusions were reached for Alternative 8. The BDCP proposes to mitigate mercury impacts under all alternatives by implementing CM12 (Methyl Mercury Management) which it states will minimize the increased mobilization of methyl mercury at restoration areas. CM12 will employ pre-design characterization, design elements, and best management practices to mitigate methylation of mercury, and will require the monitoring and reporting of observed methyl mercury levels. The BDCP notes that the effectiveness of CM12 will be enhanced by employing best management practices developed by the Phase I Methyl Mercury TMDL Control Studies. CM12 identifies restoration actions in the Yolo Bypass and the Cosumnes-Mokelumne areas of the Delta as having the greatest potential for methyl mercury generation. The inorganic mercury content of sediment is an important factor contributing to methyl mercury production. Some of the highest sediment mercury concentrations are in Cache Creek and downstream in the Yolo Bypass. This is because the Cache Creek watershed exports about half of all the mercury entering the Delta. Half of this load is trapped in the Cache Creek Settling Basin while the rest is exported to the Yolo Bypass. Decreasing this inorganic mercury load will reduce methyl mercury production in restored wetlands in the Yolo Bypass. The Cache Creek Settling Basin is owned and operated by DWR and by the U.S. Army Corp of Engineers. The Methyl Mercury Basin Plan Amendment calls for DWR and others to develop and implement a plan for improving the mercury trapping efficiency of the Cache Creek Settling Basin. CM12 should ensure these improvements are carried out. If fully implemented, the BDCP conservation measures will increase wetland acreage by about fourfold in the Delta, from 20,000 to 80,000-acres. Wetlands have high methyl	As previously described, the BDCP (alternative 4) is no longer the proposed project. The BDCP and other HCP alternatives described in the Draft EIR/EIS remain potentially viable alternatives and are being carried forward in the Final EIR/EIS 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 BDCP proposed actions pursuant to Section 10 of the Endangered Species Act and the state Natural Community Conservation Planning Act. These acts enable development of applicant-specified conservation plans. DWR did not choose to include all of their actions and properties in BDCP. The Cache Creek Settling Basin was among the properties not addressed in BDCP. See Master Response 5 for more information regarding the BDCP and the Preferred Alternative.

DEIRS Ltr#	Cmt#	Comment	Response
		mercury production efficiency and the increased acreage may increase fish tissue concentrations in the Delta by up to 50-percent. The BDCP can do more to minimize projected mercury increases in fish tissue concentrations than what is proposed in CM12. The BDCP should commit to funding improvements in the Cache Creek Settling Basin to reduce loads of inorganic mercury entering the Yolo Bypass. It should also commit to providing funding for the Phase I Basin Plan Amendment mercury control studies so that best management practices will be understood when restoration areas are developed under CM12.	
1741	26	Chapter: EIR/EIS 8 Page or Section: 8.4.3.9 (pages 432-434), 8.4.3.15 (pages 666-667) Comment: Chapter 4 of BDCP states that the annual installation, operation and removal of the temporary South Delta barriers in Middle and Old rivers, Grantline Canal, and at the Head of Old River will continue as part of CM1. However, the temporary barriers program is not evaluated under any of the CM1 alternatives. Implementation of any CM1 alternative will fundamentally change the flow of water in the South Delta, which can change the impacts of the temporary barriers. Old and Middle rivers are on the CWA 303(d)- list for low dissolved oxygen. DWR currently monitors water quality conditions in the South Delta as a requirement under its 401 Water Quality Certification for the South Delta Temporary Barriers Program. If the BDCP will continue to use the temporary barriers under any of the alternatives in CM1, then the use of the barriers should be explicitly evaluated in the various CM1 alternatives. In addition, the BDCP should provide for continued water quality monitoring to understand the effects of the barriers in the context of the BDCP in addition to any appropriate mitigation to address impacts of the barriers in the context of the BDCP, including impacts to dissolved oxygen levels.	As previously described, the BDCP (alternative 4) is no longer the proposed project. The BDCP and other HCP alternatives described in the Draft EIR/EIS remain potentially viable alternatives and are being carried forward in the Final EIR/EIS. See Master Response 5 for more information regarding the BDCP and the new Preferred Alternative, 4A/California Water Fix. There would be no new construction-related effects of temporary South Delta barriers under Alternative 4A. Temporary barriers would continue to be installed as they have over the last several years. The 'operations' of these barriers are included in modeling -- the modeling assumes the 3 agricultural rock barriers. The new head of Old River operable gate would include operations that are different than the current rock barrier and, as such, is explicitly evaluated related to construction impacts in the Draft EIR/EIS, RDEIR/SDEIS, and Final EIR/EIS.
1741	27	Chapter: EIR/EIS 11 Page or Section: 2, Line 16 Comment: The EIR/EIS states: "The methods used to analyze impacts to covered and non-covered fish and aquatic species in Chapter 11 rely on the models and data included in the Effects Analysis. Chapter 11 references specific sections of the Effects Analysis, including Appendix 5.B, Entrainment; Appendix 5.C, Flow, Passage, Salinity, and Turbidity; Appendix 5.D, Contaminants; Appendix 5.E, Habitat Restoration; and Appendix 5.F, Biological Stressors on Covered Fish." In general, the EIR/EIS states that the BDCP is incorporated by reference and there are many statements describing which BDCP models are included such as BDCP Chapter 4, pages 4-8. Given the stated integration of the two documents, why are some model results such as those for IOS and OBAN selectively excluded from the EIR/EIS analysis? Additionally, why are the results of the BDCP net effects analysis not explicitly incorporated into the EIR/EIS?	As part of the development of the BDCP, an effects analysis was prepared to determine potential take issues and associated impacts related to the covered species, consistent with the requirements of Section 10 or the ESA and the NCCPA. The BDCP considered a number of issues and produced an overall synthesis for each species (the net effects) beyond the requirements of CEQA/NEPA. The methods used in the impact analysis for the EIR/EIS are the same as the methods used in the effects analysis for the BDCP. However, with the number of HCP alternatives included in the Draft EIR/EIS, it was not possible to provide the level of detail for each of the alternatives that would be required if the alternative was specifically proposed a Section 10 application or approval under the NCCPA. Where appropriate, the methodology for the BDCP was utilized for analysis of each of the HCP alternatives in the EIR/EIS. Note that, with the adoption of the new preferred alternative (Alternative 4A, California WaterFix), the overall effects are assessed as to whether the proposed action adversely affects each species and its critical habitat.
1741	28	Chapter: EIR/EIS 11 Page or Section: 186, Line 1	The categories are based on a qualitative assessment of various sources as opposed to strict numerical criteria. Chapter 11 of the Final EIR/EIS and the Biological Assessment contains a detailed explanation of the assumptions made related to abundance and fisheries resource agency support of this qualitative

DEIRS Ltr#	Cmt#	Comment	Response
		Comment: Table 11-4. How is abundance defined with respect to the legend provided at the bottom of the table? Delta smelt currently are a low abundance species throughout the Delta. It appears that this is a risk assessment and not a reference to a numerical abundance value. How were the probability of occurrence and the abundance if present both determined and weighed for their relative contribution to risk?	assessment.
1741	29	Chapter: EIR/EIS 11 Page or Section: 186, Line 1 Comment: Table 11-4 appears to have contradictory statements regarding the presence of covered fish at construction sites during the June 1 - October 31 in-water construction period. In the body of the table the white cells have included text that states the species life stage is "Not Present" while the legend at the bottom of the table states that the white cells indicate "unsure if present". Also, the statements in the alternatives text appears to conflict with both statements in the table. For example, on page 11-287, line 7 states that: "Longfin smelt are not expected to be present in the project construction zones during the expected in-water construction window (June1-October 31) (see Table 11- 4)". Please address these issues.	The text of the table, now labeled Table 11-8 in the Final EIR/EIS, has been corrected to "very low abundance or absent". The text of Impact AQUA-19: Effects of Construction of Water Conveyance Facilities on Longfin Smelt has been revised to align with table. The revised text can be found in Final EIR/EIS section 11.3.4.2.
1741	30	Chapter: EIR/EIS 11 Page or Section: 203, Line 26 Comment: Both SacEFT and SALMOD were used for analyzing Impact AQUA-41 but only SacEFT is included in the list of models used in the analysis. Please explain why or provide both sets of results?	SALMOD has been added to this list and was included in the modeling results for the EIR/EIS.
1741	31	Chapter: EIR/EIS 11 Page or Section: 239, Line 38 Comment: Impact Aqua-1. What is the justification for the statement with respect to delta smelt and temporary turbidity generated by construction activities that: "[a}ny exposure would not be adverse because of their preference for turbid condition…"(page 11-239). Why are local areas of artificially generated turbidity considered to be equal in effect to naturally generated turbidity? There are a number of physical and biological processes that are involved that are very different between the two sources of turbidity and it seems very unlikely that the turbidity generated by each of the two sources is equivalent. Turbidity is a measure of light extinction in the water column and not a direct measure of the processes that cause reduced light levels in water. These distinctions are noted on page 11-239, lines 13-16. Additionally, since it is acknowledged that the sediment generated during these activities is likely to release toxic substances, what is the basis for the statement that the temporary increase in turbidity would have no effect? Turbidity is an indirect measure of suspended sediment properties and the suspended sediment is likely to contain toxic substances.	The comment is noted and the text has been revised in the Final EIR/EIS to explain the relevance of turbidity and how that could affect delta smelt and can be found under Impact AQUA-1: Effects of Construction of Water Conveyance Facilities on Delta Smelt in section 11.3.4.2.
1741	32	Chapter: EIR/EIS 11 Page or Section: 1290, Line 36, 1291, Line 24 Comment: Impact Aqua-1. What is the justification for the statement with respect to delta	The comment is noted and the text has been revised in the Final EIR/ EIS to explain the relevance of turbidity and how that could affect delta smelt and can be found under Impact AQUA-1: Effects of Construction of Water Conveyance Facilities on Delta Smelt in section 11.3.4.2.

DEIRS Ltr#	Cmt#	Comment	Response
		smelt and temporary turbidity generated by construction activities that: "delta and longfin smelt have evolved and adapted to life in turbid waters...so increases in turbidity are expected to generally improve habitat conditions for these species"(page 11-239). Why are local areas of artificially generated turbidity considered to be equal in effect to naturally generated turbidity? There are a number of physical and biological processes that are involved that are very different between the two sources of turbidity and it seems very unlikely that the types of turbidity generated by the two sources are equivalent. Turbidity is a measure of light extinction in the water column and not a direct measure of the processes that cause reduced light levels in water. These distinctions are noted on page 11-239, lines 13-16. Impact Aqua 2.See above comments for Aqua 1. Please address this issue.	
1741	33	Chapter: EIR/EIS 11 Page or Section: 1293, Line 7 Comment: Impact Aqua-3. There is some evidence that delta smelt spawn over sandy substrate (EIR/EIS Appendix A, 11A- 9, line 10). Given that significant amounts of sediment will be attracted to the North Delta Diversion (NDD) pumps during high sediment periods after initial pulse flows, that coarser sediment materials such as sand move as bed-load, that the NDD will cause local changes in hydrological energy gradients, that there will be dredging of sediment (upstream, downstream, and midstream) near each NDD pump, it seems reasonable to assume that deposition of sand will occur near the NDDs. This sandy substrate could potentially attract spawning delta smelt and subject larvae to entrainment. Please explain how this potential issue being addressed.	An RDEIR/SDEIS was developed and circulated in 2015, which included 3 new Alternatives including the new preferred alternative, 4A. The evaluation of the effects of Alternative 4A are included in the RDEIR/SDEIS, and was consistent with the Draft EIR/EIS in noting that the NDD entrainment risk is limited because it is outside the main range of delta smelt. Were any additional sand to be deposited near the NDD, as the commenter suggests, based on existing survey data a limited proportion of delta smelt would be expected to be affected, if delta smelt chose to use these particular areas for spawning. This issue was also addressed in the Biological Assessment.
1741	34	Chapter: EIR/EIS 11 Page or Section: 1295, Line 24 Comment: Impact Aqua-4. This impact for Alternative 4 was determined to have a potentially significant impact on delta smelt spawning and egg incubation habitat but concluded that the potential impacts would be offset by habitat restoration because the Habitat Suitability Index "in each subregion of the Plan Area is appreciably greater under the BDCP than under Existing Conditions" (note that this was the NEPA conclusion so the term "existing conditions" is assumed to be a typographical error and No Action Alternative was assumed to be the intended baseline). However, BDCP Appendix 5E, page 5.E-95, line 27 with respect to the Cache Slough subregion states: "It is unclear from this analysis if the overall increase in HUs [(Habitat Unit)] as a result of CM4 compensates for the decline in habitat suitability related to increasing temperatures for spawning delta smelt in Cache Slough." This seems to imply that climate change may render any habitat restoration ineffective so that habitat restoration may not fully mitigate for the negative impacts found under Impacts Aqua-4, especially given that the Cache Slough subregion is one of the two most important restoration areas for delta smelt. This analysis stated that it was conducted in the same manner as that for Impact Aqua-4 for Alternative 1A, however, the analysis under Alternative 1A appear to have been based on a different set of analytical tools and as such its conclusions may not be directly applicable to Alternative 4. Please address this issue.	The analysis included in Chapter 11 and supporting appendices of the Final EIR/EIS is revised from that included in the Draft EIR/EIS and, because of lack of evidence for spawning habitat being limited, focuses on the potential for operations to change water temperature, the main cue for spawning, and for operations of the NDD to limit access to spawning habitat upstream of the NDD. For the HCP alternatives such as Alternatives 1A and 4, the large extent of habitat restoration would offset such loss as occurs because of reduced access (see more detailed description in Alternative 1A); the analysis is consistent across alternatives. Please note that an RDEIR/SDEIS was developed and circulated in 2015, which included 3 new non-HCP Alternatives including the new preferred alternative, 4A. The evaluation of the effects of Alternative 4A are included in the RDEIR/SDEIS and Final EIR/EIS. Alternative 4A does not include large-scale restoration. Restoration proposed would be designed to mitigate for lost habitat values, including spawning habitat upstream of the NDD. This issue was also addressed in the Biological Assessment.
1741	35	Chapter: EIR/EIS 11	Monthly average salinity values reflect the constraints of the modeling available for analysis, although this is not atypical for such assessments. For example, abiotic habitat indices including salinity have been

DEIRS Ltr#	Cmt#	Comment	Response
		Page or Section: 1295, Line 25 Comment: The results of BDCP Appendix 5E are cited to support the Habitat Suitability Index (HSI) and Habitat Unit (HU) approaches used in the EIR/EIS assessment. The methods described in BDCP Appendix 5E state that three physical parameters were included in the HSI but that turbidity could not be modeled and was held constant between scenarios and water-year type (page 5.E-72, line 10). Holding turbidity constant across the comparisons effectively eliminated it from the model as indicated in Figures 5.E.4-40 through 5.E.4-40. The same paragraph states that there were very small differences in temperature and concludes that the driving variable was salinity. Given that the subregions can be divided into brackish or fresh water habitat and the fresh water habitat never becomes brackish, the HSI analysis reduces to the effects of operations on salinity in the brackish region. On page 5.E-38, line 39 the methods state that monthly salinity was used for DCM2 stations within each subregion. Please explain how are average monthly salinity results relevant to evaluating the quality of habitat for delta smelt? How are these results useful for rating habitat quality within a freshwater subregion such as Cache Slough where there is a resident population of delta smelt?	considered at 4-month-average intervals (Feyrer et al. 2011), reflecting the need to provide a broader assessment. Please note that an RDEIR/SDEIS was developed and circulated in 2015, which included 3 new Alternatives including the new preferred alternative, 4A. The evaluation of the effects of Alternative 4A are included in the RDEIR/SDEIS and Final EIR/EIS. 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.
1741	36	Chapter: EIR/EIS 11 Page or Section: 1295, Line 38 Comment: Impact Aqua-5: The discussion states that the abiotic habitat methods are detailed in BDCP Appendix 5C.5.4.5.1. However, that section provides only results and not detailed methods and refers the reader to Feyrer and coauthors (2011) for method details. In referring to that paper it is not clear which of their detailed methods were actually used in the effects analysis and in the EIR/EIS. Please clarify.	The methods are described in detail in the public draft BDCP Appendix 5.C, section 5C.4.5.2.In addition, the methods are described in detail in the Biological Assessment, Appendix 6A, Quantitative Methods for Biological Assessment of Delta Smelt, Section 6.A.4.1, Abiotic Habitat Suitability (Feyrer et al. 2011).
1741	37	Chapter: EIR/EIS 11 Page or Section: 1298, Line 15 Comment: Why are differences reported in hectares instead of acres? The remainder of both the BDCP and the EIR/EIS reports area in acres.	The paper upon which the analysis was based used an index of habitat area (hectares) weighted by habitat suitability. However, it is important to note that the values reported are an index and, strictly speaking, should not have any units associated with them; however, this does not affect the relative comparison between scenarios.
1741	38	Chapter: EIR/EIS 11 Page or Section: 1301, Line 5 Comment: Impact Aqua-19. What is the justification for the statement with respect to longfin smelt and temporary turbidity generated by construction activities that longfin smelt: "are unlikely to be adversely affected by temporary increases in turbidity"(page 11-287). Why are local areas of artificially generated turbidity considered to be equal in effect to naturally generated turbidity? There are a number of physical and biological processes that are involved that are very different between the two sources of turbidity and it seems very unlikely that the types of turbidity generated by the two sources are equivalent. Turbidity is a measure of light extinction in the water column and not a direct measure of the processes that cause reduced light levels in water. These distinctions are noted in the delta smelt Impact Aqua 1 discussion on page 11-239, lines 13-16 which is specifically referenced in longfin smelt Impacts Aqua 19.	Justification for the statement is provided in the earlier portion of the sentence, i.e., longfin smelt are pelagic fish that inhabit naturally turbid water and use turbid water as a way of hiding from predaceous fish (Moyle 2002), and are unlikely to be adversely affected by temporary increases in turbidity. As noted earlier in the discussion of Impact AQUA-19, longfin smelt are in any case not expected to be present in construction zones during construction.

DEIRS Ltr#	Cmt#	Comment	Response
1741	39	Chapter: EIR/EIS 11 Page or Section: 1315, Line 15 Comment: Impact Aqua-40. Summary. The EIR/EIS states that the effects of Alternative 4 on spawning and egg incubation habitat for winter-run Chinook salmon are uncertain. What criteria will be used by the BDCP to select one model result over the alternative results?	The comment is noted and Final EIR/EIS has been revised to better describe the process for evaluating various model results for the same parameter. In addition, no determinations remain "uncertain" in the Final EIR/EIS
1741	40	Chapter: EIR/EIS 11 Page or Section: 1315, Line 21 Comment: Impact Aqua-40. Flow. The brief summary of the effect of Alt 4 H3 vs the No Action Alternative on Sacramento River flow at Keswick Dam for winter-run Chinook Evolutionarily Significant Unit spawning and egg incubation habitat concludes that scenario H3 generally provides a benefit by increasing flows in May and June and results in no effects in later months. However, the results cited as supporting the summary statement (EIR/EIS Appendix 11C.4.1.1, Table 2, pages 220-222) indicate complex water-year dependent results for July through September that include no difference, a substantial number of decreases, and two increases. Please clarify.	The conclusory language in the EIR/EIS provides a generalization of the results with a reference to the table also in the EIR/EIS such that a reader can observe the results themselves.
1741	41	Chapter: EIR/EIS 11 Page or Section: 1316, Line 9, 1317 Line 9 Comment: Impact Aqua-40. Exceedence days. The methods for calculating the exceedence frequency are not clear. Additionally, it appears that the mathematical operations in Table 11-4-15 may be incorrect. For example, if we assume a hypothetical example with a score for the NAA of 41 days out of 150 and a score for scenario H3 of 38 days out of 100 then the "divide-by-zero" rule cannot be violated as you do not subtract 41-38 to get - 3 and 150-150 to get 0 and then divide -3 by 0. Please clarify. Impact Aqua-40. It appears that the results of Table 11- 4-16 contradict those of Table 11-4-15 when they are compared using all of the water-years for a particular month. Please clarify.	For the first comment, please see the methods description in Ch 11, Page 1316, Lines 9-14 of the 2013 DEIR/S. The results in Table 11-4-15 were derived by first classifying each water year into one of the three levels of concern according to the rules in Table 11-4-14. All 82 years scored "red" for both the NAA and H3. Therefore, there were 0 years that were scored as "orange", "yellow" and "none" levels of concern for both the NAA and PA. The calculation (0-0)/0 yielded the "divide-by-zero" rule violation. For the second comment, the results in Table 11-4-16 are numerically different from those in Table 11-4-15 because a different method was used. The use of multiple methods allowed us to fully analyze potential effects from various angles. Ultimately, the NEPA/CEQA findings were based on a weight of evidence approach using the results of all of these various methods.
1741	42	Chapter: EIR/EIS 11 Page or Section: 1318, Line 5 Comment: Impact Aqua-40. Reclamation Egg Mortality Model. The methods and reporting values should be clarified in this section of the EIR/EIS and BDCP Appendix 5C.4. It is not clear if Table 11-4-17 is reporting daily mortality rates or annual mortality rates. It is also not clear how the daily time step data were used. Also, the statement that when the data are interpreted on an absolute scale that the increase in mortality would be negligible may not be true not based on a complete life cycle analysis. . A very small change in the rate of mortality could lead to a very large increase in the number of eggs killed.	As indicated in Section 11.0.1.2, for descriptions of the models and analytical tools used in the DEIR/S analysis of aquatic resources, readers are directed to the attached 2013 Public Draft Chapter 5, Effects Analysis and associated appendices, which provides a link to the Reclamation Egg Mortality Model description from the 2008 OCAP BA. Regarding the interpretation of the very small differences on an absolute scale, the text has been modified to reflect the comment.
1741	43	Chapter: EIR/EIS 11 Page or Section: 1319, Line 23, 1321, Line 5 Comment: Impact Aqua-40. SacEFT. The methods described for the SacEFT model are not	For the first comment, as indicated in Section 11.0.1.2 of the Final EIR/EIS, readers are directed to the attached 2013 BDCP Chapter 5, Effects Analysis, and associated appendices for descriptions of the models and analytical tools used in the Draft EIR/EIS analysis of aquatic resources. In the 2013 Public Draft document, please refer to Attachment 5C.B, Sacramento River Ecological Flows Tool (SacEFT): Record of

DEIRS Ltr#	Cmt#	Comment	Response
		clearly described making the results difficult to evaluate. Impact Aqua-40. Scenario H1 vs. Scenario H3 and not No Action Alternative comparison. Generally, in the text of this section the results for Alternative 4 Scenario H1 were compared against Alternative 4 Scenario H3 instead of the NAA while the figures supporting the analysis provided the comparison with the NAA. While the text states that the effects of Scenario H1 were generally similar to those for Scenario H3 for May-September, Appendix 11C4.1.1 Table 2, page 222, indicates that Scenario H1 will have large flow effects in September of Wet and Above Normal water-years. Please clarify. Impact Aqua-40. H3 vs. H4 and not NAA comparison. Generally, the text of this section compares the results for Alternative 4 Scenario H4 against Alternative 4 Scenario H3 instead of the NAA while the figures supporting the analysis provide the comparison with the NAA. Please address.	Design (v.2.00), for details on SacEFT. For the second and third comments, the text of Impact AQUA-40 has been modified to reflect the comment.
1741	44	Chapter: EIR/EIS 11 Page or Section: 1322, Line 15 Comment: Impact Aqua-40. This analysis is based on the results of seven different model results: 1) Sacramento River flows; 2) Shasta Reservoir storage; 3) mean monthly water temperature; 4) days per month temperature exceedences; 5) total degree days; Reclamation Egg Mortality Model, and: 7) SacEFT. For Alternative 4 the CEQA conclusion is that the impacts are Less Than Significant while the NEPA effect is Not Determined. The basis for the Less Than Significant CEQA determination is not clear given that there was little correlation between the more general model results (Sacramento River flow, Shasta Reservoir storage, mean monthly water temperature) and the more specific model results. Additionally, it is not clear how the complex pattern of negative and beneficial effects under the more specific models assessed arrived at a Less Than Significant determination.	The methodology for combining the range of results has been updated and clarified in Section 11.3.2, Methods for Analysis, in the Final EIR/EIS.
1741	45	Chapter: EIR/EIS 11 Page or Section: 1326, Line 1 Comment: Impact Aqua-41. H3 Scenario. It appears that the analysis should have used a symmetrical period around the peak juvenile rearing period of August through January or explained why it chose an asymmetrical period of August through December (BDCP Appendix 5C.A, SacEFT attachment following table of references, Figure I.2, page 7). Additionally, this analysis of Scenario H3 does not clearly state which Sacramento River flow stations it is discussing ("upstream of Red Bluff") while the analysis of Scenario H1 appears to state that it is discussing the stations at Keswick and the Red Bluff Diversion Dam. Please address.	Not all months of the period of presence of a particular life stage and species match up perfectly between models used. Due to the high temporal variability in Central Valley hydrology and variability among individuals within a species and life stage, the periods of presence vary by location within a river and year such that an absolute correct period can never be accurately achieved (e.g., there are always exceptions). The goal was to choose months when the majority of individuals of a particular life stage would be present. A difference of one month between models was not seen as a substantial deviation in light of the aforementioned variability. The Sacramento River output locations have been added to the text of H3 to reflect the comment.
1741	46	Chapter: EIR/EIS 11 Page or Section: 1326, Line 5 Comment: Impact Aqua-41. Flows. The analysis found that flows were up to 18 percent less than the No Action Alternative but concluded that the duration and magnitude of the reduction was not biologically significant without providing support for that determination. Please describe the standards used for this conclusion.	The methodology for determining significance has been updated and clarified in Section 11.3.2, Methods for Analysis, in the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1741	47	Chapter: EIR/EIS 11 Page or Section: 1326, Line 15 Comment: Impact Aqua-41. SacEFT Juvenile Weighted Usable Area for rearing. It is unclear from the descriptions of the methods exactly what the index represents (see SacEFT pages 59-60). Also, it is unclear what the basis is for the SacEFT determinations. Finally, the model was run with daily flow and temperature data from the SRWQM instead of the standard monthly time step. Using daily mortality data summed over a year as a quantitative result may violate the monthly time step rule stated in EIR/EIS Appendix 5A.4.6, page A31. Please address these issues.	The 2013 BDCP, Attachment 5C.B, Sacramento River Ecological Flows Tool (SacEFT): Record of Design (v.2.00) provides the description, including formulae, of how weighted usable area was calculated and references Gard's studies for determining this in the field. The basis for categorizing results as red (for poor), yellow (for worrisome), and green (for good) are provided on p. 60. Regarding the use of daily vs. monthly time steps, the developers of SacEFT and the lead agencies are aware of the time step issues and the proper use of the model results is an ongoing topic of discussion in this and other CALSIM applications. For the purposes of the EIR/EIS, the lead agencies chose to use SacEFT and describe results as stated on p. 5A-A31, given the potential issues that may arise from this temporal downscaling to a daily time step.
1741	48	Chapter: EIR/EIS 11 Page or Section: 1326, Line 17 Comment: Impact Aqua-41. SacEFT Juvenile Stranding Index. This index reflects the average proportion of habitat available on a particular day and is not a measure of the proportion of juveniles lost nor does it take into account the loss of total habitat area that would have occurred under ideal conditions (SacEFT pages 69-70). Please address.	The lead agencies are aware of the definition of this index, as described in 2013 BDCP, Attachment 5C.B, Sacramento River Ecological Flows Tool (SacEFT): Record of Design (v.2.00), and treat it as such in the document. Results used are in the form of percent of years with a good (low) juvenile stranding risk.
1741	49	Chapter: EIR/EIS 11 Page or Section: 1326, Line 22 Comment: Impact Aqua-41. There are no SALMOD data provided to evaluate the SALMOD results for winter-run Chinook smolt equivalent habitat-related mortality. Please provide such results. Also, both SALMOD and SacEFT use the same flow data downscaled from CALSIM monthly data to daily data as well as the same water temperature data from the SRWQM. The two models represent biological and physical processes differently so they should by design produce different results. What criteria will be used to select one model result over that of another model?	SALMOD summary data are provided in the text only and no table of results is provided. Both SALMOD and SacEFT were used in drawing conclusions along with other metrics using a weight of evidence approach. The logic for drawing conclusions based on these analytical tools is described in Section 11.3.2, Methods for Analysis, in the Final EIR/EIS.
1741	50	Chapter: EIR/EIS 11 Page or Section: 2506, Line 3 Comment: In the NEPA and CEQA analyses, conclusions for Alternatives 4 and 8 appear to be treated differently with respect to a finding of significant effects of operations on spawning and egg incubation habitat. The Alternatives should be treated the same with respect to impacts assessments and potential adaptive management and mitigation. If adaptive management or other mitigation could be employed to avoid or reduce an impact, it should be proposed. Further, uncertainty should be treated consistently with the alternatives. For this analysis it appears that for CEQA purposes uncertainty for Alternative 4 yielded a less than significant impact and yielded a significant impact for Alternative 8. It appears that Alternative 8 impacts to spawning and egg incubation could be mitigated but that that mitigation would result in additional water supply impacts. This mitigation should have been proposed given the statement made under real-time operations in Chapter 3.4.1.4.5, page 3.4-27, line 36 that "operational decisions will take into account upstream operational constraints, such as coldwater pool management, instream flow, and temperature requirements."	For the Final EIR/EIS, the lead agencies have reviewed and revised all conclusions in Chapter 11 to ensure consistency among alternatives. Assuming the commenter is discussing Impact AQUA-41, the NEPA and CEQA conclusions for Alt 4 in the final EIR/S are not adverse and less than significant, respectively. The NEPA and CEQA conclusions for Alt 8 are adverse and significant, respectively. If the CEQA conclusion appears to be significant based on the analysis, it looks to the NEPA conclusion to determine whether it was an effect of the alternative or an effect of climate change. Because the NEPA conclusion for Alt 4 is not adverse, the CEQA conclusion is less than significant. Because the NEPA conclusion for Alt 8 is adverse, the CEQA conclusion is significant and unavoidable because there is no feasible mitigation available and mitigation measures are still provided.

DEIRS Ltr#	Cmt#	Comment	Response
1741	51	Chapter: EIR/EIS Appendix 5A Page or Section: A22 Comment: The example shown of daily variations in north of Delta diversions (NDD) and bypass flows is for a wet year with very high flows. It would be illustrative to show similar charts for other year-types, particularly dry and critical years.	Figures C-11-1 through C-11-6 in Appendix 5, Section C, Modeling Results, present the monthly results for long-term conditions and for each water year types (wet through critical dry).
1741	52	Chapter: EIR/EIS Appendix 5A Page or Section: A23 Comment: The Appendix states that: "The CALSIM II simulations do not consider future climate change adaptation which may manage the SWP and CVP system in a different manner than today to reduce climate impacts. For example, future changes in reservoir flood control reservation to better accommodate a seasonally changing hydrograph may be considered under future programs, but are not considered under the BDCP. Thus, the CALSIM II BDCP results represent the risks to operations, water users, and the environment in the absence of dynamic adaptation for climate change." Because the CALSIM simulations do not consider operational adaptation to climate change, they may overstate or understate the impacts and benefits associated with the alternatives and may make it difficult to differentiate between uncertain climate change effects and the effects of the alternatives. It also makes it difficult to determine to what extent potential impacts may be mitigated. The uncertainty associated with this issue should be clearly addressed in each impact assessment for which this issue may apply.	As described in Chapter 5, Water Supply, the EIR/EIS analyses assume continued implementation of reservoir operations criteria due to climate change or other reasons, in accordance with the requirements under the CEQA definition of Existing Conditions and under the NEPA definition of the No Action Alternative. It would be speculative to consider future changes to reservoir operations in the No Action Alternative and Cumulative Impact Analysis. Such changes are not included in the action alternatives because they would not support the Project Objectives or Purpose and Need statement. Changes in reservoir operations criteria would only occur following detailed analyses, including project-specific CEQA and NEPA analyses, if appropriate. Following adoption of changes to reservoir operations criteria, DWR and Reclamation would need to determine if changes in the SWP and CVP would be necessary.
1741	53	Chapter: EIR/EIS Appendix 5A Page or Section: A28 Comment: The appendix states that: "Reservoir inflow temperatures were derived from the available record of observed data and averaged by month. The mean monthly inflow temperatures are then repeated for each study year." This assumption may lead to overestimating the amount of coldwater pool in warm or dry years.	As described in the paragraph in Appendix 5A, Section A, referenced in this comment, the changes associated with climate change were developed by changing the inflow temperatures using projected meteorological conditions that reflect climate change scenario used in the analysis. This is consistent with the presentation in the Final EIR/EIS.
1741	54	Chapter: EIR/EIS Appendix 5A Page or Section: A46 Comment: The North Delta Diversions are modelled in 15 minute increments, and are set to only divert when downstream velocity is > 0.4 ft/sec. The graph on page 5A-A48 shows the NDD pumps being turned on and off on an hourly basis to meet this target. However, most pumps are not physically capable of that type of operations.	Numerous pumps, especially those with low-head and high-volume, are designed to cycle on-off in short periods of time. Also, because of the size of the intakes, different pumps would be programmed to start sequentially. Therefore, the same pump would not be the “initial pump” during the cycling of pumping periods.
1741	55	Chapter: EIR/EIS Appendix 5A Page or Section: B6, Line 22 Comment: The following statement is made beginning on Line 22: "SWP Banks pumping plant has an installed capacity of about 10,668 cfs (two units of 375 cfs, five units of 1,130 cfs, and four units of 1,067 cfs). The SWP water rights for diversions	It is acknowledged that the approval from the U.S. Army Corps of Engineers and the State Water Resources Control Board permit would need to be modified prior to implementation of the preferred alternative. It is assumed that the BDCP Draft EIR/EIS, RDEIR/SDEIS, and Final EIR/EIS will be used by these agencies to inform their response to the permit applications prepared by DWR, as described in Chapter 1, Introduction, of the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		specify a maximum of 10,350 cfs, but the U. S. Army Corps' of Engineers (ACOE) permit for SWP Banks Pumping Plant allows a maximum pumping of 6,680 cfs. With additional diversions depending on Vernalis flows the total diversion can go up to 8,500 cfs during December 15th -- March 15th. Additional capacity of 500 cfs (pumping limit up to 7,180 cfs) is allowed to reduce impact of NMFS BO Action 4.2.1 on SWP." The SWP water right permits for diversions at Banks authorize DWR to divert or redivert up to 10,350 cfs. From January 8, 1995, to February 6, 1995, diversions at the Banks pumping plant totaled 468,542 acre-feet at an average rate of 7,874 cfs, the largest amount taken during any 30-day period since the project was constructed. The permits have an expired "complete- use" date of December 31, 2009. As stated in our previous comments on the Second Administrative Draft EIR/EIS, DWR must file petitions to extend the "complete-use" date in its permits and the State Water Board must approve those petitions before additional use is authorized above the maximum amounts previously used. . DWR filed time extension petitions in 2009 to extend the permits to 2015. The petitions were publicly noticed and timely protested, but there has been no activity since the protests were received, including completion of necessary CEQA documentation to support the proposed change. This issue should be acknowledged in the EIR/EIS.	
1741	56	Chapter: EIR/EIS Appendix 5A Page: B39, Line 34 Comment: The EIR/EIS states that "Stored water releases to meet the enhanced spring outflow requirement occurs only from Oroville, minimizing storage impacts to other reservoirs like Shasta and Folsom." It seems highly unlikely that all additional spring outflows would come from Oroville. This assumption should be discussed.	As described in Final EIR/EIS Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions, the increased Delta outflow first is met by reducing exports to “public health and safety” level assumptions (1,500 cfs); and then releasing water from Lake Oroville outside of the Coordinated Operations Agreement. This action results in reduced SWP water contract deliveries.
1741	57	Chapter: EIR/EIS Appendix 5A Page or Section: B40, Line 7 Comment: Regarding the D-1641 export-inflow ratio the appendix states: "In the Alternative 4 scenarios H1 and H3, however, this requirement is applied to the south Delta exports only, and the North Delta Diversion is not included in the Delta inflow or the Delta exports computation used to determine this requirement. Conversely, in the Alternative 4 scenarios H2 and H4, this requirement is applied to the total Delta exports by including the north Delta diversion in the Delta inflow and the Delta exports computation used to determine this requirement." This is inconsistent and makes the alternatives difficult to compare. To address this, a technical memorandum was prepared and included on page 5A-D149. The analysis re-ran scenarios H1 and H3 including the NDD in the E/I ratio and compared the results to the original model runs. Unfortunately, only a very small subset of the results were presented. The text states "the results from the sensitivity run for A4_ESO_ELT with E/I ratio approach recommended by NMFS showed that on a long-term average, there are minor changes in the flow and storage operations compared to the A4_ESO_ELT results included in the current effects analysis." However, the long-term average does not capture dry year effects or effects during specific months that may impact sensitive species. Without showing the full results of the study the analysis cannot be fully verified.	The Export/Inflow ratio requirements used in most of the alternatives in the EIR/EIS were defined as in the State Water Resources Control Board Decision 1641 (developed without the concept of the north Delta intakes) with the Exports defined at the south Delta intakes, and the inflows defined at a location downstream of the proposed north Delta intakes. Alternative 4H4 modified the Export/Inflow definition to include the north Delta and south Delta intakes in the Export value, and moved the Inflow location upstream of the north Delta intakes. The likely operational changes from the different computation approaches of the Export/Inflow ratio are presented through a sensitivity analysis in the Appendix 5A Section D.10.1 of the EIR/EIS. The sensitivity analysis results included more than the long-term average values presented in Appendix 5A Section D.10.1.

DEIRS Ltr#	Cmt#	Comment	Response
1741	58	Chapter: EIR/EIS Appendix 5A Page or Section: B97 Comment: It is unclear what averaging period is proposed for the bypass flows on the Sacramento River. Will diversions be based on the monthly average flow, daily average flow, instantaneous flow, or some other metric? Without knowing what averaging period will be used it is not possible to assess the protectiveness of the proposed bypass flows. Flows at Freeport reverse occasionally at ebb tide under current conditions. If proposed tunnel diversions are based on an average flow rather than instantaneous flow, reverse flows at Freeport would likely become more common and more extreme in the period from July to November. Additionally, flows at Freeport upstream of the intakes are projected to decrease during that time period, as compared to existing conditions, which will exacerbate any potential reverse flow issue (Appendix 5A, page C-738). This issue should be addressed in the EIR/EIS and potential impacts mitigated.	Potential effects due to changes in flows in the Sacramento River at Freeport were assessed in several resource chapters in the EIR/EIS. The modeling of the north Delta diversions assumed application of bypass flow criteria on a daily-averaged basis, and operation of the individual intakes on a 15-min instantaneous basis. As noted in the Appendix 5A of the BDCP EIR/EIS, the north Delta diversions will be subjected to a sweeping velocity requirement. In the modeling, a 0.4 feet/second (fps) sweeping velocity requirement was assumed, and when the cross-sectional averaged instantaneous velocity downstream of each north Delta diversion intake falls below 0.4 fps, the diversion at the intake was not allowed. These operating rules would allow to minimize any increases in the reverse flows at Freeport due to the operation of the north Delta diversion intakes.
1741	59	Chapter: EIR/EIS Appendix 5A Page or Section: 5A.C.1285 Comment: It is not clear if this graph is actually displaying salinity at Emmaton or if it is displaying salinity at Threemile Slough. Regardless, based on the model results, the chances of exceeding the D-1641 salinity standards at Emmaton increase dramatically. The chance of exceeding the 0.45 mmhos/cm standard in April increases from approximately 5 percent under existing conditions to approximately 35 percent under Alternative 4, with other months showing similar changes.	The model results presented on page 1285 of Appendix 5A, Section C of the 2013 Draft EIR/EIS represent projected conditions on the Sacramento River at Emmaton. This is consistent with the analysis of HCP alternatives presented in the Final EIR/EIS. Note that the assumptions for the modified preferred alternative, 4A/California WaterFIx, included modifications of the location of the salinity compliance location in the north Delta; and therefore, the salinity conditions have been modified as compared to results presented in the 2013 Draft EIR/EIS (please see Appendix 5A, Section C, and Chapter 8 of the Final EIR/EIS).
1741	60	Chapter: EIR/EIS Appendix 8M Page or Section: Section 3.1 Comment: Appendix 8M section 3.1 states that discharges from point sources in North San Francisco Bay (i.e., refineries) that contribute selenium to Suisun Bay and the western Delta are expected to be reduced through a Total Maximum Daily Load under development by the San Francisco Bay Regional Water Quality Control Board that is expected to result in decreasing discharges of selenium. The EIR/EIS should not presume the outcome of a TMDL that has not been completed or adopted by the San Francisco Bay Regional Water Quality Control Board. Potential increases in upstream discharges of selenium associated with alternatives proposed in the EIR/EIS should be addressed by the project independent of the outcome of the TMDL currently under development. Increases in upstream discharge of selenium are a concern for downstream water quality.	Please refer to Master Response 14 for information about selenium analysis and the North San Francisco Bay selenium TMDL.
1741	61	Chapter: Implementing Agreement Page or Section: 1.0, Page 1 Comment: The Draft Implementing Agreement makes the following statement: "The United States Bureau of Reclamation (Reclamation) of the United States Department of the Interior is not a Party to this Agreement. References to Reclamation's roles and	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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
		responsibilities in this Agreement reflect those as set forth in the BDCP. There are no obligations on behalf of Reclamation established in this Agreement." It is not clear from reading the BDCP and EIR/EIS what, if any, role U.S. Bureau of Reclamation (USBR) will have in the BDCP process. This should be clarified. The EIR/EIS should clearly describe the various approvals both DWR and USBR will need for the BDCP from the Water Boards and disclose any impacts and appropriate mitigation measures.	
1741	62	Chapter: Implementing Agreement Page or Section: 10.2.1.1, Page 25 Comment: The review process referred to in Section 15.8 refers to BDCP Chapter 7, Table 7-1 to determine which agency has final decision making authority. Table 7-1 doesn't specifically address the Decision Tree process which does not change a conservation measure but instead results in the selection of one of the alternatives provided by the conservation measure. The document should state which agency has final decision making authority with respect to the Decision Tree process.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	63	Chapter: Implementing Agreement Page or Section: 10.2.1.2, Page 26, 10.2.2.2.2, Page 28, 10.3 and 10.4 Comment: The data and other information devolved through the Decision Tree adaptive management, and real time operations processes should be made readily available to the public to facilitate independent analysis and evaluation. Raw data should be included, and documentation of QA/QC processes should be clear and complete. Methods of analysis should be documented clearly so that analyses are reproducible. We recommend coordination with the California Water Quality Monitoring Council and Delta Science Program to ensure that data sharing is consistent with emerging community standards. Step 3, part (iii) of the Decision Tree process provides that the Implementing Office will administer the process of interpreting the scientific results of the process and identifying a course of action with respect to the alternatives. The document should state what standards or risk assessment processes will be used to interpret the results and formulate the decision.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	64	Chapter: Implementation Agreement (IA) Page or Section: 9.5, Page 22 Comment: The document should define the terms "future plan or project." Also, the term 'Permittee' is defined in IA 3.46 and conflicts with the usage here.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	65	Chapter: Implementing Agreement Page or Section: 10.2.1, Page 24 Comment: The Implementing Agreement includes a discussion of Real-Time Operations, the Decision Tree Process and Adaptive Management. This discussion does not mention of the State Water Board's continuing authority over the State Water Project and Central Valley Project water right permits as well as the ongoing periodic review process to update the Bay-Delta Water Quality Control Plan that may result in additional requirements set outside	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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
		of the BDCP processes described here. A statement to this effect should be included in the document.	
1741	66	Chapter: Implementing Agreement Page or Section: 10.2.2.1, Page 27 Comment: The third bulleted item states that real-time operations will be used to "maximize conservation benefits to covered fish species and maximize water supplies." In contrast, BDCP Chapter 3.4.1.4.5, page 3.4-26, line 16 states that real-time operations will maximize water supply for SWP and CVP … subject to providing the necessary protections for covered species." The two documents should be edited to harmonize the potentially conflicting goals.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	67	Chapter: Implementing Agreement Page or Section: 10.2.2.2.3, Page 28 Comment: The IA states that "[a]bsent concurrence of the relevant agency directors, the disputed real-time operational adjustment will not be made." The agency directors in the IA include the director of CDFW, the regional directors of the relevant federal fish and wildlife agencies, the director of DWR, and the regional director of USBR. In contrast, BDCP Chapter 3.4.1.4.5, page 3.4-27, line 28 states that "the decision will be made by the Regional Director of the relevant fish agency(s), given that the Directory of the project agency concurs that the change is within their authority." This is also stated in Table 7-1. Both documents should be consistent.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	68	Chapter: Implementing Agreement Page or Section: 10.2.2.2.3, Page 28 Comment: The document should state how technical and jurisdictional issues will be resolved given that a real- time operational adjustment will not be made where there is no concurrence of the relevant agency directors. The document should clearly define the term "specific parameter." The term parameter is used in many different ways in BDCP 3.4.1.4.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	69	Chapter: Implementing Agreement Page or Section: 10.3.4; 10.3.5.1.2, Page 34 Comment: The document should clearly define the term "process" as it is used in multiple ways in the Implementation Agreement and its use with respect to the Adaptive Management Programs needs to be explicitly stated where the term occurs to eliminate ambiguity. For example, "AMP decision making process." The document should clearly define what the term "adaptive resources" means.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	70	Chapter: Implementing Agreement Page or Section: 10.3.7.1, Page 36	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. For detailed responses on the primary issues being raised with regard to the IA, as

DEIRS Ltr#	Cmt#	Comment	Response
		Comment: The document should be corrected. The parties' commitments to funding the Supplemental Adaptive Management Fund are not specified in Chapter 8.	well as a discussion of the current status of the IA, please see Master Response 5.
1741	71	Chapter: Implementing Agreement Page or Section: 10.3.7.2, Page 37 Comment: The document should describe the resources to be shared and the process for sharing the resources that are included in the second bulleted item.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	72	Chapter: Implementing Agreement Page or Section: 11.4.2.1, Page 43 Comment: The Adaptive Management Team should be involved in the process of evaluating the effectiveness of the Reserve Management Plan and revising the plan as necessary.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	73	Chapter: Implementing Agreement Page or Section: 13.1.1, Page 46 Comment: The document should clearly state the Authorized Entities' share of the cost of the Supplemental Adaptive Management Fund and the Supplemental Resources Fund as those values are not stated in the BDCP.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	74	Chapter: Implementing Agreement Page or Section: 15.2.4.4 Comment: The document should be edited to harmonize this section with section 10.2.1.1, BDCP Chapter 3.6.3.5.1, and BDCP Chapter 7 as there are many conflicts between roles and appeals processes. The implementation of water operations in CMs is treated differently than the non-water operation sections of CMs in Chapter 7. The Decision Tree process has different rules. Finally, non-water operation sections of CMs prior to the end of the Decision Tree process are inadequately described. The document needs to be edited to clearly describe those sections.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	75	Chapter: Implementing Agreement Page or Section: 16.3.2 Comment: The document should clearly state how operations prior to the time that the North Delta Diversions become operational will be reported.	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	76	Chapter: Implementing Agreement Page or Section: 22.0, Page 80 Comment: The document should define the term "non-participating".	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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	77	Chapter: 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). Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative

DEIRS Ltr#	Cmt#	Comment	Response
		Page or Section: 22.6, Page 84 Comment: The last sentence of this section assumes that the Permittees will invoke the review process provided in section 15.8 but does not address the situation in which the Permittees do not invoke the review process. This sentence in the document should be modified to address this potential circumstance.	4A/California WaterFix. 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.
1741	78	Chapter: BDCP Chapter 5 Page or Section: General Comment: The BDCP effects analysis process(which presumably carries over to the similar qualitative judgments in the EIR/EIS) appears to potentially misinterpret the coding of ranked data with numbers instead of letters as converting qualitative data to quantitative data (page 5.5-1, line 20). This issue appears to be further compounded by performing mathematical operations on the numerical codes for the ranked data as if the coded scores were quantitative ratio scale data. Please address.	It is unclear why coding of ranked data with numbers instead of letters is "incorrect", as the commenter suggests. The commenter makes no suggestion in this comment about how to address the issue in a way they would find acceptable. The approach that was adopted was an attempt to provide a transparent, repeatable way of combining qualitative ranked data. Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	79	Chapter: BDCP 5 Page or Section: 5.5.3-33, Line 19 Comment: In contrast to the BDCP Effects conclusion that there is generally limited change in physical attributes in upstream areas except for the Feather River (see Figure 5.5.3-4, page 5.5.3-43), the EIR/EIS found that the effect could not be determined (EIR/EIS ES-73, AQUA-43). Which is correct?	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. All impacts to fish for all alternatives have determinations in the Final EIR/EIS. 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.
1741	80	Chapter: BDCP Chapter 6 Page or Section: 6.4.2.2.4 Comment: Neither this section nor the modeling sections referred to in this section clearly describe how a drought is defined for purposes of defining changed and unforeseen circumstances. While the frequency and inflow standards (75% of median) are clear it is not clear how the median is calculated using the models. It appears that a drought may be defined differently than the current river index methods and that operations upstream of the rim dams may be included in the modeling. Please clearly state how modeling of drought conditions was conducted in the BDCP document.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	81	Chapter: BDCP Chapter 6 Page or Section: 6.4.2.2.4 Comment: Is the median inflow defined differently for each of the Alternative Actions? Is the median inflow defined differently for each of the four scenarios (H1, H2, H3, H4) of Alternative 4, the preferred project? Please clearly state how median inflow is defined for each of the alternatives and scenarios in the document.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	82	Chapter: BDCP Chapter 6 Page or Section: 6.4.2.2.4 Comment: Please state in the document (a table would be ideal) which of the BDCP Natural	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		Communities are aquatic natural communities and which are terrestrial communities in the context of changed and unforeseen circumstances.	
1741	83	Chapter: BDCP Chapter 6 Page or Section: 6.4.3 Comment: Please clearly state in the document how drought conditions are defined and calculated for each of the action alternatives.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	84	Chapter: BDCP Chapter 6 Page or Section: 6.4.3 Comment: Please clearly state in the document how median inflow will be calculated to determine if unforeseen drought circumstances exist during the ten-year Decision Tree period if Alternative 4 is adopted and none of the four scenarios (H1, H2, H3, H4) will be chosen until the end of the ten-year period.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	85	Chapter: BDCP Chapter 6 Page or Section: 6.4.3 Comment: How is climate change incorporated into the calculation of inflow for purposes of calculating the median inflow to determine that unforeseen drought circumstances are impacting an aquatic natural community? Is the comparison between the No Action Alternative or Baseline Conditions versus the Action Alternative with climate change at year 2060 or the Action Alternative with climate change at the end of each water year? Please clarify and please clearly state in the document how climate change in incorporated and calculated for each of the action alternatives.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	86	Chapter: BDCP Chapter 6 Page or Section: 6.4.3 Comment: The meaning of the phrase "original terms of the Plan" in the third bulleted item is ambiguous. The document should clearly define what this phrase means and provide examples of original terms.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	87	Chapter: BDCP 3 Page or Section: 3.4.1.4.5 Comment: Please describe how it will be possible to adequately test the alternative hypotheses of the Decision Tree within the 10-year time period especially if there is an inadequate representation of water year types and replicate conditions and habitat restoration during that time period? It appears that 10 years may be too short of a time period to assure that adequate data will be collected to dictate operational requirements for the following approximately 40 year period within the narrow range included in the Decision Tree process. As stated in previous comments, the State Water Board must make an independent determination of water project, water quality and other requirements needed to reasonably protect beneficial uses. Those requirements are subject to regular	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		review and modification and as such may not conform to the proposed BDCP process. As stated above with regard to the Implementing Agreement, the data and other information devolved through the Decision Tree adaptive management, and real time operations processes should be made readily available to the public to facilitate independent analysis and evaluation. Raw data should be included, and documentation of QA/QC processes should be clear and complete. Methods of analysis should be documented clearly so that analyses are reproducible. We recommend coordination with the California Water Quality Monitoring Council and Delta Science Program to ensure that data sharing is consistent with emerging community standards.	
1741	88	Chapter: BDCP 3 Page or Section: 3.4.1.4.5 Comment: We suggest adding an introductory paragraph clarifying the language and organization for this section.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	89	Chapter: BDCP 3 Page or Section: 3.4.1.4.5 Comment: CM2 should be referenced in most of the discussion as Fremont Weir operations are included in this section.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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. Note that Alternative 4A does not propose any actions in the Yolo Bypass and thus none of the provisions of CM2 would be implemented.
1741	90	Chapter: BDCP Appendix 5C.4.5.2.1 Page or Section: 5C.4-118, Line 24 Comment: Delta Smelt Abiotic Habitat Index. There are numerous statements critical of the results of Feyrer and coauthors (2011) including a comment that the actual habitat requirements of delta smelt are more complex than X2. That complexity is actually acknowledged by Feyrer and coauthors (2011). The authors' approach was designed to be a scenario analysis to investigate the potential effects of climate change on delta smelt physical habitat. That type of climate change analysis is difficult to accomplish even using data restricted to the physical environment as was found to be the case during BDCP modeling of HSI (BDCP Appendix 5E) where turbidity could not be modeled but was instead held constant. The statement that "[i]t is unclear what portion of that fractional variance is actually due to turbidity, rather than salinity" appears to contain three errors. GAMs compute estimates of deviance not variance and Secchi depth and specific conductivity were analyzed not turbidity and salinity.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	91	Chapter: BDCP Appendix 5C Page or Section: 4-24, Line 4 Comment: The statement that immigration, spawning, and emigration for winter-run Chinook is assumed to be December through August appears to be incorrect as these life stages occur over the entire year.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.

DEIRS Ltr#	Cmt#	Comment	Response
1741	92	Chapter: BDCP Appendix 5E Page or Section: 38 Comment: A single monthly temperature and salinity value was used for each Restoration Opportunity Area to model the Habitat Suitability for each fish species. How does this accurately represent the known variability of delta smelt habitat?	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	93	Chapter: BDCP Appendix 5E Page or Section: 40, Line 43 Comment: Turbidity was held constant. How does this accurately represent the known variability of delta smelt habitat?	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	94	Chapter: BDCP Appendix 5E Page or Section: 41, Line 23 Comment: The extent of physical habitat used in the analysis is the maximum available acreage without consideration of potential constraints of limited tidal energy. This should be noted in the analysis.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1741	95	Chapter: BDCP Appendix 5E Page or Section: 95, Line 27 Comment: The document states that: "The decrease in HSI for the egg-larvae stage is the result of increased water temperatures in the subregion by the Late Long Term primarily due to climate change impacts. There was almost no change in the HSI value for temperature over the period due to covered activities alone reflecting the lack of impact of the BDCP on temperature in Cache Slough (Figure 5.E.4-40). It is unclear from this analysis if the overall increase in HUs as a result of CM4 compensates for the decline in habitat suitability related to increasing temperatures for spawning delta smelt in Cache Slough." Please provide data to support this conclusion. While Figure 5.E.4-40 shows that BDCP does not affect temperature it does not provide data regarding water temperature increases due to climate change. It does show that BDCP will cause increases in salinity in 3 out of the 5 water-year types.	Please refer to comment 1 of this letter for information about the change in preferred alternative from Alternative 4 to Alternative 4A/California WaterFix. 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.
1742	1	Alternative 4 is the best approach for balancing reliable and stable water supplies with restoration of the Delta ecosystem. Metropolitan employs several water supply sources and strategies to meet current water demand in its service area. Despite its increase in local supplies contribution to the overall supply mix in Southern California, imported water brought in from the State Water Project (SWP) and water supplied through the Colorado River Aqueduct continues to be a key base supply for Metropolitan (refer to Figure 1-1). Furthermore, the water quality of the SWP supplies delivered to Ssouthern California is extremely important for achieving water management objectives and meeting stringent	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		drinking water standards to protect public health.	
1742	2	ATT1: Map of Metropolitan's Service Area Diverse Water Supplies	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.
1742	3	Importance of the State Water Project to Metropolitan The SWP is the largest, state-built and-operated water and power development and conveyance system in the United States. [footnote 1: California Department of Water Resources website at: http://www.water.ca.gov/swp/swptoday.cfm.] The SWP's main purposes are to provide water storage and delivery throughout California from the San Francisco Bay area to southern California (refer to figure 1-2). SWP water is conveyed to 29 contracting water agencies (i.e., State Water Contractors [SWC]) in Northern California, the San Francisco Bay area, the Central Coast, San Joaquin Valley, and Southern California (e.g., Metropolitan). Constructed during the 1960s and early 1970s, the SWP is designed to deliver about 2.3 million acre-feet (MAF) [footnote 2: Association of California Water Agencies website entitled California's Water: California Water Systems at: http://www.acwa.com/content/california-water-series/californias-water-california-water-systems] during each "average" year. The SWP water supplements surface and groundwater resources for most of these agencies (refer to figure 1-3). Water agencies and purveyors throughout California that rely on SWP water continue to develop new ways to expand their existing water supply options, including expanding local water supplies, aggressive conservation programs and recycled water. At the same time, during the past 20 years, southern California's imported water use has remained essentially the same, despite adding approximately 3 million people to its population. A number of factors have decreased the contractual allocation of SWP supplies to state water contractors (SWC), including Metropolitan. Metropolitan has also experienced the uncertainty and challenges to deliver water to its 26 member agencies and other utilities due to the unpredictable nature of the SWP supplies. In particular, the Delta's ecosystem and water quality have declined over the years due to a host of stressors with which have led to pumping restrictions that have heavily restricted DWR's ability to deliver full contract amounts to Metropolitan and other SWCs.in fully utilizing its water supply contract allocation with DWR, the operator of the SWP. Metropolitan's overall strategy is to restore traditional deliveries prior to recent environmental restrictions. These provisions include its basic Table A supply contract amount, Article 21 interruptible supplies, and Turnback Pool supply provisions. In addition, it requires successful negotiation and implementation of a number of agreements, transfers, exchanges, and programs [footnote 3: Metropolitan Water District. 2010. Integrated Water Resources Plan 2010 Update. Page 3-13 at: http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/IRP2010Report.pdf]. The supplies from Delta improvements represent restoration of some supplies lost in recent years due to pumping restrictions.	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. The proposed project is being proposed to address the conflict between the ecological needs of a range of at-risk Delta species and natural communities, while providing for more reliable water supplies for people, communities, agriculture, and industry. The proposed project does not propose any changes to existing agricultural practices. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. The proposed project was developed to meet the rigorous standards of the federal and state Endangered Species Acts, as such it is intended to be environmentally beneficial, not detrimental. By establishing a point of water diversion in the north Delta and new operating criteria to improve water volume, timing, and salinity the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility. The State Water Resources Control Board, not DWR, is responsible for decisions relating to water rights. DWR holds water rights approved by the State Water Resources Control Board but does not have the power or authority to issue water rights to others. Additionally, the proposed project does not seek any new water rights nor include any regulatory actions that would affect water rights holders other than DWR, Reclamation, and SWP and CVP contractors. Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two agencies. Exports do not come at the expense of other water rights holders. The proposed project and its alternatives analyzed in the EIR/EIS only include the use of water from existing SWP and CVP water rights or voluntary water transfers from other water rights holders. The proposed project and its alternatives do not reduce the protections for other water right holders.
1742	4	ATT2: Map of California relies on water that flows through the Delta	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.
1742	5	ATT3: Pie Chart of Water Flowing from the Delta Watershed	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.
1742	6	SWP and Metropolitan's 2010 Update to the Integrated Water Resources Plan Over its more than 80-year history, Metropolitan has faced many uncertainties in fulfilling its mission of providing a reliable, high-quality water supply to southern California. Hence, Metropolitan recognizes that a variety of factors, including climate change and ever stringent environmental regulations, can dramatically affect major supplies and sources of water. To prepare for these challenges, Metropolitan has developed an Integrated Water Resources Plan (IRP) that is updated every 5 years. The 2010 Update to the IRP has been designed to meet these unprecedented changes and challenges through a new and dynamic long-term water plan. This water management framework focuses on adaptation measures applied to dynamic changes, and an increased emphasis on regional collaboration. Metropolitan faces and will continue to face a "balancing act" with water planning efforts within its service area and with efforts in the rest of the state of California by other governmental agencies, water purveyors, and affected stakeholders. Given such uncertainties that affect water supplies and demands, there is a considerable risk of shortage. Evidence is now apparent with the state-declared emergency drought conditions in California and the State Board's recently adopted emergency regulations to cut urban water use. Additionally, there is the risk of unnecessary investments if shortages do not materialize and replacement supplies have already been developed. To this end, the Metropolitan's IRP guides water planning policy at Metropolitan through a three-component approach: Core Resources Strategy: Represents the baseline efforts by Metropolitan to manage water supply and demand conditions. Under this strategy, Metropolitan and its member agencies will advance water-use efficiency through conservation and recycled water, along with further local supply development such as groundwater recovery and seawater desalination. Metropolitan will also stabilize traditional imported supplies from the Colorado River and Northern California [footnote 4: Metropolitan Water District. 2010. Integrated Water Resources Plan 2010 Update. Executive Summary at: http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/IRP2010ExecutiveSummary.pdf]. (See table below [Table 4.1 from the 2010 Update IRP]). Uncertainty Buffer: Sets goals for a range of potential "buffer" supplies to protect the region from possible shortages in a cost-effective manner. Foundational Actions: Guide the region in determining alternative supply options for long-range planning. The IRP calls for meeting increased future supply demands within southern California largely through expanded local supplies and conservation programs. This is consistent with the state policy to reduce reliance on the Delta for future needs. But, the SWP remains a vital baseline supply that must be reliable [footnote 5: Ibid.]. In other words, the SWP will always be a part of the Metropolitan's water planning portfolio of water supplies, storage, and conveyance. As noted in the Executive Summary of the IRP, under the section entitled The	The comment is consistent with the acknowledgement that the proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change. The proposed project is not a comprehensive, statewide water plan, but is instead aimed at addressing many complex and long-standing issues related to the operations of the SWP and CVP in the Delta. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Water Demand Management).

DEIRS Ltr#	Cmt#	Comment	Response
		Delta: Restoring the Ecosystem & Supply Reliability: "A sweeping solution to the Delta water system and ecosystem crisis is emerging through a planning process led by state and federal agencies known as the Bay Delta Conservation Plan. Metropolitan looks to implement projects to restore habitat and improve the water conveyance system in the Delta to regain supply reliability on the State Water Project. Metropolitan's efforts in the Delta recognize that restoring the West Coast's largest and most important estuary is essential to re-establishing a reliable water supply for 25 million Californians from Southern California to the Bay Area." (Emphasis added.) SWP water remains a critical source of supply for Metropolitan for two fundamental reasons. It is of high water quality compared to other sources such as the Colorado River, with high source quality key to emerging local initiatives such as recycling. Moreover, SWP water is uniquely capable of providing additional supplies in wet years, when diversions are far less sensitive on the ecosystem, enabling Metropolitan to replenish groundwater basins and its water surface storage network. Although SWP water remains a key component of Metropolitan's diverse water portfolio, and it must be restored to provide more reliable supplies up to full contract amounts, SWP supplies will constitute a decreasing percentage of the resource "pie" as other resources are developed to meet future water demands in Metropolitan's service area (refer to figure 1-4). Development of a diverse resource mix is the foundation of Metropolitan's long-term resource planning and includes water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional supply efforts. Therefore, this strategy is consistent with the state's reduced reliance policy for the Delta. Metropolitan is committed to both the BDCP with its share of the cost, as well as funding local resources, conservation, and recycling programs (refer to 1-5). But it is important to recognize that while the relative percentages of Metropolitan's portfolio strategies will evolve over time, Metropolitan will continue to rely on the SWP as part of its Core Resource Strategy of the IRP.	
1742	7	ATT4: Table 4.1 Summary of Actions under Core Resources Strategy	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.
1742	8	ATT5: Pie Chart of MWD Water Supply Strategy Average Year Water Supply -- 1990 vs. 2035	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.
1742	9	ATT6: Bar graph of Cost Comparison of Water Portfolio Projects.	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.
1742	10	BDCP Alternative 4 as the Preferred Alternative One important element of the BDCP is the conveyance infrastructure to be built to provide reliable SWP supplies to all SWP contractors, while reducing adverse environmental impacts and helping to restore the Delta's ecosystem. New water infrastructure will be evaluated taking into consideration the following: operational flexibility to improve fishery conditions, reasonable capital costs, fair and equitable operation and maintenance costs, improved	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		water supply reliability, adaptability to sea-level rise/ climate change, ability to maximize operations with more constrained South Delta conditions, reduce the risk to water supply from catastrophic Delta levee failure and improve water quality delivered south of the Delta. The capacity of the conveyance has also been analyzed in the DEIR/EIS in 3,000 cubic feet per second increments from 3,000 cubic feet per second to 15,000 cubic feet per second.	
1742	11	The benefits of Alternative 4 outweigh the costs of building it, whereas, the smaller alternatives (i.e., 3,000 and 6,000 cubic feet per second [cfs]) do not have such benefits, due to the lower water yields and lost economies of scale that come with constructing a larger conveyance [footnote 6: Thornberg, C. 2014. The BDCP: Should We Dig the Tunnels? Understanding the Numbers behind the Debate. PowerPoint presentation. Beacon Economics. Included as Exhibit 1-1: The Brattle Group, 2013, "Draft Bay Delta Conservation Plan Statewide Economic Impact Report" at: http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx]. Benefits obtained through Alternative 4 include an equitable balance between the two co-equal goals, such as minimizing impacts to the fisheries in the southern portion of the Delta, lessening the exposure of earthquakes and salt water intrusion to the state's major public drinking water supplies, restoring the Delta through an intensive program of habitat restoration, and anticipating/adapting to impacts to the SWP infrastructure via climate change/sea-level rise.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	12	Meets the Project Objectives and Purpose and Need Identified in the EIR/EIS Alternative 4 would meet the project objectives/purpose and need of the BDCP. Stated in summary terms, Alternative 4 fulfills the ESA (Endangered Species Act) and NCCPA requirements; improves the ecosystem of the Delta (with over 150,000 acres of habitat restoration and preservation); and restores and protects the ability of the SWP and Central Valley Project (CVP) to deliver up to full contract amount under appropriate conditions and legal requirements (i.e., combined delivery between approximately 4.7 to 5.6 MAF in an average year). In essence, Alternative 4 strikes an equitable balance of diverse considerations by implementing a conservation plan with 22 conservation measures along with supporting governance and finance strategies; allowing for levels of take for covered species; and providing prudent economic measures for water supply reliability, water quality improvements, and reduced seismic risks.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	13	Provide Water Supply Reliability -- Restore and protect State Water Project (SWP) deliveries. Metropolitan supplies approximately 50 percent of the region's water through supplies it imports from hundreds of miles away and invests in regional water projects with its member agencies. Economic activity in the six counties served by Metropolitan is approximately $1 trillion, roughly half that of California's economy. An adequate and reliable water supply from the SWP is critical to maintain the health of both the regional and state economies. Southern California has a diverse water portfolio, which provides reliability even with changing conditions. On average, approximately one quarter of the region's water supplies comes from the Colorado River, about one third comes from the SWP, and just under half of the water comes from local supplies. Metropolitan also has incentive agreements with three member agencies for local seawater	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		desalination projects. These projects are in the pilot-study phase with the potential to produce up to 46,000 acre-feet [af] per year. Water regulations by the State Water Resources Control Board (SWRCB), the U.S. Fish and Wildlife Service [USFWS], the National Marine Fisheries Service [NMFS], and the California Department of Fish and Wildlife (CADFW) have resulted in multiple layers of complex flow and operational regulations designed to protect and enhance fish populations. Overall water costs from these regulations have been substantial. For the SWP alone, in excess of 980,000 af/year of critical public water supplies have been lost. This is enough water to supply the annual needs of approximately 2 million households. Figure 1-6, below, compares BDCP projected SWP/CVP supplies against historic and current export conditions. As illustrated, BDCP's Alternative 4 would stabilize water supplies from the SWP at roughly the last 20-year average for at least 50 years. Alternative 4 is also consistent with imported supply goals of Metropolitan's Integrated Water Resources Plan (IRP). While local supplies will be an increasingly larger segment of the region's overall portfolio, the SWP will remain both an important baseline supply and a primary method of drought-proofing the region given its ability to capture surplus supplies when available. It is also the exclusive supply of a significant portion of Metropolitan's service area under all hydrologic conditions. Hence, as demonstrated above, the SWP will always be an integral part of Metropolitan's water supply portfolio which is not only essential for residents and businesses in Southern California, but the State's economic well-being.	
1742	14	ATT7: Bar graph of the Delta Water Supply Analysis	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.
1742	15	Improve Export Water Quality -- Decrease concentrations of salinity, bromide, and dissolved organic carbon. Salinity is an important constituent in Metropolitan's water supplies because high salinity levels can impact the ability to implement water management programs, shorten the life of plumbing fixtures and appliances, and affect the aesthetic acceptability of drinking water. The SWP provides high quality water that is essential for blending with other higher salinity water sources, such as the Colorado River, and for development of Metropolitan's Long Range Plan [LRP]. SWP supplies offer valuable water quality benefits as a blend, to reduce salinity in recycled water supplies and provide dilution for lesser quality groundwater resources. Some groundwater management programs require SWP water, where recharge of the basin with high salinity Colorado River water may be restricted. These benefits cannot be replaced by additional local supplies or conservation. The opportunity to preferentially pump from the new north Delta intake facilities, as proposed under Alternative 4, would provide a significant reduction in blended water salinity levels over existing conditions, as noted in the figure 1-7 below.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	16	ATT8: Bar graph of the Delta Water Quality Analysis.	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.
1742	17	Protecting the water quality of upstream SWP supplies is also an important factor for meeting drinking water standards. Delta waters contain bromide and organic carbon -- constituents that are precursors to the formation of disinfection by-products during the water treatment process. SWP supplies conveyed through the Delta pick up increased	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		concentrations of these constituents. The U.S. Environmental Protection Agency and California Department of Public Health have adopted stringent drinking water standards for disinfection by-products to protect public health. Metropolitan has made substantial investments in upgrading the water treatment processes at its five water treatment plants to ensure compliance with drinking water standards for disinfection by-products. Even with these investments, the water quality of SWP supplies is important. Alternative 4 with the proposed new screened intake facilities and preferential pumping from the north Sacramento River would result in SWP water quality improvements that would protect Metropolitan's investment in water treatment and ensure compliance with drinking water standards. Consequently, Alternative 4 would improve the overall water quality of SWP supplies by 20 percent (refer to figure 1-8). BDCP conservation measures would also lead to water quality improvements in the Delta that protect aquatic wildlife, by reducing toxic contaminants from urban runoff and maintaining healthy levels of dissolved oxygen in the Stockton Deep Water Ship Channel.	
1742	18	ATT9: Table of BDCP is Critical to Water Quality.	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.
1742	19	Flexible Pumping Operations in a Dynamic Fishery Environment--diminish conflicts between fish and water operations. Existing water pumping facilities have led at times to reverse flow conditions in the south Delta that have resulted in fishery conflicts and pumping restrictions. The new screened intakes proposed in Alternative 4 in the north Delta combined with the existing SWP intake in the southern Delta, would create the necessary flexibility to minimize fishery conflicts. Alternative 4 with the 9,000 cubic feet per second [cfs] capacity provides a balance between preferentially diverting in the north, while significantly reducing diversions from the south Delta. This would address reverse flow conditions and lead to a more natural flow pattern in the estuary for migrating Chinook salmon and in-Delta fish species (refer to figure 1-9). The decreased pumping and conveyance from the proposed new facilities as proposed under the 3,000 cfs and 6,000 cfs alternatives would result in increased reliance from the existing south Delta facilities. This would diminish the goal of reducing fishery conflicts and promoting more natural flow conditions. Hence, Alternative 4 would minimize fish conflicts with the construction of three new intakes with a minimum capacity of 9,000 cfs in the north Delta, along with flexible operations at the existing pumps in the south Delta.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	20	ATT10: Line graph of South Delta Fish Flow Enhancements.	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.
1742	21	Enhance Delta Ecosystem Fishery Habitat throughout Delta -- Promote future water operations to aid in restored habitat, natural food web, and fluctuating salinity levels. The BDCP would support wide-scale restoration of tidal marshes, adjacent floodplain, and upland habitat, thereby protecting 56 different species and adhering to the ESA and NCCPA requirements. Under this landmark plan, approximately 153,000 acres of habitat would be preserved or restored. The water supply and restoration strategies proposed for Alternative 4 are compatible and complimentary. As shown in BDCP Table 9-26 (Draft BDCP, page 9-184), the reduced capacity alternatives (i.e., 3,000 cfs and 6,000 cfs) when compared to the Alternative 4 (9,000 cfs) are projected	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		to result in greater take of eight of the eleven sensitive covered fish species. Alternative 4's proposed new intake facilities with state of the art screens and flexibility to take water where and when it is least harmful to migrating salmon and in-Delta fish species allows the greatest opportunity to meet critical water supply needs and enhance ecological conditions for aquatic species.	
1742	22	Reduce Seismic Risks -- Mitigate threat of levee collapse and potential loss of water supply. Without a modernized water conveyance system that does not rely solely on earthen levees, water supplies to the California economy could be interrupted for up to three years or more. The best available, but temporary solution would be a patchwork levee "pathway" that could only deliver a fraction of traditional supplies as a best-case scenario. Seismic preparedness is crucial for this vulnerable segment of the statewide water delivery system. In particular, conveyance systems of this magnitude should provide substantial reductions in risks to export water supplies from seismic-induced levee failure and flooding. As detailed in Alternative 4, new tunnels would convey water from the new intake facilities from the north even during a seismic-induced event, thereby protecting this future, critical water supply. As illustrated in Figure 1-10, below, because of the greater reliance on continued pumping from south Delta facilities, alternatives with less conveyance capacity than the 9,000 cfs proposed for Alternative 4 twin tunnels are more susceptible to disruption and salt water intrusion from seismic events. Overall water supplied by these alternatives following a catastrophic seismic event are projected to be significantly restricted.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	23	ATT11: Bar graph of Delta Water Supply Analysis.	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.
1742	24	Reduce Climate Change Risks -- Protect supply from the effects of sea level rise. Current scientific studies indicate that intake locations to conveyance systems in the Delta need to withstand an estimated one- to three-foot sea-level rise in the next 100 years. The existing system is vulnerable to salinity intrusion effects of climate change. The new intakes identified in Alternative 4 would be situated in the north Delta and upstream of forecasted long-term salinity intrusion to avoid climate change effects. In addition, a change in precipitation patterns to increased rain and decreased snow will limit the windows of opportunity to capture adequate supplies. Any new water conveyance must be sized sufficiently to capture water when available in the face of climate change. Alternative 4 with a 9,000 cubic feet per second [cfs] capacity meets this requirement.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	25	Meets the Minimum Requirement to Ensure Reliability In addition to the reliability discussed above, building two tunnels as proposed in Alternative 4 would create another layer of reliability and protect against outages. If one tunnel should experience an outage or were to be closed for routine maintenance, the overall system would continue to operate. Conversely, constructing only one tunnel as proposed under Alternative 5 would eliminate an important aspect of the BDCP -- a back-up plan. Repairs could take months, causing lost supplies and continued concerns over reliance on pumping operations at the existing facilities in the southern Delta. Routine maintenance could potentially shut down this system completely. The BDCP proposes to restore water supplies to traditional levels (levels prior to federal regulatory water cutbacks). The $14 billion twin-tunnel investment would assist in restoring the Delta environment, while allowing public water agencies to continue getting the water	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		that is required to meet the needs of California--its residents, industry, and thriving agricultural economy.	
1742	26	DWR Properly Formulated the CEQA Purpose Statement and Project Objectives Including the Objective to "Restore and Protect the Ability of the SWP and CVP to Deliver Up to Full Contract Amounts," Subject to Hydrologic and Other Conditions The Draft EIR/EIS properly states the fundamental purpose statement and project objectives of the BDCP consistent with the requirements of CEQA, as well as the purpose and need statement pursuant to NEPA. DWR need only clarify and confirm in the Final EIR/EIS that a core objective of the BDCP is to ensure that under appropriate conditions the Public Water Agencies will receive up to the full volume of water allowed by contract so as to better ensure a reliable water supply for millions of consumers, businesses and farmers across central and southern California. The fundamental purpose of the BDCP is stated very simply: 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-delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations." (BDCP EIR/EIS, p. 2-2.) Achieving this purpose requires meeting all of the CEQA project objectives, including the objective to "[r]estore and protect the ability of the SWP and the CVP to deliver up to full contract amounts, when hydrologic conditions result in the availability of sufficient water, consistent with the requirements of State and federal law and the terms and conditions of water delivery contracts and other existing applicable agreements." (Id., p. 2-3.) The NEPA purpose statement includes substantively the same language. [footnote 1: The NEPA Purpose includes additional language shown here in underline in the statement: "[r]estore and protect the ability of the SWP and the CVP to deliver up to full contract amounts, when hydrologic conditions result in the availability of sufficient water, consistent with the requirements of state and federal law and the terms and conditions of water delivery contracts held by SWP contractors and certain members of San Luis and Delta Mendota Water Authority, and other existing applicable agreements." (Id., underline added.)] (Id., p. 2-4) This language is straightforward: the BDCP would restore and protect the ability of the Public Agencies to provide "up to full contract amounts" -- but subject to specific limitations. Thus, the BDCP would ensure that supply of water, within appropriate parameters and as necessary to comply with the law. Various stakeholders and other parties have sought to distort the "up to full contract amounts" language, suggesting the purpose somehow favors the water agencies improperly or prioritizes water deliveries over the protection of the Delta ecosystem. These concerns are not well founded and should be rejected in any final EIR/EIS. First, while it is true that the BDCP would result in an improvement over the existing state of water deliveries to the Public Water Agencies -- that is what should be expected from a multi-billion dollar investment designed, in part, to deliver water to millions of citizens and farmers across the state. Within the scope of the applicants' project, the sponsoring agencies have substantial discretion to determine as a matter of policy the project objectives and purpose and need, and the statements here fall well within the reasonable discretion afforded. Moreover, contrary to some stakeholders' concerns, as evident by the language of the objective itself, "up to full contract amounts" does not mean the maximum contract amounts year in and year out regardless of any other conditions. Rather, it is tempered by	The comments related to the Project Objectives and Purpose and Need are consistent with the discussion in Chapter 2 of 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
		actual hydrologic conditions as well as applicable law, the contracts themselves, and other applicable agreements. As such, a purpose of the BDCP is merely to better ensure that when hydrologic and other conditions are right, the full amounts provided for in water delivery contracts could be provided. Contrary to stakeholders' assertions, there is nothing unusual about this approach, as it squares with the history and context under which the SWP and CVP were developed -- and have evolved. The original concept for these water projects was to create systems that would provide consistent water deliveries every year. That has changed fundamentally, as regulatory and other restrictions have diminished greatly the capability to deliver water consistently to millions of citizens of California. Hence, the purpose of the BDCP merely recognizes this -- that the SWP and CVP must be adapted to operate opportunistically to maximize water deliveries when hydraulic and environmental conditions allow.	
1742	27	By Seeking to Assure Water Supplies to Agencies That Serve Millions of Citizens and Farmers "Up to Full Contract Amounts," the Draft EIR/EIS Has Reasonably Framed the Project's Objectives and Purpose Despite the vast record demonstrating the appropriateness of the Project Objectives and NEPA Purpose, various BDCP opponents have argued that (1) they fail to disclose that the Project's "true underlying purpose" is to increase water delivery wherever conveyance tunnel pumping capacity permits, and (2) that the purpose and project objectives should be to decrease water supplies from the Delta. [footnote 2: See Environmental Water Caucus Comment Letter, Bay Delta Conservation Plan and EIR/EIS (June 11, 2014) at 6, 22-23, 192.] These types of objections to the Draft EIR/EIS should not be afforded any weight. By seeking to "restore and protect" water supplies to the Public Water Agencies "up to full contract amounts," the Draft EIR/EIS has properly framed the Project Objectives and NEPA Purpose.	The comment is consistent with information in Chapter 2, Project Objectives and Purpose and Need, in the EIR/EIS. Chapters 3 and 5 of the EIR/EIS (Description of Alternatives and Water Supply, respectively) describe that the capacity of the north Delta intakes and associated conveyance facilities would be operated to only deliver the amount of water diverted under the existing SWP and CVP water rights and in accordance with the existing and future related regulatory requirements. As shown in 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. However, it is important to have the maximum capacity in the intakes and tunnels during those periods of time to convey water during extremely wet periods to areas south of the Delta for storage and use during drier times.
1742	28	The goal to restore and protect supplies up to full contract amounts is appropriately balanced by hydrologic conditions and other limitations Foremost, there is no hidden purpose to maximize water supplies. Rather, the Draft BDCP and Draft EIR/EIS have properly and transparently struck a balance between seeking to ensure a stable and reliable supply of contracted for water and protecting species and the environment. The "contract amounts" are those water supplies to which the Public Water Agencies are entitled by law under long-established contracts with DWR and/or the U.S. Bureau of Reclamation. The Draft BDCP and Draft EIR/EIS, however, clearly indicate that "up to full contract amounts" does not mean that at all times there would be maximum contract amounts. Rather, the ability to receive maximum contract amounts would be tempered by actual hydrologic conditions, as well as applicable law and other applicable agreements. On the other hand, by stating clearly that the need/objective is to "restore and protect up to full contract amounts," the Draft BDCP and Draft EIR/EIS properly and transparently state that a goal of the BDCP is to seek to improve the existing state of water deliveries -- and to provide a measure of certainty for all who depend on that water for life and livelihood. Additionally, only if the law and conditions allow, in certain years, the full amounts provided for in the various water delivery contracts could be provided.	Chapters 3 and 5 of the EIR/EIS (Description of Alternatives and Water Supply, respectively) describe that the capacity of the north Delta intakes and associated conveyance facilities would be operated to only deliver the amount of water diverted under the existing SWP and CVP water rights and in accordance with the existing and future related regulatory requirements.
1742	29	To restore the ability to provide up to full contract amounts when available recognizes the	The historical description of the SWP water supply is consistent with information presented in Chapter 1, Introduction, and Chapter 5, Water Supply, of the EIR/EIS. Chapter 3, Description of Alternatives, and

DEIRS Ltr#	Cmt#	Comment	Response
		shift from "firm-yield" to "variable yield" water supply strategies Further, the objective to "restore and protect up to full contract amounts" reflects how the SWP and CVP have fundamentally changed from water systems that supply consistent deliveries year in and year out, to systems that have adapted to operate opportunistically because of regulatory and other restrictions. That is, the project objective of the BDCP merely reflects the reality that water deliveries to the Public Water Agencies need to be maximized when hydraulic and environmental conditions are optimal. Specifically, over the years, both the CVP and SWP have undergone similar shifts from an originally planned "firm-yield" approach to water deliveries to an opportunistic "variable yield" strategy. The BDCP goal to allow the Water Agencies to receive up to full contract amounts simply recognizes and reflects those changes in water deliveries. For the SWP, that transition is well described in the Environmental Impact Report for the Monterey Amendment to the State Water Project Contracts (California Department of Water Resources, Monterey Amendment DEIR, Oct. 2007.) In general, certain public water agencies agreed in the early 1960s to repay all associated SWP capital and operating costs in exchange for a promise of water service ("SWP contractors"), and did so by executing 26 separate, but similar, long-term water service contracts with DWR ("contracts"). The contracts established how much SWP water supply each contractor would receive annually and how much each contractor would pay for that supply. (Id., p. 2-9.) Specifically, "the State each year shall make available for delivery to the Agency the amounts of project water designated in Table A of this contract...." (Id., p. 2-11 -13, emphasis added.) Accordingly, each contract contained a "Table A" specifying the annual amount of SWP water that DWR had promised to deliver. Generally, the amounts in Table A increased over time "to reflect increasing population and water demand...." (Id.; see p. 2-13, Table 2-5.) The maximum sum of Table A amounts was critical to the SWP's original design because it equaled the intended minimum project yield to which the SWP was supposed to operate. The original 1960s plan for the SWP was to build storage dams and reservoirs upstream of the Sacramento-San Joaquin Delta that, in conjunction with facilities to transport water across the Delta, could develop sufficient water to deliver a "minimum project yield" to all contractors, year-in and year-out. Only during few and infrequent critically dry years did the original plan expect deliveries to be less than the combined minimum SWP yield of approximately 4.2 million acre-feet ("AF"). (Id., p. 3-1) In sum, minimum project yield or "firm yield" was key to the original SWP plan. (Id., p. 2-11.) The SWP performed as planned in the early decades, but as Table A amounts and requests increased, particularly from urban contractors with growing populations, the SWP could not keep up with the original "firm yield" expectations of delivering full Table A amounts in almost every year. Planned components of the SWP were not built due to "various concerns, including environmental, political and financial." (Id., p. 3-1.) Additionally, "more stringent environmental standards in the Delta ... limited the amount of water that could be diverted at the Banks Pumping Plant and reduced the capability to deliver the maximum [SWP] water supply." (Ibid.) In 1988, DWR estimated "the firm yield of existing SWP facilities is approximately 2.4 million acre-feet per year," and that "contractor [Table A] requests ... now exceed that amount." (California Department of Water Resources, Management of the California State Water Project, Sep. 1988 [Bulletin [Bulletin 132-88], p.	Chapter 5 of the EIR/EIS describe that the capacity of the north Delta intakes and associated conveyance facilities would be operated to only deliver the amount of water diverted under the existing SWP and CVP water rights and in accordance with the existing and future related regulatory requirements.

DEIRS Ltr#	Cmt#	Comment	Response
		83.)	
1742	30	In the 1980s, DWR and the SWP contractors explored ways to mitigate the SWP's shortcomings, resulting in a major paradigm shift. DWR abandoned the original "firm yield" operations in favor of operations that would deliver more water to the contractors in most years: Since timely augmentation of SWP yield through new construction has been precluded, DWR has been devoting increasing attention to the potential for increasing the average annual delivery capability of existing facilities by using operating strategies other than those used for the conventional firm yield mode of operation. (California Department of Water Resources, Management of the California State Water Project, Sep. 1987 [Bulletin 132-87], p. 70.) Modified operations based on maximizing annual water deliveries began in 1986 and continued thereafter. (Id., pp. 71-72; Bulletin 132-88, pp. 72-73; California Department of Water Resources, Management of the California State Water Project, Sep. 1989 [Bulletin 132-89], pp. 84-85.) Discontinuing the original "firm yield" operations was a turning point for DWR and the SWP contractors. It acknowledged the State's inability to complete the SWP and perform the contracts as originally intended. It substituted the original concept of an extremely reliable SWP centrally controlled by DWR (i.e., "firm yield") with an operating regime that placed more responsibility for water supply management on the contractors (i.e., "variable yield"). In effect, DWR began front-loading SWP water deliveries every year, instead of holding back in reserve a quantity of water in its upstream reservoirs as it did under the old method. The new variable yield operations maximized the contractors' annual SWP deliveries. It was up to each contractor to determine how best to use and integrate its variable SWP supplies with its other water sources so as to "make most efficient use of available water supplies, especially during a drought." (California Department of Water Resources, Management of the California State Water Project, Dec. 1992 [Bulletin 132-92], p. 5.)	The description of current SWP operations is consistent with information presented in Chapter 5, Water Supply, and Appendix 5A, Section B, CALSIM II and DSM2 Modeling Simulations and Assumptions, in the EIR/EIS.
1742	31	As SWP operations changed, contractors employed flexible and adaptive water management practices to integrate variable SWP supplies with their other water supplies. DWR assisted by "chang[ing] its activities for water management and develop[ing] programs to compensate for the lack of storage facilities," which included "transferring, exchanging, loaning, storing, purchasing, and carrying over water for delivery at a later date." (Id.). In 1992 DWR reported these efforts in a chapter entitled "Changing Ways of Managing Water," which described several contract amendments and agreements executed by DWR and the SWP contractors. (Id., pp. 3-15.) In 1994, DWR and the SWP contractors agreed to a comprehensive set of principles for amending the delivery contacts. These principles, known as the as the Monterey Agreement, included as goals "increas[ing] water management flexibility, [and] providing more tools to local agencies to maximize existing facilities and supplies." (Monterey Amendment DEIR, p. 3-3.) Water management tools that promote flexibility and adaptability are now ensconced in modern California water management. These practices become all the more important going forward with the challenges of changing conditions, as DWR has recognized. Conditions today are much different than when most of California's water systems were constructed; and upgrades have not kept pace with changing conditions, especially considering growing population; changing society values, regulations, and operational criteria…. Surface and groundwater resources must be managed conjunctively to meet the	The concept that the SWP is only one part of many water users portfolio, as described in this comment, is consistent with the information presented in Chapter 5, Water Supply, of the EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		challenges of climate change. Additional water storage and conveyance improvements are necessary to provide flexibility to facilitate water transfers between regions and to provide better flood management, water quality, and system reliability in response to daily and seasonal variation and uncertainties in water use and supply. (California Department of Water Resources, California Water Plan Update 2009, Dec. 2009 [Bulletin 160-09], p. 4-27.)	
1742	32	Metropolitan, like many local and regional water providers, has turned to water management strategies that emphasize local resources and a diverse portfolio of supplies to manage variability and uncertainties inherent in any one supply source. Since 1996, Metropolitan has employed an Integrated Water Resources Plan ("IRP") process that establishes "targets for a diversified portfolio of investments in water supply that have provided the foundation for continued water supply reliability during a period of prolonged drought and severe regulatory limitations." (Metropolitan Water District, Integrated Water Resources Plan 2010 Update, October 2010, p. 1-2.)	It is important to note that the SWP water supplies are not intended to serve as the only water supply for most water users. It is recognized that there are a wide range of investments by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Water Demand Management).
1742	33	The objective to "restore and protect up to full contract amounts" reflects the significant changes in the way the SWP, and similarly the CVP, are managed and operated, from the original firm yield concept, which was driven by consistent supplies of contract amounts, to a variable yield approach. This objective emphasizes taking advantage of, and making the best use of, all available SWP and CVP supplies in every year as a flexible and adaptive way to cope with the environmental and other limitations, fluctuating hydrology, and California's increasing water demands.	The approach to the BDCP/California WaterFix described in this comment is consistent with the information presented in Chapter 1, Introduction, and Chapter 3, Description of Alternatives, of the EIR/EIS.
1742	34	To restore and protect up to the full contract amounts would merely remedy the lost delivery capability and reliability caused by other restrictions Deliveries of SWP and CVP supplies exported through the Delta have been dramatically reduced as a result of legislative and regulatory actions. The loss of SWP delivery capability and reliability is shown graphically below. The CVP has suffered even greater losses of delivery capability and reliability. The significant losses suffered by urban and agricultural water users are what the objective "to restore and protect up to full contract amounts" target for reversal and recovery. The starting point for reversal and recovery are the conditions in 2006, when the planning commitments were made. (Planning Agreement Regarding the Bay Delta Conservation Plan, Oct. 6, 2006.) Consistent with the variable yield approach to water planning, the objective means that in certain years where hydrologic and other conditions are right, the full amounts provided for in the various water delivery contracts could be met. Because demands on the SWP system were growing at the same time that legislative and regulatory actions were being implemented that reduced delivery capability, demands on the SWP as a whole had never reached the maximum possible SWP contact delivery amount of 4.133 million acre feet per year. Historically, the maximum annual delivery of SWP supplies occurred in 2003 with total contract Table A deliveries of 2.96 MAF. (See BDCP EIR/EIS, Figure 5B-1, p. 5B-7.) However, on a SWP contractor-by-contractor basis, individual SWP contractors have had historic deliveries at or above their maximum Table A contract amount, as shown in Table 2-1 below: [see table]	The approach to the BDCP/California WaterFix described in this comment is consistent with the information presented in Chapter 1, Introduction, Chapter 2, Project Objectives and Purpose and Need, and Chapter 3, Description of Alternatives, of the EIR/EIS. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.
1742	35	ATT12: Line graph of Fishery Impacts to SWP Table A Firm Yield.	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.
1742	36	ATT13: Table 2-1. Maximum Table A Deliveries for SWP Contractors for Years 1987 through 2011	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.
1742	37	The NEPA Purpose and Need Statement and the CEQA Project Objectives Are Consistent Because the EIR/EIS is a joint CEQA/NEPA document, it contains "project objectives" for purposes of CEQA (BDCP EIR/EIS, section 2.3), as well as a "purpose and need statement" for purposes of NEPA (Id., section 2.4). The project objectives were formulated as a matter of policy by the project proponent, DWR, and include the underlying purpose of the project. (CEQA Guidelines, [Section] 15124(b).) The objectives have aided DWR in developing a reasonable range of alternatives and will be used by DWR upon project approval in preparing findings and a statement of overriding considerations. (Id.) In contrast, the purpose and need statement is used by the federal agencies in carrying out their responsibilities under NEPA in responding to the proposed project. As stated in the EIR/EIS, the "[NEPA] purpose statement of the proposed action, and project need … are consistent with the [CEQA] project objectives." (BDCP EIR/EIS, p. 2-4.) Although the CEQA project objectives and NEPA purpose and need statement are deemed consistent, there are nonetheless some differences in wording. Specifically, the purpose and need statement includes the following sentences that are not included with the CEQA project objectives: 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. (BDCP EIR/EIS, p. 2-5.) The Public Water Agencies anticipate that some commenters will say that this language means the purpose of the BDCP should be to decrease water supplies. This notion should be swiftly rejected because: 1) the language is fully consistent with the CEQA objectives in that the purpose is not to increase quantities above that allowed under existing contracts, 2) the language is fully consistent with the CEQA objectives in that the purpose is not delivery of "full contract amounts on average" (i.e., in every year), and 3) even if the language was inconsistent, the NEPA purpose and need statement in this case serves a different purpose than the CEQA project objectives and as a legal matter cannot change the applicant's proposal.	The Proposed Project proposes to stabilize water supplies, and exports could only increase under certain circumstances in which hydrological conditions result in availability of sufficient water and ecological objectives are fully satisfied. It is projected that water deliveries from the federal and state water projects under the Proposed Project would be roughly 10 percent more or equal to the average annual amount of water that would be diverted under the No Action Alternative (i.e. 2025 conditions without the Proposed Project). It is projected that Delta exports from the federal and state water projects would either remain similar or increase in wetter years and decrease in drier years under Alternative 4A as compared to exports under No Action Alternative (ELT) depending on the capability to divert water at the north Delta intakes during winter and spring months. The estimated changes in deliveries for 4A are provided in the RDEIR/SDEIS 4.3.1 and Appendix A Chapter 5 Water Supply. Although exports under the Proposed Project would be similar to the amount water exported in recent history, it would make the deliveries more predictable and reliable, while reducing other stressors on the ecological functions of the Delta. For more information regarding purpose and need of the proposed project please see Master Response 3.
1742	38	To the extent one finds ambiguity in the NEPA Purpose because of a perceived difference between it and the CEQA Objectives, the ambiguity should be resolved in light of and favor of the view of the project proponents. Where the lead agency for NEPA purposes is not the agency principally charged with carrying out the project, as here, so long as the statement of purpose and need reasonably defines the objectives of the Project, "the preparers did not arbitrarily or capriciously narrow the scope of the Statement. (Westlands Water Dist. v.	For more information regarding alternatives to the proposed project please see Master Response 4. For more information regarding purpose and need of the proposed project please see Master Response 3.

DEIRS Ltr#	Cmt#	Comment	Response
		United States DOI (9th Cir. 2004) 376 F.3d 853, 868) Indeed, as a general rule, it is the applicant's proposal that defines the purpose and need statement, and thus controls. (See Louisiana Wildlife Federation v. York, 761 F.3d 1044, 1048 (5th Cir. 1985) [it was "not only permissible for the Corps to consider the applicant's objectives; the Corps has a duty to take into account objectives of the applicant's project. Indeed it would be bizarre if the Corps were to ignore the purpose for which the applicant seeks a permit to substitute a purpose it deems more suitable."]; Greater Yellowstone Coalition v. Flowers, 359 F.3d 1257, 1270 (10th Cir. 2004) [the agency "has a duty to take into account the objectives of the applicant's project[]" so long as it is "legitimate"[; City of Bridgeton v. FAA, 212 F.3d 448, 457-58 (8th Cir. 2000) [FAA did not impose an improperly narrow definition of purpose and need]; Citizens Against Burlington v. Busey, 938 F.3d 190, 199 (D.C. Cir. 1991) [Congress did not expect that agencies would "determine for the applicant what the goals of the applicant's proposal should be."]; Citizens Committee to Save our Canyons v. USFS, 297 F.3d 1012, 1030 (10th Cir. 2001) [where the action subject to NEPA review is triggered by a proposal or application from a private party, it is appropriate for the agency to give substantial weight to the goals and objectives of that private actor so long as the agency does not define the objectives too narrowly so as to preclude reasonable consideration of alternatives].) Hence, the applicant's goals and objectives must be afforded great weight when preparing an EIR/EIS, and the lead CEQA and NEPA agencies must apply them in a manner that does not foreclose consideration of reasonable alternatives. (See Westlands, 375 F.3d at 856.)	
1742	39	The CEQA objectives as re-affirmed in the NEPA Purpose are reasonable in light of the "considerable discretion" afforded project applicants to define their project. (See Friends of Southeast's Future v. Morrison, 153 F.3d 1059, 1066 (9th Cir. 1998); see also NW Resource Information Center v. NMFS, 56 F.3d 1060,1064 (9th Cir. 1995) [explaining that an agency must address in detail the purpose and need for the action and that the purposes of an EIS are to provide decisionmakers with sufficiently detailed information to aid in determining whether to proceed with the action]; see also Theodore Roosevelt Conservation Partnership v. Salazar, 661 F.3d 66 (D.C. Cir. 2011) [upholding the Bureau of Land Management's purpose and need as reasonably acting upon a project proponent's proposal for expanded oil and gas development].) Here, DWR has wide discretion to formulate its project when considering the multitude of California statutes governing Delta operations, court decisions, regulations, and contractual obligations that underpin the very need for the BDCP. The NEPA lead agencies should defer to DWR's lawful exercise of its discretion.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. 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. For more information regarding purpose and need of the proposed project please see Master Response 3.
1742	40	Chapter 8 of the Bay Delta Conservation Plan Draft Environmental Impact Report / Environmental Impact Statement (DEIR/DEIS) provides an analysis of the potential impacts of the BDCP alternatives on surface water quality in the study area. The analysis addresses several water quality constituents of concern to drinking water, aquatic wildlife and agricultural water supply beneficial uses. The evaluation of potential water quality impacts is important to all stakeholders in the BDCP process. Given its importance, we recommend that the discussion of water quality effects be revised to make it easier for the reader to follow. Specifically, we recommend that the chapter be revised to include more tables and figures to summarize the information concerning potential water quality impacts, and the likely mechanism for the water quality effects. We also recommend that the text more clearly differentiate the discussions of potential water quality effects compared to the CEQA baseline and the NEPA baseline.	The Final EIR/EIS includes additional tables in the Executive Summary and each resource chapter providing a summary comparison of important resource issues across each alternative. Chapter 8 and its supporting appendices contains many figures and tables covering all project alternatives. CEQA and NEPA findings are differentiated with CEQA and NEPA headings at the end of each constituent impact assessment.

DEIRS Ltr#	Cmt#	Comment	Response
1742	41	The evaluation of potential water quality impacts for salinity constituents (e.g., electrical conductivity (EC), chloride, and bromide) is based on quantitative assessments that rely on water quality models. Appendix 8H, page 8H-1, explains the Electrical Conductivity Methodology and notes that many of the modeling results for BDCP alternatives show exceedance of Bay-Delta Water Quality Control Plan D-1641 water quality standards, and that these exceedances of water quality standards are due to the "mismatch in modeling time-step, known shortcomings in the ANN model to mirror DSM2 modeled flow-salinity interaction, and/or CALSIM II model's limited ability to simulate real-time operational adjustments to avoid exceedance of the standards in shorter time-steps." Despite this strong statement of limitations associated with the modeling methodology, the water quality assessment in Chapter 8 finds significant water quality impacts for EC, chloride, and bromide based on the quantitative results of the modeling studies that indicate increased incidence of exceedance of water quality standards.	Please refer to Master Response 14 for a discussion of water quality and the effects of salinity.
1742	42	The modeling assumptions described in the DEIR/DEIS assume that for the No Action Alternative future surface water demands are assumed to be full water rights at the 2025 level of development. Utilizing the modeling methodology and the assumptions for future water supplies provides model results above current regulatory water quality standards at Delta compliance locations for chloride and EC. However, it is not reasonable to assume that in the future with no project that the water projects (i.e., the SWP and CVP) would be operated in a manner to cause significant exceedances of regulatory water quality standards for chloride and EC. Currently, the SWP and CVP are operated to meet applicable chloride and EC standards, and they will continue to do so under the No Action Alternative. This point needs to be more prominently made in the Chapter 8 analysis. The same issue arises in the evaluation of potential water quality impacts for the BDCP project alternatives where the modeling results for the BDCP alternatives are compared to the No Action Alternative, and the modeling results include increased exceedances of water quality standards for chloride and EC and increased use of assimilative capacity, which is identified as an adverse impact. However, these potential adverse water quality impacts are based on the modeling methodology with many documented limitations and very conservative assumptions about water project operations and water supply demands. Appendix 8H acknowledges that the modeling evaluations do not include refinements to operational assumptions that would allow compliance with water quality standards. Therefore, if the modeling results are misinterpreted to provide predictions of actual future conditions with and without project alternatives, the analyses in Chapter 8 give the misleading appearance that whether or not BDCP is implemented, the SWP and CVP will violate applicable salinity standards in the Delta.	Please refer to Master Response 14 for a discussion of water quality and the effects of salinity. 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.
1742	43	As described on page 8-157 of the DEIR/DEIS, lines 16-25, the analysis should assess the overall direction and degree to which Delta EC and chloride would be affected relative to the baseline, and not the absolute value relative to standards, since the projects will be operated in real-time to meet water quality standards.	Quantitative change n Delta EC and chloride relative to the two baselines (Existing Conditions and No Action Alternative), which characterizes direction and degree of EC and chloride change, were assessed and results presented in the narrative impact discussions and supporting tables in Chapter 8 appendices.
1742	44	The explanation of Electrical Conductivity Methodology on page 8H-1, lines 22-26, of Appendix 8H of the DEIR/DEIS correctly notes that water projects will be operated to comply with water quality standards. "DWR and USBR have every intention of operating SWP and CVP facilities by fine tuning reservoir storage and exports in real time to meet D-1641 standards, and any changes to D-1641 as adopted by the SWRCB. Actual operations are continuously adjusted to respond	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		to reservoir storages, river flows, exports, in-Delta demands, tides, and other factors to insure compliance to regulatory requirements to the extent possible."	
1742	45	Page 8-157 of the DEIR/DEIS, lines 16-25, includes a brief explanation of how the DSM2 modeling results are used to assess compliance with water quality objectives and states: "Because the DSM2 inputs are on a monthly time-step, the assessment of compliance with sub-monthly objectives (e.g., 14-day running averages) is conducted in terms of assessing the overall direction and degree to which Delta EC would be affected relative to the baseline, and discussion of compliance does not imply that the alternative would literally cause Delta EC to be out of compliance a certain period of time." (Emphasis added.) These explanations of modeling limitations are helpful to the reader. However, in the detailed assessment of potential water quality impacts for all the BDCP alternatives, the assessment for chloride and EC focuses on the exceedance of chloride and EC objectives. There is a mismatch between the explanation of how the modeling results should be utilized for impact assessment and the actual assessments in the text of Chapter 8. This results in very conservative findings of potential water quality impacts that are of great concern to many stakeholders. Clearly, some portion of the changes in chloride and EC identified for project alternatives are due to very conservative modeling assumptions rather than actual estimated project impacts. Conservative modeling is a useful tool when performing a purely comparative analysis, but as such, the impact discussions in Chapter 8 should be qualified to expressly acknowledge that the modeling results are not used to predict actual water quality levels, but they are being used for comparative purposes based on conservative assumptions as Appendix 8H makes clear.	Please refer to Master Response 14 for a discussion of water quality and the effects of salinity.
1742	46	While the chapter offers an explanation for the modeling limitations and attributes some of the exceedances of chloride and EC standards to modeling anomalies, the reader is not able to differentiate modeling anomalies from instances where the BDCP alternatives may actually result in water quality impacts. Thus, the assessment of potential chloride and EC impacts for the BDCP alternatives should be revised to clarify that the project will be operated to comply with existing regulatory standards, and the assessment should also clearly explain where the EC and chloride changes are due to modeling anomalies, and describe the portion of the estimated increase in EC and chloride that is due to modeling anomalies.	Please refer to Master Response 14 for a discussion of water quality and the effects of salinity. 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.
1742	47	The evaluation of potential water quality impacts for Barker Slough at the North Bay Aqueduct (NBA) includes a quantitative analysis using the DSM2 model. The potential changes in constituent levels are evaluated two ways using DSM2 model output. Mean monthly flow-fraction output from the DSM2 fingerprinting analysis combined with historical source water quality data is used in mass-balance calculations to estimate constituent concentrations at the NBA (i.e., a "mass-balance" approach). For chloride and bromide, a second, alternative modeling approach is also employed that uses DSM2 output results for Electrical Conductivity and applied relationships between EC and chloride and chloride and bromide, to estimate chloride and bromide concentrations at the NBA (i.e., the "alternative modeling" approach). Based on these two DSM2 modeling approaches, the assessment of potential water quality impacts finds significant impacts at Barker Slough, particularly for bromide. In addition to the concerns described in the preceding section regarding the overall DSM2 modeling approach, we have two concerns with the quantitative assessment approach used	Additional descriptions regarding modeling uncertainty and assumptions were added to the assessment. Specifically, these address assumptions regarding sea level rise and the assumed footprint and design of restoration areas, and the performance and accuracy of DSM2 in the Barker Slough area. Additional discussion of overall modeling uncertainty and validity of the bromide approach has been added to section 8.3.1. The cause of the increases in Barker Slough is sea water intrusion/bay water influence, and clarification and additional analysis have been added to the assessment.

DEIRS Ltr#	Cmt#	Comment	Response
		to analyze potential bromide impacts at the NBA. First, the analysis should explain that the DSM2 model does not accurately model the NBA region, and make it clear that at most, the modeling can be used for comparative purposes. DSM2 does not take into account the local Barker Slough watershed, and the unique landscape and water quality conditions in the watershed that affect water quality at the NBA. The DEIR/DEIS considers the results from both the "mass-balance" and "alternative modeling" assessment approaches, and then, despite the limitations in each modeling approach, selects the more conservative results of the mass-balance modeling approach for the impact analysis without cautioning the reader that both approaches have limits that make them unsuitable as predictive models, and clearly stating that they are being used conservatively and for comparative purposes only. Second, the increases in bromide levels estimated using the mass-balance approach are confusing when considering the DSM2 fingerprinting results. When reviewing the DEIR/DEIS fingerprinting results that show modeled changes in source water contributions (i.e., Sacramento River, San Joaquin River, San Francisco Bay, eastside tributaries, Delta agriculture and Yolo Bypass) at the NBA, it is not possible to determine the cause of the estimated increases in bromide. The fingerprinting charts all indicate decreases in the Delta Agriculture water source and no increase in the San Francisco Bay water source, so decreases in bromide would be expected. The only explanation for the bromide increase at the NBA is that there must be a small increase (less than 1%) in San Francisco Bay water at the NBA. The analysis should be clarified and relevant data should be explicitly discussed in the text so that the reader can understand the mechanism for the bromide increases at the NBA. In addition, the evaluation of the potential water quality impacts of each alternative on the NBA should be revised to qualify the impact analyses in light of measured site-specific water quality data and expressly acknowledging the important influence of the local watershed on water quality.	
1742	48	The assessment of potential impacts for pesticides finds that implementation of CM 13, which proposes the use of herbicides to control invasive aquatic vegetation around habitat restoration sites, could have adverse effects on non-target aquatic species. The assessment of potential pesticide impacts already includes a discussion of the regulations applicable to the California Division of Boating and Waterways' invasive aquatic vegetation control program to protect the environment, but it should be revised to more fully recognize other existing regulatory programs and those under development that address impacts of pesticide use on surface water quality. In particular, the analysis should consider the State Water Resources Control Board Statewide General NPDES Permit for Residual Aquatic Pesticide Discharges to Waters of the United States from Algae and Aquatic Weed Control Applications, Water Quality Order 2013-0002-DWQ. In addition, the assessment should be revised to consider the substantial amount of effort by State agencies to address pesticide impairment of surface waters. The Central Valley Regional Water Quality Control Board and the Department of Pesticide Regulation are conducting monitoring and scientific studies to assess pesticide impacts and developing regulations (TMDL programs, Irrigated Lands Program, pesticide use restrictions for urban and agricultural uses, etc.). It is reasonable and appropriate to disclose and factor into the analysis the fact that these programs will result in reduced pesticide impairment of surface waters in the future.	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) also 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.
1742	49	The Delta is Highly Altered and The BDCP is Not Intended to Address All Past Harms or Restore the Delta to Its Pre-Altered State. Since the late 1800s, the Bay-Delta ecosystem has been substantially altered. Changes in key environmental attributes of the Bay-Delta have contributed to the current degraded state of	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 comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		the ecosystem and appear to be proximate causes of declines in desired fishes and increases in non-native species. Appendix 1A of the BDCP EIR/EIS correctly notes that the BDCP is not intended to address all the factors that have contributed to the Delta's decline and briefly summarizes a few but not all of those factors. (EIR/EIS pp. 1A- 1.) Many factors that have contributed to the decline of the Delta's ecosystem including the conversion of tidal marsh and floodplains to farmland, construction of levees and altering of tide flows, in-Delta and upstream water diversions, contaminant discharges, ammonia and nutrient discharges and changes to the food web, increases in water temperatures, and introduction of non-native and invasive species. The Delta will remain in a highly altered state for the foreseeable future and the BDCP is not intended to address all the past harms or restore the Delta to a pre-altered state. The BDCP's focus is limited within the Delta itself with a specific purpose "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- Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations." (EIR/EIS, p. 2-2.)	
1742	50	The Sacramento-San Joaquin Delta has been transformed from the largest wetland system on the Pacific Coast to highly productive farmland and other uses. Some 700,000 former tidal marsh acres and adjoining floodplains have been converted (Moyle et al. 2010); about 460,000 acres are in agricultural production today (CDWR 2013). Only 3% of the Delta's historical tidal wetland and floodplain extent remains today (Whipple et al. 2012). The transformation from historical landscapes has greatly reduced the diverse array of habitat types that were found in the historical Delta and connectivity between those habitats. The historical Delta habitats supported high productivity and the high connectivity among the habitats allowed the dispersion of these nutrients throughout the system and into the estuarine food webs, supporting dense fish populations (Lund et al. 2007).	The commenter's comment on the historical transformation of the Delta in the context of farming and wildlife and aquatic habitat is acknowledged. However, it is not evident that the commenter is making a comment on the BDCP EIR/EIS. Therefore, no response is required.
1742	51	In the past 160 years, approximately 1,335 miles of levees were constructed and in- Delta channels were widened, straightened, deepened, connected, and in some instances gated, which have collectively altered the pattern and extent of diurnal tidal flows. Most upstream rivers and many of the contributing streams have been modified with dams, diversions, or other structures that have separated channels from their floodplains, changing inflow patterns, and reducing sediment and nutrient inputs to the ecosystem.	The comment describes the history of Delta levees. It does not raise any environmental issue related to the EIR/EIS.
1742	52	Concurrent with conversion of the Delta's wetlands and floodplains to agriculture, upstream agriculture began to expand as well. Diversions to these upstream areas has reduced inflow into the Delta by some 30% today (CDWR 2013). Within the Delta, approximately 1,800 diversions take water directly from the channels and sloughs, which together divert up to 5,000 cfs during summer months. (CDWR 2013). Water export projects can divert a maximum of about 11,200 cfs. Since 1955, exports by the SWP and CVP have averaged about 15% of total Delta inflow, or half the volume diverted upstream of the Delta (DAYFLOW data). The North Bay Aqueduct and Contra Costa Canal divert additional waters from the Delta. Outflow has averaged from 75-80% of inflow.	The commenter's comment is noted. However, it is not a comment on the BDCP Draft EIR/EIS. As such, no response is required.
1742	53	Contaminant discharges have increased in the Delta. Use of pyrethroid pesticides for both agricultural and residential uses (approximately 70% of California's total pyrethroid use occurs in urban areas) have increased, reflecting a national trend (Weston et al. 2004; Amweg et al. 2005; Brander et al. 2009).	The water quality assessment in Chapter 8 of the Final EIR/EIS evaluates effects of the project alternatives on instream pesticide concentrations. While it is true that use of pyrethroids have increased in comparison to use of chlorpyrifos and diazinon pesticides which have been in decline (as stated in Section 8.1.3 of Chapter 8, Water Quality) monitoring data for pyrethroids within the mainstream rivers and water bodies of the Delta are scarce , confounding attempts to estimate loads of pyrethroids transported to the Delta from

DEIRS Ltr#	Cmt#	Comment	Response
			the Central Valley (Werner and Oram 2008; TDC Environmental 2010). However, the effects of project operations and maintenance for all action alternatives, as well as construction of any restoration activities, are discussed in detail in Impact WQ-21 and Impact WQ-22.
1742	54	Pyrethroid chemistries appear to affect food web organisms at low concentrations (Werner and Oram 2008; Werner et al. 2010).	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	55	Inputs of ammonium (NH4) and estrogenic compounds into the Delta from wastewater discharges have also risen as population has grown. Conversely, phosphate concentrations have declined. Increased levels of NH4 have been shown to inhibit the uptake of nitrate (NO3) by phytoplankton (Wilkerson et al. 2006; Dugdale et al. 2007; Parker et al. 2012).	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	56	Estrogenic compounds (aka xenobiotics) have been linked to changes in sex ratios for some fish (Kidd et al. 2007; Brander et al. 2013).	Endocrine disrupting chemicals and constituents of emerging concern are addressed in Section 8C.1.5.4 in Appendix 8C of the Draft EIR/EIS.
1742	57	Some aquatic organisms are able to preferentially use NH4 as a nitrogen source, including Brazilian waterweed Egeria densa and cyanobacteria such as Microcystis aureginosa. The ratio of nitrogen:phosphorus (N:P) affects community structure, growth rates, and abundance at all levels of the food web (Sterner and Elser 2002; Glibert et al. 2011). Glibert et al. (2011) found that the variation in these nutrient concentrations and ratios is highly correlated to variations in the total amount and composition of phytoplankton. The change in chl-a with N:P is apparent in different regions of the Bay Delta; as N:P increases, chl-a declines.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. 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). These assessments concluded that all project alternatives would have less than significant impacts to these constituents. Thus, the alternatives would not be expected to cause substantial changes concentrations of ammonia, nitrate, or phosphorus at Delta locations relative to Existing Conditions or the No Action Alternative that would contribute to changes in N:P ratios or increased algae production. Please refer to Master Response 14.
1742	58	Monitoring by the California Department of Fish and Wildlife (CDFW) and the Interagency Ecological Program in the Bay-Delta estuary over the past 35 years has documented trends in increased water clarity and reduced turbidity. Turbidity levels have undergone a significant step decrease in the San Francisco Bay (expressed by suspended sediment concentration) decreasing 36% between water years 1991-1998 and 1999-2007 (Schoellhamer 2011). These changes have significant implications for several fish species, including delta smelt, as turbidity appears to be a critical factor for delta smelt larval feeding. Reservoirs on the major tributaries have reduced sediment input to the Bay-Delta and the sediment transport capacity of channels below these reservoirs decreases over time as the channels become incised and armored. However, while suspended solids concentrations in the Bay-Delta rise following significant rainfall, releases from upstream reservoirs are not an effective means of delivering suspended sediment to the Delta.	The effects of the project alternatives on turbidity are described in Impacts WQ-29 and WQ-30 within Chapter 8 of the Draft EIR/EIS.
1742	59	The food web that supports native fishes in the Bay-Delta is different than decades ago. Primary productivity and phytoplankton biomass, as measured by chl-a concentrations, decreased 42% between 1976 and 1995 and still remains low (Jassby 2008). Nixon (1988) reports a strong relationship between production at the base of the food web (primary production) and production of fish (fishery yield). It provides an explanation for the low fishery production in the Bay-Delta estuary. Based on the results presented in Nixon (1988) and in Jassby (2008) and others (e.g., Jassby et al. 2003; Boersma et al. 2008; Chassott et al. 2010; Kimmerer et al. 2012), the low primary productivity in the Delta results in low fishery production.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	60	The link between changes (declines) in primary production and fish production in the Bay-Delta estuary is further supported by the shift in the dominant phytoplankton species from diatoms to less nutritious and sometimes toxic algal species (Brown 2009). Secondary productivity has also changed, with larger, more accessible zooplankton species being	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		replaced by smaller species, such as Limnoithona tetraspina (Winder and Jassby 2010).	
1742	61	There is substantial scientific agreement that many of the observed changes in Delta primary productivity and food web composition are a result of introduction of non-native and invasive species, such as the Amur River clam Potamocorbula amurensis, and that those changes have had significant impacts on the abundance and distribution of several desired species, such as the northern anchovy, mysid shrimp, and striped bass. Changes to the lower levels of the Delta food web also appear to have had detrimental impacts to other native species, including delta smelt and longfin smelt.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	62	Significant changes in average monthly temperatures have been observed between 1983 and 2007 (Jassby 2008). South Delta water temperatures in summer are now routinely too warm for delta smelt (Nobriga et al. 2008). Climate change is expected to result in further increases in water temperature in the estuary. Cold-water reservoir releases have been used for decades to provide temperature refugia for salmonids; however, climate change could result in a decrease in cold-water pools in upstream reservoirs as the contribution of snowmelt to mountain runoff declines. Water temperatures provide an important constraint on ecological function, including effects on aquatic invertebrates and effects on fish spawning, swimming performance, metabolism, and mortality. Water temperatures in the Bay-Delta are primarily driven by atmospheric influences, although thermal dispersion also influences water temperatures, and bathymetric features can influence site-specific water temperatures. Reservoir releases will be unable to affect water temperatures in the Bay-Delta during the warmer summer and fall seasons when cooler water temperatures are most needed.	The comment is consistent with information presented in Chapter 8, Water Quality, and Chapter 11, Fish and Aquatic Resources, of the EIR/EIS. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.
1742	63	When considering trends in Delta fish abundance as a whole, it is apparent that the Delta fish community has not crashed -- it has shifted composition. Based on the California Department of Fish and Wildlife Service's fall midwater trawl and summer townet surveys, many native fish species, including salmonids, have declined; however, the abundances of other fish species that are more tolerant of higher water temperatures have increased over time, including non-native species that are popular for sport fishing, such as largemouth bass and sunfish. The Delta is now considered to be a world-class largemouth bass fishery, with thousands of anglers and nationally televised tournaments (e.g., Bass Masters), as well as local and regional tournaments occurring throughout the year. One outcome of the shift in composition in the fish community has been a rise in predators of fish of concern. Recent research indicates that larval and sub-juvenile delta smelt suffer from predation by Mississippi silversides (Baerwald et al. 2012). Intraguild competition may also occur (Bennett and Moyle 1994; Bennett 2005). Juvenile salmon also suffer from high levels of predation by non-native fishes (Perry et al. 2010, 2013; Singer et al. 2012). In particular, winter-run salmon are at significant risk of extinction as a result of predation by striped bass, among other stressors (Lindley and Mohr 2003).	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	64	The Use of CALSIM II and Other Analytical Tools in the BDCP and EIR/EIS Analyses Is Appropriate Appendix 5A provides an extensive discussion of the modeling methodology used for the BDCP and EIR/EIS analyses. The CALSIM II model was used to model hydrology and system operation, and as such, provided the basis and output for multiple other hydrologic, hydrodynamic, and biological models and analyses. (BDCP EIR/EIS, p. 5A-A6.) As correctly noted in the EIR/EIS, "CALSIM represents the best available planning model for the SWP and	This comment is consistent with information presented in Appendix 5A, Modeling Technical Appendix, 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
		CVP operations." (Id., p. 5A-A5.) CALSIM II has attracted much attention over the years due to its high-profile use in numerous system-wide evaluations of SWP and CVP operations, including use in CALFED, the EIR for the Monterey Amendment to the State Water Project Contracts ("Monterey Plus" EIR), and OCAP BiOps. It received much scrutiny for its use in the Monterey Plus EIR, and as a result, that EIR provides extensive documentation on the appropriateness of CALSIM II for comparative analyses of the type used in CEQA and NEPA environmental analyses. (See Dept. of Water Resources, Draft Environmental Impact Report for the Monterey Amendment to the State Water Project Contracts, Oct. 2007, Appendix G; Dept. of Water Resources, Final Environmental Impact Report for the Monterey Amendment to the State Water Project Contracts, Feb. 2010, pp. 6.3-1 -- 6.3-48, Appendix D.) About the time preparation of the Monterey Plus EIR began, CALSIM II was reviewed by an external peer review panel in 2003. DWR and Reclamation responded to the peer review report in 2004. In addition, as part of the Monterey Plus EIR development, a modeling subcommittee of the joint plaintiffs/contractors EIR Committee was formed early in the planning process to review assumptions that would be input to the model.	
1742	65	The CALFED Bay-Delta Program commissioned an external peer review of the CALSIM II model in 2003. The central question put to the review panel was whether the CALFED program had adopted an appropriate approach to modeling the CVP/SWP system. The panel considered a variety of CALSIM II issues and addressed how future model development activities could be managed to assure quality results for current and proposed applications. The panel published its results in A Strategic Review of CALSIM II and its Uses for Water Planning, Management, and Operations in Central California (Close et al. 2003). (Also included with the Monterey Plus DEIR in Appendix G.) In 2004, DWR and Reclamation responded to the questions, comments and recommendations of review panel in a report (Peer Review Response: A Report by DWR/Reclamation in Reply to the Peer Review of the CALSIM II Model Sponsored by the CALFED Science Program, 2004; also included with the Monterey Plus DEIR in DEIR Appendix G), outlined plans and priorities for model improvements. Many of the elements of model development features outlined in the Peer Review Response will be implemented in an updated version of the model, CALSIM III. In general, the panel concluded that the current modeling approach was comparable to other state-of-the-art models and that it addressed many of the complexities of the CVP/SWP system. To increase user confidence in model results and to provide a basis for assessing the model's ability to produce absolute predictive results of system behavior, the panel suggested calibration and verification of the model, as well as sensitivity and uncertainty analyses. The Peer Review Response prepared by the DWR and Reclamation also highlights the ongoing and planned efforts to establish trust in and credibility for the model by improving documentation and by conducting sensitivity and uncertainty analyses of the model parameters and results. Other efforts include enhancing the level of detail in the geographic representation of the system, improving hydrologic input to the model, and continued software development/enhancement.	The comment is supportive of the use of CALSIM II for the EIR/EIS analysis. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. Please see Master Response 31.
1742	66	CALSIM II can be used in a predictive study or a comparative study. In a predictive study, CALSIM II would be used to estimate an absolute value, for example the amount of water	As described in Chapter 5, Water Supply, of the EIR/EIS, the CALSIM II model is a monthly model that incorporates assumptions about daily operational changes over 82-years of hydrologic records with different

DEIRS Ltr#	Cmt#	Comment	Response
		available to the SWP in the Delta in a given month under a given set of hydrologic conditions. CALSIM II developers consider the model best used to make comparative studies rather than absolute predictions. The peer review panel agreed that CALSIM II was a good tool for comparative studies, when a "without project" scenario is compared with a "with project" scenario. In the BDCP EIR/EIS, as with the Monterey Amendments EIR, the model was not used for a predictive studies; rather it was used for comparative studies, principally between the baseline and the alternatives.	assumptions for SWP and CVP operations. Therefore, the CALSIM II and other related model results should only be used in a comparative manner between model runs; and should not be used in a predictive manner to determine absolute values. 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.
1742	67	The CALSIM model is admittedly complex, with its data input, assumptions, mathematical computations, and of trying to simulate the complex SWP/CVP water storage and delivery system. Despite its complexity, it is not a perfect model and it is not intended to be used to portray "certain" results. CEQA does not require perfection, but rather adequacy, completeness, and a good faith effort at full disclosure. (See CEQA Guidelines Section 15151.) Consequently, the use of the CALSIM model in the BDCP EIR/EIS for comparative purposes is fully appropriate and consistent with CEQA.	This project is consistent with information presented in Chapter 5, Water Supply, of the EIR/EIS, that the CALSIM II model and other related model results should only be used in a comparative manner between model runs; and should not be used in a predictive manner to determine absolute values. 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.
1742	68	The BDCP Alternatives evolved from decades of prior study The range of alternatives developed by the BDCP and analyzed in the EIR/EIS benefits from a long history of study that extends over decades and includes prior analysis of literally hundreds of potential alternatives. Since the 1940s the state has searched for solutions to the problem of moving water through the Delta from reservoirs in the Sacramento Valley to customers in the San Joaquin Valley, Silicon Valley and Southern California. Proposals ranged from the grandiose; building massive steel gates across the Carquinez Strait to shipping water in rubber bladders from the North Coast Rivers to Southern California, bypassing the Delta entirely. Of the many proposals studied over the years to safely move water through or around the Delta only one continues to return as the best option for solving the Delta conveyance problem. Moving water around, or under the Delta in a separate conveyance facility that separates the water available from Northern reservoirs from the water in the Delta is the option that best satisfies the State's need to reliably move high quality water across the Delta in a way that is best for the Delta environment.	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. 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 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. 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.
1742	69	1964 -- The Interagency Delta Committee In the early 1960s the Interagency Delta Committee (IDC) comprised of DWR, U.S. Bureau of Reclamation (USBR), and the U.S. Army Corps of Engineers (USACoE) reviewed and examined available information and studies for the purpose of recommending a proposed plan of development for the Delta to the California Water Commission (Commission). The IDC examined four different approaches: Hydraulic Barriers; Physical Barriers; Waterway Control Plans (use of hydraulically controlled and modified Delta channels to maintain salinity); and, Peripheral Canals. In 1964 the IDC took testimony from a variety of agencies and stakeholders. During its testimony before the IDC the Bureau of Marine Fisheries in the California Department of Fish and Game indicated that a peripheral canal would be beneficial to fish and wildlife. [footnote 1: Turrentine et. al. The Sacramento-San Joaquin Delta -- The Evolution and Implementation of Water Policy, An Historical Perspective. Dept. of History, Univ. of	See Master Response 36 for how the proposed project is different from the peripheral canal. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.

DEIRS Ltr#	Cmt#	Comment	Response
		California, Davis. California Water Resources Center, UCD, June 1977. pg 43.] In January 1965, after review and input from numerous federal, state, and local agencies, the IDC presented its recommendations to the Commission in its Plan of Development for the Sacramento-San Joaquin Delta. The central feature of the plan was a peripheral canal which, when combined with other features "…provided for local water supply, flood control, salinity protection, fish and wildlife, recreation, and navigation in the Delta, as well as water conservation and transfer of water across the Delta for state and federal export." [footnote 2: Draft Environmental Impact Report - Peripheral Canal Project. The Resources Agency, Department of Water Resources, August 1974. pg. II-27.] In May of 1969 the Bureau of Reclamation issued a feasibility report on the peripheral canal. In a supplement attached to that report the U.S. Fish and Wildlife Service stated that the canal by itself could not restore the anadromous fishery, but it was a prerequisite to any such plans. [footnote 3: Ibid. pg 152.]	
1742	70	1994 -- CALFED The CALFED effort which combined the state and federal agencies responsible for operation of the Central Valley Project and the State Water Project and for protecting the Delta environment also spent years analyzing the best way to accomplish both objectives. The CALFED agencies conducted an exhaustive public participation process to refine the basic project objectives and begin exploring potential solutions (see, e.g., CALFED Bay-Delta Program Final EIS/EIR, July 2000.) This public process initially identified nearly 50 categories of potential actions and 100 preliminary solution alternatives. The potential alternatives were progressively winnowed and refined, first to a set of 31, then down to 20, then to 10, then to three generalized conveyance approaches that were carried forward for detailed study in the EIS/EIR: Existing system conveyance, modified through-Delta conveyance, and dual-conveyance. The CALFED Record of Decision identified the dual conveyance alternative as the alternative that could "...provide greater technical performance…." However it also presented challenges. As the CALFED ROD explained: "While Alternative 3 may technically perform better for certain resource areas than the Preferred Program Alternative [through-Delta], it is not clear that the additional cost and risk associated with the isolated facility would be worth the benefits. Years of scientific evaluation would be necessary to determine whether an isolated facility would be needed to meet water quality, water supply reliability and fisheries objectives. At the earliest, evaluation, design and permitting the facility would take ten years. Lastly, the isolated facility is so contentious that stakeholder support for the [CALFED] Program would be significantly eroded. Such lack of support could threaten the viability of the entire Program." [footnote 4: Programmatic record of decision. (Sacramento, Calif. CALFED Bay-Delta Program, 2000)] Notwithstanding, "CALFED Agencies did not rule out the possibility of constructing an isolated conveyance facility in the future." (CALFED ROD, p. 28.) "[T]he way the alternatives are structured, going forward with the Preferred Program Alternative does not preclude the Program's ability to undertake additional conveyance actions in the future, subject to appropriate environmental review." (Id. at p. 29.) "If the Program purposes cannot be fully achieved with the actions proposed in the Preferred Program Alternative, additional actions including an isolated conveyance facility will need to be considered in the future," (id. p. 29.)	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.

DEIRS Ltr#	Cmt#	Comment	Response
1742	71	2006 -- CALFED 10-Year Action Plan In April 2006, the CALFED Program issued a 10-Year Action Plan to refocus the Program based on evolving science and changing conditions in the Delta. The Plan responded to earlier independent reviews by the Little Hoover Commission, the Department of Finance, and management consultant KMPG. (CALFED Bay-Delta Program, 10-Year Action Plan, April 2006, available at www.calwater.ca.gov/content/Documents/10_Year_Action_Plan_Final.pdf, p. 13.) Those reviews had been called for by the Governor Schwarzenegger and largely focused on CALFED financing and governance issues. The 10-Year Action Plan noted that, in addition to changes in governance, a new direction for the CALFED Program is needed to respond to new scientific information becoming available and significant changes occurring in the Delta, including: Delta Sustainability -- Scientific information collected and research that is currently under way indicates that the current physical configuration of the Delta is not sustainable. Increasing risk of a significant seismic event in the Delta, coupled with sea level rise associated with global warming, puts Delta levees at high risk. Decline of Pelagic Organisms in the Delta -- Population levels for pelagic organisms in the Delta, including important food web species and the listed delta smelt, are at record low levels and declining. (Id. at p. 7.) With respect to conveyance, the Action Plan called for a feasibility study of the Through-Delta facilities originally recommended by the CALFED Record of Decision and a final determination of whether or not those facilities, specifically the 4,000 cfs diversion facility in the north Delta, should be built. (Id. at p. 46.) The Plan recognized that the CALFED ROD identified the question of whether or not to proceed with the through-Delta approach or consider alternatives as one of the "end of stage 1 decisions" that must be addressed at the conclusion of the first seven years of the Program, and identified several on-going CALFED efforts that would assist in that reassessment. (Id. at pp. 49-51.) A major priority element of the 10-Year Action Plan is the development of a voluntary planning agreement and HCP/NCCP(s) for Delta and anadromous species. (Id. at pp. 52-53.) The Action Plan noted that "several Bay-Delta system users … are working cooperatively to explore preparation of one or more Habitat Conservation Plans…" (Id. at p. 52) and that the first step is negotiation of a Planning Agreement (Id. at p. 53). This is the BDCP. To clarify whether the Action Plan's priority actions are direct CALFED actions or actions coordinated with the CALFED Program, the Action Plan contains a table assigning the recommended actions to one of two columns: "Direct CALFED Actions" or "Coordinated CALFED Actions." (Id. at pp. 54-55.) The HCP/NCCP is classified as a "Direct CALFED Action." (Id. at p. 54.) Another element of the Action Plan is creation of a "100-Year Delta Vision" (Id., pp. 51-52), which became the Delta Vision Process discussed below. The Action Plan anticipated that the Delta Vision process would form a new, long-term strategic plan for the CALFED Program. (Id. at pp. 51-52; 55.)	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. Hopwever, a modified proposed project (Alternative 4A/California WaterFix) also 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..
1742	72	2007 -- CALFED End of Stage 1 Report In adopting the CALFED Record of Decision, the CALFED agencies agreed that the	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) also is being considered. Numerous comments were received that focused on various elements of the BDCP. Where the

DEIRS Ltr#	Cmt#	Comment	Response
		through-Delta conveyance approach would be reassessed at the conclusion of the first seven years of the program (Stage 1) to determine whether it is meeting the Program's goals and objectives: "If the Program purposes cannot be fully achieved with the actions proposed in the Preferred Program Alternative, additional actions including an isolated conveyance facility will need to be considered in the future." (ROD, p. 29.) To begin this assessment, CALFED issued a draft CALFED End of Stage 1 Staff Report in November 2007. The report concluded "that there is sufficient justification to consider alternatives to the existing through-Delta approach." (Id.at p. i.) The report notes that the CALFED agencies are participating in three processes to evaluate alternative conveyance approaches and address levee stability: Delta Vision, BDCP, and the Delta Risk Management Strategy (DRMS). (Id. At pp. I, 16-17.) The report states that the CALFED agencies will incorporate recommendations from these three processes. (Id. At p. 19.).	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.
1742	73	2006 -- Delta Vision Delta Vision was created by Executive Order of Gov. Schwarzenegger on September 17, 2006, to "develop a durable vision for sustainable management of the Delta" so it can support environmental and economic functions important to the people of state. (Delta Vision Final Report, November 30, 2007, pp. 68-69 [Appendix II containing Executive Order], available at www.deltavision.ca.gov/BlueRibbonTaskForce/FinalVision/Delta_Vision_Final.pdf.) The Executive Order called for creation of an independent Blue Ribbon Task Force charged with completing a "vision" report by January 1, 2008 and a "strategic plan" by October 31, 2008. (Id., p. 70) The Executive Order specifically directed that the Delta Vision process "inform and be informed by current and future Delta planning decisions such as those pertaining to the CALFED Bay Delta Program, Bay Delta Conservation Plan" and others. (Id. at p. 69.) As described in a "Delta Vision Background" fact sheet, the Delta Vision process "builds upon work done through the CALFED Bay-Delta Program" but also "broadened the focus of past Delta efforts to recommend actions that will address the full array of natural resource, infrastructure, land use and governance issues necessary to achieve a sustainable Delta.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	74	The Blue Ribbon Task Force issued its Delta Vision report, "Our Vision for the California Delta," in December 2007. With respect to conveyance, the Delta Vision report noted that an isolated facility and the concept of a dual conveyance, joining the isolated facility with improved through-Delta conveyance, could "enhance the reliability of exports, create fewer problems for selected species, be less exposed to seismic risk, and result in higher water quality" but noted that "at this point, there is not sufficient specific information to guarantee these outcomes." (Blue Ribbon Delta Task Force, "Our Vision for the California Delta," November 30, 2007, p. 13.) The Vision report recommended "an assessment of the dual conveyance system as the preferred direction." (Id. At p. 14-15.)	The project's proposed dual conveyance facilities would allow water to be moved through the Delta when conditions permit, and allow water to be diverted from the Sacramento River in the northern Delta when conditions in the south Delta do not permit diversions from the existing State Water Project and Central Valley Project facilities. The location of the north Delta diversion facility is less vulnerable to salinity intrusion, a potential impact of sea level rise, or levee failure, in the future. By establishing an alternative diversion point for exports, a great deal of water management flexibility is added. This added flexibility would provide more options for adaptively managing the Delta so that conditions can be optimized to provide the greatest benefits across all Delta water uses and habitat conditions. For more information regarding alternatives to the proposed project please see Master Response 4.
1742	75	Commenting on the evolving scientific understanding of the Delta, the Vision report noted: When CALFED Bay-Delta Program began, the scientific conceptualization of how the Delta works was derived mainly from the long history of research on East Coast estuaries. CALFED greatly increased the research on the upper San Francisco Bay-Delta Estuary, particularly the Delta, gathering new data and synthesizing information from 30 years of monitoring conducted by the Interagency Ecological Program, U.S. Geological Survey, and other agencies.	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) also 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

DEIRS Ltr#	Cmt#	Comment	Response
		The result has been a greatly improved understanding of the Delta as part of a unique ecosystem and a much firmer foundation for planning effective ecological restoration. (Id. at p. 28.) In October 2008, the Blue Ribbon Task Force issued the Delta Vision Strategic Plan, which contains specific recommendations for implementing the Delta Vision to "sustain the Delta in future decades while ensuring a reliable [Delta] water supply." (Blue Ribbon Task Force, Delta Vision Strategic Plan, October 2008, p. v.) The Strategic Plan contains recommended strategies and actions including restoration of tidal and riparian habitats and increased frequency of floodplain inundation, improving migratory corridors, addressing invasive species, relocating export diversions and implementing conveyance improvements, revising flow standards and operating criteria, and improving water quality. (Id. at pp. ix-x.) Many of these actions are being pursued through the BDCP. With respect to flow standards, the plan calls for standards to "be set though adaptive management processes rather than just permitting standards." (Id. at p. 30.) "A shift from the traditional process of proposing a project and then mitigating its effects is necessary.... The ERP (Ecosystem Restoration Program) Conservation Strategy (Administrative Draft) prepared by DFG (Department of Fish and Wildlife) for CALFED is one start toward an ecosystem policy." (Id. At p. 31.) Thus the strategic plan envisions the recommended comprehensive ecosystem approach building upon the CALFED plan.	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.
1742	76	With respect to water conveyance and storage, the Strategic Plan recommends that new conveyance reduce the impacts of water exports on Delta fish, and to this end, "proposes a dual conveyance facility using a combination of through-Delta and isolated facility improvements." (Id. at p. 101.) Specific actions include "direct[ing] the Department of Water Resources and other allied agencies to further investigate the feasibility of a dual conveyance facility, building upon the Bay-Delta Conveyance Plan" and "direct[ing] the Department of Water Resources, the Department of Fish and Game and other allied agencies to recommend the size and location of new storage and conveyance facilities by the end of 2010." (Id. at pp. 103-104.)	The comment does not raise any environmental issue relate to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. For more information regarding storage please see Master Response 37.
1742	77	Under the broad goal of governance, the Strategic Plan calls for development of "California Delta Ecosystem and Water Plan" to guide and shape management of the Delta in a legally binding, cohesive framework. (Id. at p. 129) The Strategic Plan notes that the CALFED Record of Decision included most elements of such a plan but failed to be implemented due to an ineffective governance structure. (Ibid.) The scope of the Ecosystem and Water Plan is envisioned to incorporate and build upon both CALFED and the BDCP: It will build upon and integrate other plans, modifying and extending them as needed to meet its responsibilities. Those other plans include, but are not limited to: the [CALFED Stage 2] Ecosystem Restoration Program being developed by the Department of Fish and Game, the Land Use and Resource Management Plan developed by the Delta Protection Commission (DPC), any local Habitat Conservation Plan within the Delta, the Suisun Marsh plan under development, sections of the California Water Plan that address reliable water supply being developed by DWR, and the Conservation Program resulting from the Bay Delta Conservation Plan. (Id., p. 130.) The recommendations under governance recognize the value of CALFED and specifically include "optimiz[ing] the use of the CALFED Record of Decision" in implementing the	Please see Master Response 5 for a discussion of the governance structure proposed in the 2013 public draft BDCP. 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.

DEIRS Ltr#	Cmt#	Comment	Response
		proposed comprehensive Ecosystem and Water Plan. (Id., p. 137.) The Governor's 2006 Executive Order also charged a Committee of Cabinet Secretaries, the Delta Vision Committee, to review the completed work of the Task Force and make their own implementation recommendations to the Governor and the Legislature by December 31, 2008. (Delta Vision Final Report, November 30, 2007, pp. 69-70.) On that date, the Committee issued the Delta Vision Committee Implementation Report summarizing its review of the Task Force's recommendations and proposing a timeline of fundamental actions to be taken in the next two years. The Committee agreed with all of the Task Force's basic recommendations, or "strategies," with the exception of the creation of the new recommended long-term governance structure, instead recommending creation of an interim Delta Policy Group. (Id., pp. 13-14.) The Committee recommended eight fundamental actions to be pursued in the near term, including "A new system of dual water conveyance through and around the Delta to protect municipal, agricultural, environmental, and the other beneficial uses of water [and] An investment commitment and strategy to restore and sustain a vibrant and diverse Delta ecosystem including the protection and enhancement of agricultural lands that are compatible with Plan goals" (Id., pp. 1-2.)	
1742	78	2009 -- Delta Risk Management Strategy (DRMS) The CALFED Record of Decision required the completion of a risk assessment that would evaluate sustainability of the Delta, as well as assess major risks to Delta resources and infrastructure from flooding, seepage, subsidence, and earthquakes. Assembly Bill 1200, chaptered in October 2005, requires that the Department of Water Resources (DWR) evaluate the potential impacts on Delta resources and infrastructure, based on 50-, 100-, and 200-year projections, from subsidence, earthquakes, floods, climate change and sea level rise, or a combination of these factors. In February 2009, DWR issued a Phase 1 Risk Analysis Report that analyzes various risks to levees and the local and statewide consequences of levee failure. In 2011 DWR issued the Delta Risk Management Phase 2 Report, which built on the knowledge gained from the DRMS Phase 1 assessment to evaluate scenarios which could reduce the risks to Delta resources and the State economy. (available at http://www.deltarevision.com/drms-phase-2.) The Phase II Report presented conveyance improvements in the form of "building blocks" which were developed and evaluated on the basis of the apparent and direct risk reduction value they offer to the flood control system in the Delta or to the resources and assets they would protect, and include: - Improved Delta Levee Maintenance - Upgraded Delta Levees - Enhanced Emergency Preparedness/Response - Pre-Flooding of Selected Islands - Land Use Changes to Reduce Island Subsidence - Armored Pathway through Delta Conveyance (TDC)	The comment is a synopsis of the Delta Risk Management Strategy and associated reports. It does not raise any environmental issue related to the EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		- Isolated Conveyance Facility Alternatives (ICF) - San Joaquin Bypass & San Joaquin River Widening The Phase II report concluded that: "The highest overall reduction to the risk of water export disruption is the ICF, followed by the dual conveyance (DC), which is a combination of an ICF and armored pathway, then the through-Delta conveyance (TDC)." (Id., Executive Summary, p. 2)	
1742	79	2006 -- BDCP Development of the BDCP began concurrently with the post-CALFED Record of Decision activities. In 2006 the US Fish and Wildlife Service suggested that the Endangered Species Act's Habitat Conservation Plans developed under Section 10 of the ESA could be a better approach to improving water supply reliability and the Delta environment. The California Department of Fish and Game agreed and suggested that developing an HCP that also complied with the State Natural Communities Conservation and Planning Act would allow the CVP and the SWP to receive both state and federal permits with the same degree of regulatory certainty.	Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	80	Despite the exhaustive evaluation of potential alternatives conducted as part of the CALFED EIS/EIR Process, and the converging consensus in post-Record of Decision efforts that a separate conveyance facility is needed, an early BDCP effort nonetheless included a reevaluation of conveyance. During 2007 the BDCP Steering Committee [footnote 5: The BDCP Steering Committee was made up of State and federal agencies, water agencies that receive water from the CVP and SWP, and self-selected stakeholders that chose to participate under a Planning Agreement developed under the NCCPA.] evaluated 10 different conservation strategies eventually narrowing them to just four. The Conveyance Option Subcommittee was established from the members of the Steering Committee and ultimately developed the Conservation Strategy Options Evaluation Report which identified a range of conveyance facility options, operational strategies, and habitat conservation measures. The Conveyance Options Subcommittee recommended a separate conveyance facility, at the time a canal, as the best option and the Steering Committee adopted that recommendation. Since 2007 DWR has further developed several versions of the separate conveyance option chosen by the BDCP Steering Committee. The recommended alternative in the draft EIR/EIS is Alternative 4 which is the culmination of 8 years of evaluation and analysis that makes the clear determination that a new conveyance facility that is operated with protections for the environment is the best way to protect and enhance the Delta environment while improving water supplies for the 25 million Californians and 3 million acres of farms that depend on reliably moving water through the Delta. The BDCP EIR/EIS' conclusion that a separate conveyance facility (recommended as the twin-tunnel proposal of Alternative 4) is necessary to accomplish the State's co-equal goals rests on the work of decades of previous scientists, biologists, and engineers. While the BDCP's approach is improved over those provisos efforts, the validity of its conclusion is buttressed by the consistency of result that has been reach by a diversity of people and processes. The BDCP does not exist based just on its own analysis and conclusions. It benefits from the analysis and conclusions of all those that have addressed the same problem and reached the same conclusion over the past decades.	No issues related to the adequacy of the environmental impact analysis in the It is worth noting that Alternative 4 is no longer the preferred alternative; however Alternative 4A meets the same goals that Alternative 4 does. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.
1742	81	Some Construction Assumptions and Commitments May Not Realistically Represent	DWR has reviewed construction assumptions, mitigation measures, environmental commitments, avoidance and minimization measures and Environmental Commitments (for Alternatives 4A, 2D and 5A) for

DEIRS Ltr#	Cmt#	Comment	Response
		Appropriate Standards for a Large-Scale, Complex Project like CM1. Metropolitan has carefully reviewed the DEIR/EIS from the perspective of construction of CM1, and has concerns about some of the construction assumptions and construction-related environmental commitments described in the document. It is of critical importance that the construction assumptions and commitments presented in the DEIR/EIS and adopted for CM1 are realistic and reflective of activities necessary to implement a project of this magnitude to ensure a safe, cost effective, and environmentally protective construction program. Unfortunately, some of the assumptions and commitments in the DEIR/EIS fall short of this standard. Metropolitan is in a unique position to provide input on the construction-related elements of the EIR/EIS due to our extensive experience in the design and construction of complex water infrastructure projects. Recent examples include Diamond Valley Lake-- 810,000 acre-feet capacity reservoir--($2.1 billion), Paris Valley Pipeline North & South ($150 million), Ozone Retrofit Program at our five water treatment plants ($1 billion), and Inland Feeder Pipeline ($1.2 billion). The latter is a 44-mile water conveyance system of tunnels and pipelines similar to that proposed under Alternative 4. In addition, Metropolitan's Infrastructure Reliability Program targets improvements throughout our system of conveyance, pumping, and treatment facilities. Overall, our current Capital Investment Program includes projects amounting to $2.5 billion over the next 10 years. This experience informs our review of the construction-related elements in the DEIR/EIS. From our review of the document we believe that some of the construction-related assumptions and environmental commitments should be modified. Some of the measures are unnecessarily ambiguous or are inconsistently represented in the DEIR/EIS. Other measures are in some cases unrealistic, imposing constraints on construction that exceed those of local jurisdictions and even DWR's own construction guidelines. Metropolitan is specifically concerned about the construction assumptions and commitments in the areas of noise, air quality, pile driving, and light and glare. Metropolitan is currently compiling detailed information on our concerns with these construction-related assumptions and commitments and will provide this information subsequently. We look forward to working with the lead agencies to identify more realistic and feasible design and construction solutions.	construction feasibility and made revisions where appropriate.
1742	82	The BDCP should explain that the Decision Tree will test the hypotheses underlying the fall X2 flows for delta smelt, and spring X2 flows for longfin smelt. The Alternative 4, high outflow scenario includes additional flows for delta smelt and longfin smelt. For longfin smelt in the spring, the high outflow alternative (March-May) is as follows: [table 14] (BDCP, Chapter 3, p. 3.4-18, Table 3.4.1-1.) For delta smelt in the fall, the high outflow alternative would implement the 2008 FWS Biological Opinion Fall X2 RPA. (BDCP, Chapter 3, p. 3.4-20, Table 3.4.1-1.) The descriptions of the decision-tree process in Chapters 3 and 5 of the BDCP should clarify that while there are many hypotheses regarding what is driving delta smelt and longfin smelt species abundance that may be investigated as part of the BDCP adaptive management program, the decision-tree analyses will specifically test two hypotheses	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) also 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

DEIRS Ltr#	Cmt#	Comment	Response
		related to whether the prescribed high outflow scenarios are well supported, namely: (1) will implementation of the high outflow scenario in the fall increase delta smelt abundance or measurably improve other indicators of species viability, and (2) will implementation of the high outflow scenario in the spring increase longfin smelt species abundance or measurably improve other indicators of species viability? The explanations should also expressly acknowledge that decision-tree hypothesis testing includes re-analyses of the foundational data, analyses, and published literature underlying the so-called delta smelt fall X2 and longfin smelt spring X2 hypotheses, including but not limited to Feyrer et al. 2007, 2008 (unpub.), 2011, and the 2010 State Water Resources Control Board Flow Criteria Report.	ultimately approved at the conclusion of the CEQA/NEPA process.
1742	83	ATT14: Table between March-May Average Outflow Criteria for "High Outflow" Outcome of Spring Outflow Decision Tree.	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.
1742	84	Metropolitan supports the decision-tree and the hypothesis testing to determine if, within the context of the entire BDCP, the high outflow scenario is necessary for the conservation and management of the species as stated at BDCP, Chapter 5, p. 5.5.1-21: The high fall outflow operational criteria may be determined unnecessary through the decision-tree process either because scientific investigations show that there is no relationship between Fall X2 and delta smelt viability or that other BDCP actions such as CM4 will provide the habitat attributes needed to provide for the conservation and management of delta smelt. As explained, above, the high outflow scenario would be rejected if the best available science indicated no relationship between Fall X2 and delta smelt abundance or viability, or no relationship between Spring X2 and longfin smelt abundance or viability. Alternatively, if a causal link is substantiated between Fall X2 and delta smelt and/or Spring X2 and longfin smelt species abundance or viability, then the high outflow scenario would nonetheless be rejected if the benefits of supplemental flow can be achieved through other adopted conservation actions].	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) also 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.
1742	85	Metropolitan Water District further supports statements in the BDCP explaining that if the Alternative 4, high outflow scenario is selected the additional outflow may be provided through multiple sources. The BDCP EIR/EIS modeled Alternative 4, high outflow scenario, with the assumption that water supplies to support higher outflows would be provided through project operations. However, as the BDCP explains, there are actually several possible methods for meeting the high outflow scenario, including the water transfer program. (BDCP at p. 3.4-19, Table 3.4.1-1.) The EIR/EIS should clarify that the modeled high outflow scenario operations are only one example of actions that could be taken to meet the high outflow scenario, and that the analysis in the BDCP EIR/EIS was provided only as a possible scenario for purposes of the programmatic environmental analysis. The EIR/EIS should also clarify that additional project level analysis may be necessary depending on whether the high outflow scenario is ultimately recommended and the manner in which additional outflow requirements are met.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1742	86	Scientific Uncertainty, Aquatic Species The BDCP Draft EIR/EIS ("DEIR/EIS") aquatic species analysis must include a discussion of uncertainty and disagreement among technical experts. There are significant disagreements	The RDEIR/SDEIS included additional information about the methods of particular concern in regards to scientific disagreement, and described those uncertainties, as well as efforts underway to reduce those uncertainties. The analyses also acknowledge those uncertainties.

DEIRS Ltr#	Cmt#	Comment	Response
		amongst technical experts about whether certain analytical methodologies and assumptions are appropriate for use in the DEIR/EIS, but those disagreements are not identified or discussed in the document. There are also analyses contained in the DEIR/EIS that may be appropriate but that have very large error bars. Those error bars need to be disclosed in the DEIR/EIS. CEQA requires disclosure of uncertainty and scientific disagreements between experts. CEQA Guidelines, section 15151, state that, "…the EIR should summarize the main points of disagreement among the experts." Disagreement is acceptable, provided the disagreement is disclosed and the evidence that is ultimately relied on is credible because, "…speculation, unsubstantiated opinion, or evidence that is clearly inaccurate or erroneous, does not constitute substantial evidence." (Eureka Citizens for Responsible Government v. City of Eureka, (2007) 147 Cal. App. 357, 372.) NEPA requires disclosure of uncertainty and scientific disagreements between experts. 40 C.F.R section 1502.9(b) states: "The agency shall discuss at appropriate points in the final statement any responsible opposing view which was not adequately discussed in the draft statement and shall indicate the agency's response to the issues raised." As explained in Center for Biological Diversity v. United States Forest Service (9th Cir. 2003) 349 F.3d. 1157, 1167, "The Service's failure to disclose and analyze opposing viewpoints violates NEPA and 40 C.F.R [Section] 1502.9(b) of the implementing regulations." Further, "…NEPA's requirement that responsible opposing viewpoints are included in the final impact statement 'reflects the paramount Congressional desire to internalize opposing viewpoints into the decision-making process to ensure that an agency is cognizant of all environmental trade-offs that are implicit to the decision'." (Ibid., citing Cal. v. Block (9th Cir. 1982) 690 F. 2d. 753, 770-771, citing Andrus v. Sierra Club (1979) 442 U.S 347, 350.)	
1742	87	The BDCP DEIR/EIS must acknowledge scientific uncertainty and the disagreement among experts related to the longfin smelt analysis. There is disagreement amongst the experts regarding the appropriateness of using the longfin smelt Fall Midwater Trawl: January-June X2 [footnote 1: "FMWT" stands for the Fall Mid-Water Trawl. In the most general terms, "X2" refers to the salinity level of 2 parts per thousand, which corresponds to the mixing zone of fresh and salt water.] relationship as an analytical tool to estimate the effects of the project. The results of the analysis are uncertain, additional discussion is required. There is a statistically significant relationship between longfin smelt FMWT and January-June X2 (Jassby et al. 1995, Kimmerer 2004, Kimmerer et al. 2009, 2013). [footnote 2: Copies of each cited reference are provided in a CD accompanying these comments.] The uncertainty and the disputes between experts are related to how that correlation should be interpreted, and whether it can reasonably be used to predict project related effects. The DEIR/EIS evaluates changes in the location of X2 from winter through spring (January-June), predicts changes in species abundance based on the predicted changes in the location of X2 (January-June), and relates those changes in abundance to changes in low salinity zone (LSZ) habitat for the spawning, egg incubation, rearing and migration life stages. The DEIR/EIS analysis assumes that longfin smelt spawn upstream of the confluence, spring outflows carry the larvae downstream for feeding, and then the species migrate out of the Delta (i.e., larval transport hypothesis). (See e.g., Alternative 1A, pp. 11-296 to 11-299,	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
		Alternative 4, pp. 11-1305-1311.) The analysis breaks the January-June correlation time frame into monthly increments and then evaluates and reports changes in outflow on a monthly basis, and links those changes in monthly X2 to changes in LSZ habitat for each life stage (i.e., spawning, egg incubation, rearing and migration). (Ibid.) Since, the location of X2 (LSZ habitat) is the only constituent of early life stage habitat being analyzed, the DEIR/EIS is assuming that the mechanism underlying the longfin smelt FMWT: January-June X2 correlation is changes in the volume of early life stage LSZ habitat. In the second part of the analysis, the DEIR/EIS uses the Kimmerer et al. 2009 correlation between longfin smelt FMWT: January: June X2 to predict future changes in species abundance based on changes in the location of X2 over the entire January-June averaging period. (Ibid.)	
1742	88	The BDCP DEIR/EIS fails to acknowledge the dispute between experts and the high degree of uncertainty in the following, each of which is described in greater detail below: Experts caution that any interpretation of the longfin smelt Fall Midwater Trawl: January-June X2 correlation is uncertain because the underlying mechanism is unknown. The DEIR/EIS assumes that the biological mechanism underlying the longfin smelt FMWT: January-June X2 correlation is LSZ habitat, which is an uncertain assumption since the biological mechanism is unknown. The DEIR analysis that considers changes in X2 by month or subsets of months within the January-June averaging period is uncertain. The DEIR/EIS assumes that longfin smelt spawn on the Sacramento River upstream of the confluence, and that flows are needed to transport larvae to Suisun Marsh and ultimately to the Bay. In so doing, the DEIR/EIS assumes that the biological mechanism explaining the longfin smelt FMWT: January-June X2 correlation is larval transport. This assumption is uncertain. The DEIR/EIS analyses that use the longfin smelt FMWT: January-June X2 relationship to predict future abundances are uncertain. Whether the stock-recruitment relationship indicates that flow can be used to increase longfin smelt abundance over time is uncertain. Whether the high outflow scenario would increase longfin smelt abundance is uncertain. There is disagreement among the experts. The DEIR/EIS needs to acknowledge these uncertainties.	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. Acknowledgment of the uncertainty in the relationship between winter/spring X2 and longfin smelt abundance is provided in the discussion of Impact AQUA-22: Effects of Water Operations on Spawning, Egg Incubation, and Rearing Habitat for Longfin Smelt.
1742	89	Experts caution that any interpretation of the longfin smelt Fall Midwater Trawl: January-June X2 correlation is uncertain because the underlying mechanism is unknown. The published literature has cautioned against doing the type of analysis contained in the BDCP and its' DEIR/EIS because the biological mechanism(s) explaining the various species abundance: winter-spring X2 correlations are largely unknown. When considering the effect of the CALFED Program, Kimmerer et al. 2002, p. 1285 explained: The flow relationships that form the basis of the current salinity standard (Fig. 8) provide no guidance about how they [species] may respond to such a major change in configuration of the estuary. Predicting these responses is contingent on understanding the mechanisms	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
		underlying the flow relationships." (Emphasis added.) Kimmerer's conclusion regarding the CALFED program is equally applicable to the BDCP as the BDCP contains many of the same program elements.	
1742	90	Each of the species with abundance-X2 relationships would be expected to respond differently to changes in flow patterns, including increased reservoir releases. There isn't one flow management action that is known to benefit all species, including all species with an abundance:X2 relationship. This is true for longfin smelt as well. For example, experts cannot reliably predict how longfin smelt abundance would respond to changes in reservoir releases, as compared to changes in outflow originating from wet hydrology, because the biological mechanism that would explain the observed statistical relationship is unknown. If the biological mechanism is, for example, turbidity then increasing reservoir releases will have no effect because turbidity does not increase with reservoir releases. Kimmerer et al. 2002, p. 1285, explains: Even for a single species the timing and duration of flow-based management should coincide with the mechanism by which the species responds to flow. This implies knowledge of the species mechanism. A mechanism involving an increase in brackish habitat during the rearing season (mechanism 10, Table 1) may require a long period of increased flow, and opportunities for efficiency will be limited; a mechanism involving tidal stream transport and gravitational circulation in the lower estuary (mechanism 11) may occur over a relatively brief period of larval or juvenile recruitment into the estuary. As a more specific example, Sacramento splittail clearly respond to increasing flow through inundation of floodplains during early spring (Sommer et al 1997). This effect may occur through access to spawning habitat, in which case the period of effectiveness would be fairly brief, or rearing habitat, which would require a longer period of inundation. Distinguishing between these mechanisms and determining their importance to overall abundance of the species are important research objectives…." The longfin smelt life cycle model by Drs. Rick Deriso and Mark Maunder further illustrates this point. They have recently completed and submitted for publication a longfin smelt life cycle model (Maunder and Deriso, in review). The results of that model suggest that flow may be important to species abundance, but just as Kimmerer observed above, the question is "which flow?" Hydrology, outflow, X2 and flows into Bay tributaries are cross-correlated. The model selected Napa River flow, which could be used as a surrogate for Bay inflow, as being the strongest predictor of increased longfin smelt abundance. If the model is correct, the most effective longfin smelt management action may be restoration activities within the Bay's tributaries or restoration of the marshes around the Bay. The DEIR/EIS should explain that the Fall Midwater Trawl: January-June X2 correlation cannot be interpreted reliably until the underlying biological mechanism is identified. Since the biological mechanism is unknown, the analysis is uncertain.	Please see response to 1742-88.
1742	91	The BDCP DEIR/EIS assumes that the biological mechanism underlying the longfin smelt Fall Midwater Trawl: January-June X2 correlation is Low Salinity Zone (LSZ) habitat, which is an uncertain assumption since the biological mechanism is unknown. The DEIR/EIS analysis defines species habitat only in terms of LSZ habitat, and equates negative effects to changes in the size and location of the LSZ. However, the published literature does not support the assumption that winter-spring LSZ habitat is the biological	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
		mechanism underlying the FMWT: January- June X2 correlation. In the original Jassby et al. 1995 paper, X2 was characterized as an estuarine habitat indicator. However, that doesn't mean that the size of the LSZ is the mechanism underlying the species abundance: X2 relationships. As Kimmerer et al. 2013, p. 5, explained: …it is important to distinguish between the LSZ as a particular habitat and the numeric value of X2 as a measure of the wide variety of the physical responses of the estuary to flow (Kimmerer 2002b). In particular, abundance of various fish species may respond to X2 or its correlates through mechanisms that are not directly related to LSZ characteristics (Kimmerer 2002b, Kimmerer et al. 2009). Kimmerer et al. 2013, p. 15, investigated whether the size of the LSZ, rather than the numerous other non-salinity components of habitat, is the mechanism underlying the various species abundance:X2 relationships and they concluded that: Despite the similarity among the relationships of habitat index to X2, the abundance-X2 relationships (Kimmerer et al. 2009) differed greatly among the species (Fig. 8). This finding together with the lack of correspondence for some species between the habitat-X2 and abundance-X2 relationships (Fig. 8), suggest that variation in the volume (or area, not shown) of physical habitat as defined by salinity is not a strong influence on abundance of many of these fish. (See also, Reed et al. 2014, p. 33.) Longfin smelt is one of the species where changes in the size of the LSZ habitat was considered and rejected. The primary mechanism underlying the longfin smelt abundance:X2 correlation isn't the size of the LSZ. This conclusion has been confirmed on several occasions. Kimmerer et al. 2013, p. 14, concluded: Nevertheless, the observed [longfin smelt] X2-abundance relationships are inconsistent with a mechanism that involved extent of low-salinity habitat…., Kimmerer et al. 2009, p. 10, concluded: Confidence limits for relationships of abundance with X2 for longfin smelt, bay shrimp, and starry flounder did not overlap with those of any of the corresponding habitat estimates. Thus, other mechanisms are likely operating to cause these species to increase in abundance with increasing flow. And, The modest slope of habitat to X2 would allow for only about a twofold variation in abundance index over that X2 range. Furthermore, the extent of the longfin smelt population in terms of distance up the axis of the estuary decreases with increasing flow. Therefore, although increases in quantity of habitat may contribute, the mechanisms chiefly responsible for the X2 relationship for longfin smelt remains unknown. It may be related to the shift by young fish toward greater depth at higher salinity, possibly implying a retention mechanism. Kimmerer 2002, p. 1283 concluded: Data for striped bass and longfin smelt both fail to support a mechanism by which habitat area increase with flow.	

DEIRS Ltr#	Cmt#	Comment	Response
		This conclusion should not be surprising as Kimmerer, who is one of the Jassby et al. 1995 co-authors, had advised caution when interpreting of the longfin smelt abundance:X2 correlation. "Jassby et al. (1995) recognized that other factors that influence species abundance, but are not correlated with X2, should be considered, and cautioned against 'blind adherence' to X2 as a management tool." (Reed et al. 2014, p. 22, citing Jassby et al. 1995, p. 275.) The BDCP DEIR/EIS should explain that the assumed biological mechanism of changes in the size or volume of LSZ habitat is uncertain.	
1742	92	The BDCP analysis of changes in X2 by month or subsets of months within the January-June averaging period is uncertain The BDCP DEIR/EIS attributes biological meaning to each month or subset of months within the January-June X2 correlation. The longfin smelt abundance:X2 correlation cannot be interpreted this way because it is not known which months within the January through June time frame are most biologically relevant, and X2 in all of the months cross-correlate. Kimmerer reviewed this approach in an unpublished analysis of the BDCP for The Nature Conservancy and rejected selecting a narrower period within the January-June period for analytical purposes. Kimmerer (TNC, 2013) at p. 67 explained: The months selected in the original analyses were based on the assumption that the (unknown) X2 mechanism operated during early life history of longfin smelt, which smelt experts linked to this period. Autocorrelation in the X2 values through months means that statistical analysis provides little guidance for improving the selection of months. A better understanding of the mechanism(s) underlying the relationship would probably allow this period to be narrowed and focused, but for now there is little basis for selecting a narrower period for averaging X2. The DEIR/EIS analysis has little technical basis for selecting individual or groupings of months within the January-June time period and then assuming a potential biological impact from a change in X2. The DEIR/EIS should disclose the uncertainty around selecting a subset of months within the January-June period for analytical purposes.	Please see response to 1742-88.
1742	93	The DEIR/EIS assumes that longfin smelt spawn on the Sacramento River upstream of the confluence, and that flows are needed to transport larvae to Suisun Marsh and ultimately to the Bay. In so doing, the DEIR/EIS assumes that the biological mechanism explaining the longfin smelt Fall Midwater Trawl: January-June X2 correlation is larval transport. This assumption is uncertain. The DEIR/EIS assumes that the mechanism underlying the longfin smelt FMWT: January-June correlation is larval transport. This assumption is uncertain. There is little support for the assumption that the mechanism underlying the longfin smelt FMWT: January-June X2 correlation is larval transport. In fact, the fishery agencies have concluded that the mechanism underlying the longfin smelt correlation is unknown. For example, in its longfin smelt listing decision, the United States Fish and Wildlife Service acknowledged that the mechanism underlying the longfin smelt FMWT: January-June X2 correlation is unknown, listing larval transport as only one of several potential mechanisms. The 2012 FWS longfin smelt listing decision states: "Despite numerous studies of longfin	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
		smelt abundance and flow in the Bay Delta, the underlying causal mechanisms are still not fully understood." (77 Fed. Reg. 19.756 -- 19.766 (April 2, 2012).) In several of Kimmerer's publications he also agreed that the mechanism underlying the longfin smelt X2 correlation is unknown. (See e.g., Kimmerer et al. 2009, p. 11). During the 2010 State Water Resources Control Board flow proceedings, Kimmerer further explained that while longfin smelt have a strong abundance-flow relationship, longfin smelt are generally distributed at locations downstream of the low salinity zone (LSZ), and therefore the mechanism explaining the abundance-flow relationship is likely related to conditions far outside of the LSZ (Dr. Kimmerer, SWRCB, WQCP Workshop 1, Day 1, video available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review_workshops.shtml.)	
1742	94	The Delta Regional Ecosystem Restoration Implementation Plan ("DRERIP"), which is the working conceptual model for the fishery agencies and Bay-Delta scientific community, concludes similarly at p. 9 stating: The mechanism behind this relationship is not completely understood, and it is quite likely that more than one mechanism is behind the overall effect. High flows may increase available spawning habitat, increase hatching success, decrease predation on LFS larvae, increase success of larval-juvenile transformation (e.g., by increasing food sources), or some combination of these factors. Baxter (1999) and Dege and Brown (2004) observed that larval densities did not respond significantly to freshwater flow conditions. This argues against mechanisms that produce positive correlation between egg-larval an increase in available spawning territories or improved egg hatching success) and for mechanisms that increase success of larvae-juvenile transition…. As explained in the DRERIP model, longfin smelt spawning in the upper estuary is not correlated well with outflow. In wet years, there are generally low numbers of larvae captured in the upper Estuary, a likely explanation is that longfin smelt descend into the San Pablo Bay to spawn (Tracy Fish Facilities Report, Vol. 38, p. 41). Longfin smelt spawning density is higher in the upper Estuary in dry years, particularly in Suisun Bay (Tracy Fish Facilities Report, Vol. 38, p. 41). Therefore, it is unlikely that increased spawning and larvae survival in the upper estuary in high outflow years is the biological mechanism behind the longfin smelt abundance: X2 relationship. The analysis in the DEIR/EIS does not account for the longfin smelt that spawn outside of the Delta. For longfin smelt spawning downstream of the Delta, larval transport from the Delta cannot be a biological mechanism explaining the correlation.	Please see response to 1742-88.
1742	95	The Interagency Ecological Program surveys do not include larval sampling in the low salinity zone areas within the tributaries to the Bay, so the existence and magnitude of spawning downstream of the confluence is unknown. [footnote 3: The Bay Study did perform larval surveys in the 1980s, but those surveys sampled the channels rather than the shore areas where larvae would be expected, and therefore have limited informational value.] However, there is enough evidence to suggest that downstream spawning could be substantial, particularly in wet years. Rosenfield (2010) at p. 6 explained: The California Department of Fish and Wildlife 20 mm survey catches relatively large numbers of longfin smelt larvae in the Napa River estuary, especially during wet winters (CDFG 20mm Survey database), indicating that spawning habitat may be periodically available in that area as well. Finally, some maturing LFS migrate into the South Bay during	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) also 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

DEIRS Ltr#	Cmt#	Comment	Response
		the fall and winter suggesting that spawning may occur in tributaries to the South Bay (e.g., Coyote Creek).	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.
1742	96	In Merz et al. 2013, the authors mapped the distribution of larval longfin smelt. The maps suggest that the Delta is the eastern edge of the species range. It also suggests that longfin spawn east of the confluence. See Figure 9-1, below.	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) also 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.
1742	97	ATT15: Figure 9-1. Merz et al. 2013, Fig. 4, Average annual frequency of longfin smelt detection (%) for larvae and adult life stages by region and IEP survey type.	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.
1742	98	There have been several limited surveys of the tributaries to the Bay, and those surveys identified longfin smelt larvae. In 2001 (a dry year), the Department of Fish and Wildlife ("DFW") performed the 20 mm survey in the Napa River near the City of Napa and identified densities of longfin smelt larvae that were an order of magnitude higher than in the Sacramento River. (20mm survey data available at ftp://ftp.delta.dfg.ca.gov/Delta%20Smelt.) DFW completed another survey in the Napa Estuary portion of the Napa River north of Vallejo in 2006 and again identified numbers of longfin smelt larvae that were an order of magnitude higher than in the Sacramento River. (Delta smelt larval survey data available at ftp://ftp.delta.dfg.ca.gov/Delta%20Smelt.) Stillwater Sciences, a consultant to the City of Napa, sampled in the Napa River near the City of Napa in 2001-2005, and found large densities of longfin smelt larvae in 2001 and 2003 (dry years). (U.S. Army Corps of Engineers, 2005.) In the 1980s, large numbers of longfin smelt larvae and juveniles were captured in the Napa River (Tracy Fish Facilities Report, Vol. 38, p. 39 ("Juveniles are abundant in the Napa River.... "). The sampling during this period was in the open channel so it is possible that even higher densities would have been identified in shallows, where spawning is thought to occur. The 20 mm survey consistently catches longfin smelt at high densities in the Napa River between Vallejo and a few miles north of Mare Island. The 20 mm survey does not start until March, which is after spawning has begun, but it nevertheless suggests that longfin smelt are spawning in the area. The DEIR/EIS should explain that because the scientific community generally agrees that the mechanism underlying the Fall Midwater Trawl: January-June X2 correlation is unknown, and because there is compelling evidence suggesting that larval transport is not the mechanism underlying the correlation, the assumption that larval transport is the mechanism underlying the flow correlation is uncertain.	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
1742	99	Analyses that use the longfin smelt Fall Midwater Trawl: January-June X2 relationship to predict future abundances are uncertain. The published literature advises extreme caution when using the longfin smelt FMWT: January-June X2 relationship to predict changes in species abundance in the future. Kimmerer 2004, p. 90, advised: The fish-X2 relationships are retrospective, not predictive. If the physical configuration of the estuary changes, these relationships may change in ways that cannot now be predicted. The nature of the relationships and the underlying mechanisms are the major uncertainties regarding these relationships. Likewise, Reed et al. 2014, p. 23, advised: This complexity was anticipated by Kimmerer and Monismith (Appendix A to Schubel et al. 1993), who noted 'X2 is an index of habitat conditions, and can be used as a predictor in statistical models, but we do not assert that it is the direct cause of any of the response observed.' Moreover, Reed et. al. 2014, p. 63, observed: The ecosystem is dynamic and fish populations are notorious for responding in non-linear and sometimes counterintuitive ways to changes in their environment. As previously discussed, the variance in resource abundance indices explained by X2 or outflow varies greatly across species. In fact, changes in the longfin smelt FMWT: January-June X2 correlation have already occurred, likely because of the types of changes referenced above. The 2007 Pelagic Organism Decline (POD) Synthesis Report at pp. 36-37 explained: The historical relationship changed subsequent to the introduction of the overbite clam in 1987- the slope of the relation remained the same after the introduction, but the abundance index declined significantly (Kimmerer 2002)…There appears to have been an additional shift in the relationship during the POD years, when increased outflow did not result in the expected degree of increased abundance (Sommer et al. 2007). After a large outflow related abundance index increase in 2006, the 2007 Fall MWT index declined to a record low. Some decline was expected due to low winter-spring outflows, but the 2007 index falls well below even the post-clam outflow abundance relationship. The mechanism for this lack of relationship is unknown. Since the longfin smelt FMWT: January-June X2 correlation has already changed and recent wet hydrology has not resulted in the predicted abundance increases, the ability to use the correlation predictively is particularly uncertain. Nevertheless, the BDCP DEIR/EIS uses the longfin smelt abundance:X2 correlation predictively. In addition, the BDCP DEIR/EIS analysis estimates percent changes in abundance for each alternative. This analysis obscures the fact that actual predicted changes in abundance (assuming the longfin smelt FMWT: January-June X2 relationship is predictive and/or causal) would be very small and likely difficult to detect.	Please see response to 1742-88.
1742	100	Reed et al. 2014, p. 24 advised that the longfin smelt Fall Midwater Trawl: January-June X2 must be evaluated on a linear scale (rather than just on a log scale). When evaluated on a	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
		linear scale it is apparent that the proposed project and all of the alternatives are operating to a rather flat relationship and therefore any predicted actual change in abundance would be very small. Dr. William Miller has put the longfin smelt FMWT: January-June X2 correlation on a linear scale, as compared to the log scale contained in the Kimmerer et al. 2009 paper. Based in part on the relative flatness of the relationship, Reed et al. 2014, p. 29, concluded that even a 75% of the hydrograph outflow scenario (which was proposed in the State Water Resources Control Board's 2010 Flow Policy Report) would provide uncertain benefits, stating: Substantial increases in Longfin Smelt abundance index may be realized under the proposed 75% winter-spring unimpaired flow standard. Even in that case, population changes may be very difficult to detect given the variance of the regression, potentially high observation error in the sampling programs, and the infrequent implementation of high flows, even under the unimpaired flow strategy. The 75% winter-spring unimpaired flow proposal is a significant quantity of water. If such a proposal were adopted, it would increase January-June outflow by 5 Million Acre Feet. The environmental and economic effects of re-allocating such a large quantity of water to outflow to the ocean would be devastating, and were predicted to include (but are not limited to): inability to meet the requirements of the State Water Resources Control Board water quality standards in D-1641, inability to meet the requirement of the OCAP Biological Opinions (including a significant reduction in the cold water pool for the protection of salmon), substantial and frequent curtailment of senior water rights throughout the Bay-Delta and its watershed (junior water rights holders would be even more severely impacted), two million acres of agricultural land permanently retired from production, and there would be a significant reduction in refuge deliveries affecting the Pacific Flyway. (Water and Power Coalition Modeling Report, p. 2011.) The BDCP high outflow scenario, based on practical considerations, is proposing outflow more moderate than 75% of the hydrograph, but even the extreme example of 75% of the hydrograph would not be expected to provide a detectable benefit. In Kimmerer's The Nature Conservancy review of the BDCP, he concluded similarly stating at p. 68 that: Longfin smelt, by contrast, are unlikely to be much affected by BDCP. The anticipated changes in outflow are rather minor, and the flows needed for substantial changes in longfin smelt abundance are likely too great to be practically achieved. The apparent inability to increase longfin smelt abundance through outflow alone should not be surprising; it is why a multi-factored approach like the BDCP is necessary. BDCP analysis needs to acknowledge the uncertainty in the interpretation of the longfin smelt FMWT: January-June X2 correlation and the uncertainty in the use of the correlation in a forward looking and predictive application. The DEIR/EIS should also identify the uncertainty in the conclusion that the high outflow scenario will result in a significant or measureable increase in longfin smelt abundance.	
1742	101	ATT16: Figure 9-2. Longfin Smelt FMWT: January-June X2 relationship on a linear scale as recommended by Reed et al. 2014. Fullerton, Dave. PWA 2012 Presentation to SWRCB,	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
		Pelagic Species.	already addressed in the comment referencing the attachment or the Final EIR/EIS.
1742	102	Whether a stock-recruitment relationship indicates that flow can be used to increase in longfin smelt abundance over time is uncertain. The DEIR/EIS assumes that increased outflow originating from reservoir releases would provide long term increases in longfin smelt abundance, but this assumption is uncertain. As the statistical analysis (below, by Dave Fullerton) illustrates, there could be a short-term increase in abundance in dry years if outflow were increased, but that increase appears to disappear after the first wet year. The abundance index resets and the abundance index returns to where it would have been if outflow had never been augmented. Just as was observed in 2007 after the 2006 wet year, predicted increases in longfin smelt abundance after wet years might (at best) be short in duration. Assuming for the sake of argument that the longfin Fall Midwater Trawl: January-June X2 correlation is causal, including stock recruit relationships in the correlation, it is possible to assess how permanent changes in flow requirements might change the longfin abundance over an extended period of time.	Please see response to 1742-88.
1742	103	Methods Fall Midwater Trawl Index values are taken from the Department of Fish and Wildlife website at http://www.dfg.ca.gov/delta/projects.asp?ProjectID=FMWT. Delta outflow values represent average Delta outflow from January through May as recorded in DAYFLOW, available at http://www.water.ca.gov/dayflow/. Years for which FMWT or FMWTy-2 were unavailable they were excluded from the analysis. Thus, the years available for analysis were 1969-2013, excluding 1974-1976 and 1979-1981. The "year" variable was included to separate out the effects of the long term declines in the FMWT Index from the effects of flow and FMWTy-2. The best correlation for log FMWT used (1) Log FMWT two years ago, (2) log January-June outflow in the current year, and (3) year, as follows: [see Attachment 17.] Results This equation implies that: FMWT has dropped by an average of about 2.5% per year for reasons other than flow. FMWT is roughly proportional to flow. This means that FMWT can be boosted significantly during the driest years (because flow can be changed so significantly). Thus, going from 3,000 cfs to 6,000 cfs for these five months would, in theory, double the abundance compared to the baseline. The converse is that it will be nearly impossible to change longfin FMWT in wet years because base flows are already so high. FMWT changes as the fourth root of FMWT two years ago. This means that if FMWT could be increased by 10% over baseline using flow, the carryover effect on FMWT two years from now would be about 2.5%. Thus, any abundance benefits from one year quickly drain away and cannot build easily. This equation can be reversed to estimate the fractional improvement in FMWT that would have occurred historically had winter:spring outflows been increased accordingly. Figure 9-3 is one example of how a new flow regime based on an increase in outflow of 1 million acre	It is acknowledged that there is uncertainty in the relationship between longfin smelt abundance and outflow, which would be one topic addressed in the Adaptive Management Program for the species included in the preferred alternative (Alternative 4A, California WaterFix). For more information regarding Adaptive Management please see Master Response 32 and Chapter 3 of the FEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		feet each year over the period January through June would change the FMWT index compared to the baseline. The figure indicates that abundance benefits are greatest during dry years (because the flows increase most as a fraction of the baseline in these years). While there is a modest build-up of abundance when dry periods are extended (particularly during the 1987 -- 1992 period) the benefits of higher flow in dry years quickly dissipate in wet years because there is little impact of higher stock on recruitment two years later.	
1742	104	ATT17: Summary Output.	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.
1742	105	ATT18: Data of Longfin FMWT between 1967-2013.	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the comment referencing the attachment or the Final EIR/EIS.
1742	106	ATT19: Figure 9-3. Percent change in FMWT from baseline with 1 MAF of additional outflow.	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.
1742	107	In Figure 9-4, these fractional changes in abundance are applied to historic Fall Midwater Trawl values. The results show that the fundamental trajectory of longfin smelt abundance is not changed. The long term decline continues with essentially the same slope as before. If outflows were increased by 5 million acre feet per year, instead of 1 MAF per year, the results are as illustrated in Figure 9-5. An increase of 5 MAF of annual outflow does not modify the downward trajectory in smelt abundance observed in Figure 9-4. The decline is by the same fraction over time. Unless the underlying cause of the long term decline in longfin abundance is addressed, assuming that the cause of the decline is not a problem with the surveys, providing additional flow provides essentially no long term benefit.	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) also 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.
1742	108	ATT20: Figure 9-4. Baseline (blue line) and modified longfin smelt FMWT index (red line) with 1 MAF additional January-May annual outflow.	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.
1742	109	ATT21: Figure 9-5. Baseline and modified longfin smelt FMWT Index with 5 MAF additional January-May outflow per year.	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.
1742	110	How should the Longfin Smelt analysis be corrected? The DEIR/EIS should explain the uncertainty related to the use of the longfin smelt Fall Midwater Trawl abundance: January-June X2 correlation to predict the effects of the project and project alternatives. DEIR/EIS should include an analysis of the complete range of known habitat attributes for the spawning, egg incubation, rearing and migration life stages. Such habitat attributes likely include food availability, salinity, temperature, substrate, and	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
		perhaps turbidity. This analysis could be qualitative.	
1742	111	Whether the high outflow scenario would increase longfin smelt abundance is uncertain. There is disagreement among the experts. The BDCP (Chapter 5) at p. 5.5.2-10 states the basis for the high outflow scenario flows: For BDCP, California Department of Fish and Wildlife and Fish and Wildlife Services analyzed which winter-spring months were the most important determinants of longfin smelt population growth rate, as well as the magnitude of outflow required to achieve positive population growth. This analysis was based on relating the Fall Midwater Trawl index in a given year to the index from 1 or 2 years prior (a type of stock-recruitment analysis). These analyses indicated that spring (March-May) Delta outflow in the range of 35,000 to 45,000 cfs would be required to achieve a positive population growth rate. This requirement formed the basis for the high-outflow scenario branch of the decision tree (table 5.5.2-1). This same analysis was apparently relied on and referenced in the 2010 SWRCB Flow Policy Report (2010 Flow Policy Report, pp. 101-102; 2010 TBI Submittal at Exhibit 2, Figure 15; Agency Exploratory Analysis, p. 11, Figure 15) and review by the Delta Science Program's 2014 Delta Outflow and Related Stressors Panel ("Panel"). The 2014 Panel criticized this analysis. The Panel stated: On the negative side, we feel the strength of the relationship has been oversold because there is no consideration of uncertainty in model predictions. Examination of the data points in the TBI/NRDC analysis shows considerable overlap in flows for years when populations decline (y=0) and grow (y=1), and only four of the 20 years with positive population growth had flows larger than those of years with population declines (Fig. 5.). [footnote 4: This appears to be a typo. It appears to be a reference to TBI Figure 15 rather than Figure 5. TBI, Exhibit 2, Figure 5 relates to splittail. SWRCB 2010 Figure 5 is "Delta Outflow as a Percent of Unimpaired Outflow from TBI 2007" and not the referenced analysis.] Not surprisingly then, the uncertainty envelope for this relationship is relatively wide, and is also asymmetric…. There is greater certainty that very low flows (<5MAF) limit the probability of positive population growth relative to the certainty in positive population growth at higher flows. The median outflow required to attain this probable population growth frequency was ~6.9 MAF with 95% credible interval of 4.3-11.8 MAF. That is, outflow requirements to achieve population growth in 50% of years could be 40% lower or 70% higher than the reported median. Or, put another way, the flow criterion of 6.9 MAF results in a highly uncertain probabilities of positive population growth during a given year; this probability ranges from 20% (2.5 percentile) to 85% (97.5 percentile). These wide ranges illustrate a much different and more uncertain outcome than impressions based on the expected value, and the expected value is all that is provided in the flow criteria report (SWRCB 2010). Furthermore, the The Bay Institute/Natural Resources Defense Council analysis also does not include effects of observed error. Each "data" point in Figure 9-5 is based on the ratio of abundance indices in adjacent years, which are assumed to be proportional to the actual abundances. However, due to sampling error and potential biases, the annual abundance indices do not track the actual abundance perfectly. Taking the ratio of two uncertain numbers potentially leads to large uncertainty in the determination of negative or positive	Please see response to 1742-88.

DEIRS Ltr#	Cmt#	Comment	Response
		population growth for each year. That is, there is an unknown but potentially large probability that each data point in Figure 9-5 is actually on the wrong end of the y-axis. We expect the probability of incorrect assignment to be relatively high for adjacent years with similar population estimates, which are not uncommon (see Fig. 5 of IEP 2013). Accounting for this uncertainty would lead to a wider prediction envelope than presented in Figure 9-5. However, conducting this analysis is problematic because the precision in the relationship between the index and the actual abundance is unknown and likely variable between years and flow conditions. (Reed et al. at pp. 35-36, emphasis added.) DEIR/EIS analysis needs to acknowledge the uncertainty surrounding whether the high outflow scenario would result in increased species abundance.	
1742	112	The BDCP DEIR/EIS must acknowledge scientific uncertainty and the disagreement among experts related to the analysis of delta smelt. There is disagreement among the experts regarding the appropriateness of using the Feyrer et al. 2011 fall X2 abiotic habitat index to define delta smelt habitat and as an analytical tool to estimate the effects of the project. Technical reviewers have raised questions about the Feyrer et al. 2007, 2011 papers and the appropriateness of applying them in a management or analytical framework. The recent 2014 Delta Science Program Outflow Panel ("Panel"), Reed et al. at p. 3, highlighted this concern: The National Research Council (NRC 2010) reviewed Reasonable and Prudent Alternative (RPA) Action 4 in the U.S. Fish and Wildlife Service (USFWS) Biological Opinion for Delta Smelt (USFWS 2008, p. 369), and identified key questions and uncertainties surrounding the statistical relationships used to determine a suitable position for X2 in wet years to benefit delta smelt. This is an example of how generalized indices, despite their broad utility, may be used for purposes beyond those for which they were originally intended. It seems the Panel's point is that while the Feyrer et al. analyses may be interesting, the analyses need to be confirmed through replication and the mechanisms underlying the relationships understood before the fall X2 index can be used reliably in a predictive or management framework, as is being proposed in the BDCP.	Discussion of the scientific uncertainty regarding Feyrer et al. (2011) was included in the draft BDCP; see Chapter 5, section 5.5.1.1.2 Fall X2 Decision-Tree Process. The draft BDCP was incorporated in the DEIR/S by reference.
1742	113	Description of Feyrer et al. 2007 and 2011. Feyrer et al. 2007 used a GAM analysis to predict delta smelt occurrence relative to Secchi depth, temperature, and conductivity. Feyrer et al. determined that changes in water quality (e.g., salinity and turbidity) were important predictors of delta smelt presence, at least during the post clam period (1987-2004). Feyrer et al 2007 at p. 731, Table 2, also found a statistically significant relationship between the Fall Midwater Trawl, average conductivity, Secchi depth and the subsequent Summer Townet Survey. In Feyrer et a.l 2008, unpub., at 15, Feyrer et al. took this analysis further, replacing X2 with conductivity and concluded, "Our results suggest that managing estuarine inflow via freshwater flow or X2 during autumn can have positive effects on delta smelt habitat and abundance." Feyrer et al. 2011 found a relationship between species presence-absence (FMWT) and a newly created habitat index made up of salinity, turbidity, and water surface area. Feyrer et	The commenter's description is accurate. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.

DEIRS Ltr#	Cmt#	Comment	Response
		al. 2011 also found a relationship between the FMWT and the newly created habitat index. (Feyrer et al. 2011 at p. 5, "The habitat index was significantly positively correlated with the delta smelt abundance index, albeit with increased variation in the abundance index (Pearson correlation coefficient=0.51, P=0.001; Fig. 2c)."	
1742	114	BDCP DEIR/EIS applies Feyrer et al. 2007, 2008 (unpub.) and 2011 in its analysis. The DEIR/EIS uses Feyrer et al. 2011 and the Fall X2 reasonable and prudent alternative (RPA) from the United States Fish and Wildlife Service's 2008 Biological Opinion ("2008 FWS BiOp") as an analytical tool for evaluating the proposed project and project alternatives. The DEIR/EIS estimates changes in the volume of the Low Salinity Zone resulting from changes in proposed fall outflow and from habitat restoration projects. Habitat restoration projects are included in this calculation because the breaching of Delta levees as part of the proposed restoration has an effect on the volume of the LSZ. Changes in the volume of the LSZ that deviate from those described in the 2008 FWS BiOp RPA are identified as a significant effect. The high outflow scenario in Alternative 4 includes the Fall X2 RPA from the 2008 FWS BiOp. (BDCP, p. 3.4-20, Table 3.4.1-1.) The biological rational for the Fall X2 RPA is Feyrer et al. 2007, and Feyrer et al. 2008 (unpub.), which ultimately became Feyrer et al. 2011.	The commenter generally is correct in the description of the application of the method of Feyrer et al. (2011) in the draft EIR/EIS. The draft EIR/EIS does not "use" the Fall X2 RPA as an analytical tool; rather, it is an element of various action alternatives. 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.
1742	115	DEIR/EIS needs to acknowledge the uncertainty underlying the reliance on Feyrer et al. 2007, 2008 (unpub.) and 2011 in the DEIR/EIS analysis, and in conclusions regarding Alternative 4 high outflow scenario. The BDCP DEIR/EIS needs to acknowledge uncertainty as described in more detail below: Many re-analyses of the purported relationships between fall X2, or the volume of the Low Salinity Zone in fall, and delta smelt abundance have not identified a significant relationship therefore any apparent link between fall X2 and delta smelt abundance is uncertain. Technical reviewers have criticized Feyrer et al. 2007, therefore the analysis is uncertain. The Feyrer et al. 2011 analysis is difficult to interpret and therefore it is uncertain that delta smelt distribution or abundance can be predicted using changes in X2 or the volume of the LSZ. --Feyrer et al. 2011 is uncertain because it did not consider the full range of habitat factors that potentially explain species presence-absence or distribution; and as a result statistical power is being attributed to environmental factors that may or may not be the cause of the correlation. --The interpretation of any fall X2-abundance correlation is uncertain because the underlying mechanism is not understood. --The location of X2 in the fall has not trended eastward (upstream) from September to November, so the assumption that delta smelt habitat (assuming it can be defined by X2) has been increasingly constricted throughout the fall months is uncertain. Whether the high outflow scenario would increase delta smelt abundance is uncertain. There is disagreement among the experts. The DEIR/EIS needs to acknowledge these uncertainties.	Discussion of the scientific uncertainty regarding Feyrer et al. (2011) was included in the draft BDCP; see Chapter 5, section 5.5.1.1.2 Fall X2 Decision-Tree Process. The draft BDCP was incorporated in the DEIR/S by reference.

DEIRS Ltr#	Cmt#	Comment	Response
1742	116	Many re-analyses of the purported relationships between Fall X2, or the volume of the Low Salinity Zone in fall, and delta smelt abundance have not identified a significant relationship therefore any apparent link between fall X2 and delta smelt abundance is uncertain. Multiple lines of evidence have been used to test whether fall X2, or the volume of LSZ in the fall, is strongly associated with delta smelt abundance; and the results are mixed, with the weight of the evidence tipping the balance more heavily toward a conclusion that X2 (LSZ) has either weak or no explanatory power. The 2010 National Academy of Sciences (NAS) Panel at p. 53 observed the weak statistical relationship and stated that: The weak statistical relationship between the location of X2 and the size of smelt populations makes the justification for this action difficult to understand. In addition, although the position of X2 is correlated with the distribution of salinity and turbidity regimes (Feyrer et al. 2007) the relationship of that distribution and smelt abundance indices is unclear.Kimmerer et al. 2013 also evaluated whether pelagic species abundance increases with increasing flow. As explained above in the longfin smelt section, Kimmerer et al. 2013 at p. 1 concluded that changes in the volume of the LSZ was not likely the mechanism underlying many of the species abundance:X2 correlations stating: …although the salinity range used by most nekton expands as flow increases, other mechanisms relating population size to flow are likely more important than the physical extent of suitable salinity. (Emphasis added.) Delta smelt was one of the species evaluated by Kimmerer et al. 2013 in reaching this conclusion. In fact, Kimmerer et al. 2013 analyzed whether changes in the volume of the LSZ in the fall was an important factor explaining delta smelt abundance and he determined that it was not stating at p. 13: [g]iven the difficulty in determining the controls on the delta smelt, it is not surprising that such a simple descriptor of habitat [the volume of LSZ habitat] is inadequate for this species. (Emphasis added.)	The uncertainty surrounding the importance of fall X2 is recognized with the inclusion of the Decision Tree for fall X2 under CM1. The final BDCP will include enhanced discussion of the BDCP's intention to investigate and reduce the uncertainty related to the importance of fall X2. The decision-tree process for fall X2 will involve clear articulation of scientific hypotheses designed to reduce uncertainty about fall outflow criteria, development of a science plan and data collection program to test the hypotheses and, at the start of CM1 operations (following completion of the proposed north Delta intakes), identification by the permitting fish and wildlife agencies of fall outflow criteria sufficient to meet the BDCP's biological objectives for covered fishes. The research currently being applied for the FLaSH Studies within the context of adaptive management of the USFWS (2008) BiOp would inform the decision-tree process; additional research actions under the BDCP decision-tree process would add to knowledge gained from the FlaSH studies. Of particular importance to addressing uncertainties associated with fall outflow management are research efforts to be initiated under the Collaborative Science and Adaptive Management Program. 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 also see Master Response 44 related to the Decision Trees process. Please note that the current Preferred Alternative, 4A, does not include a HCP or the decision tree process. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including 4A.
1742	117	Previously published life cycle and multiple regression analyses have also evaluated the potential importance of fall X2 in explaining delta smelt abundance. Their conclusions further substantiate those of Kimmerer et al. 2013, concluding: [footnote 5: Many of these inconclusive findings are acknowledged in BDCP Chapter 5.] Maunder and Deriso 2011: Using a state-space multistage life cycle model, they did not find power in fall X2 as explaining delta smelt abundance. (Maunder and Deriso 2011, see also, Maunder and Deriso, 2011, unpub.) MacNally et al. 2010: A multivariate autoregression model (MAR) was used to identify biotic and abiotic factors most powerful in explaining delta smelt abundance trends. The model did not identify X2 in the fall as having significant explanatory power. [footnote 6: The Thomson et al. and MacNally et al. papers do not explicitly reference X2 in the fall, although fall X2 was apparently evaluated as it is part of the NCEAS dataset that was used in these modeling efforts.] (MacNally et al. 2010.) Thomson et al. 2010: Analysis used Bayesian change point analysis to identify biotic and abiotic covariates with strongest associations with delta smelt abundance. The model did	The uncertainty surrounding the importance of fall X2 is recognized with the inclusion of the Decision Tree for fall X2 under CM1. The final BDCP will include enhanced discussion of the BDCP's intention to investigate and reduce the uncertainty related to the importance of fall X2. The decision-tree process for fall X2 will involve clear articulation of scientific hypotheses designed to reduce uncertainty about fall outflow criteria, development of a science plan and data collection program to test the hypotheses and, at the start of CM1 operations (following completion of the proposed north Delta intakes), identification by the permitting fish and wildlife agencies of fall outflow criteria sufficient to meet the BDCP's biological objectives for covered fishes. The research currently being applied for the FLaSH Studies within the context of adaptive management of the USFWS (2008) BiOp would inform the decision-tree process; additional research actions under the BDCP decision-tree process would add to knowledge gained from the FlaSH studies. Of particular importance to addressing uncertainties associated with fall outflow management are research efforts to be initiated under the Collaborative Science and Adaptive Management Program. 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
		not identify X2 in the fall as having significant explanatory power. (Thomson et al. 2010.) Miller et al. 2012: Used a multiple regression analysis and did not identify any significant relationships between average X2 location in the fall and delta smelt abundance. (Miller et al. 2012.) Rose et al. 2013b: A mechanistic individual-based model was used. Assumptions related to salinity gradients and flows were included in the model. The analysis identified species growth and water temperatures as the most significant mechanisms affecting population dynamics with hydrodynamics playing a more minor role related modestly to entrainment risk. [footnote 7: The Rose et al. model is different than the other modeling approaches as the authors explain their model, "... is not designed for forecasting future delta smelt population abundances" (Rose et al. 2013a at p. 1256.)] (Rose et al. 2013b.) The multiple lines of evidence described above do not confirm the purported relationship between delta smelt abundance and fall X2. The BDCP DEIR/EIS must acknowledge that it is uncertain that managing fall X2 as prescribed in the fall X2 RPA would increase delta smelt abundance. The conclusions in the BDCP DEIR/EIS interpreting changes in fall outflow that deviate from the Fall X2 RPA as potentially significant are uncertain.	Please also see Master Response 44 related to the Decision Trees process. Please note that the current Preferred Alternative, 4A, does not include a HCP or the decision tree process. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.
1742	118	Technical reviewers have criticized Feyrer et al. 2007, 2008 (unpub.) and therefore the analysis is uncertain. Feyrer et al. 2007, 2008 (unpub.) used linear regression analysis to relate X2 in the fall to delta smelt abundance in the subsequent Summer Townet Survey and found a statistically significant relationship. The Feyrer et al. 2007, 2008 (unpub.) regression for delta smelt abundance in the Summer Townet Survey is in the form: STN=a*PFMWT + b*PX2+c The Feyrer et al. 2007, 2008 (unpub.) analysis has been critically reviewed. In a presentation at Asilomar, Feyrer described their equation, above, as a stock recruit relationship (Feyrer Presentation, Asilomar, 2008, slide 20). However, this regression does not represent a stock recruit relationship. The Feyrer et al. 2007, 2008 (unpub.) formulation implies that, if Fall Midwater Trawl is held constant, a change in X2 will always generate the same change in STN, regardless of whether the previous FMWT is 10 or 1000. As Dr. Richard Deriso (2011) at pp. 27-33 explained: This Feyrer et al. 2007 model runs counter to well-accepted, basic modeling principles for this type of calculation…The linear additive model produces the result that zero adults in one year could still yield some young in the following year, a result that is biologically implausible. A more plausible approach is to use a log scale instead of the Feyer et al. linear model, being log (STN) = a*log(PFMWT) + b*PX2, which translates into: STN = d*(PFMWT)a*10^(b*(PX2) This log scale equation was recommended by Kimmerer in his analysis for The Nature Conservancy (TNC at pp. 64-65). This equation does represent a biologically plausible formulation since the fractional (but not absolute) change in STN will always be the same for	The BDCP effects analysis focused on the Feyrer et al. (2011) analysis as opposed to the Feyrer et al. (2007, 2008) analyses. The main uncertainties and limitations of the analysis based on Feyrer et al. (2011) were outlined both in the public draft EIR-EIS (p. 11-119) and in the description of the method in Appendix 5.C of the BDCP (p. 5C.4-118). The uncertainty surrounding the importance of fall X2 is recognized with the inclusion of the Decision Tree for fall X2 under CM1. The final BDCP will include enhanced discussion of the BDCP's intention to investigate and reduce the uncertainty related to the importance of fall X2. 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 also see Master Response 44 related to the Decision Trees process. Please note that the current Preferred Alternative, 4A, does not include a HCP or the decision tree process. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.

DEIRS Ltr#	Cmt#	Comment	Response
		a change in previous X2, irrespective of the previous FMWT. When Kimmerer used this more plausible model and performed the correlation for the STN for the years 1988 -- 2012 using log values, he found that previous X2 was not statistically significant (Kimmerer, personal communication). Dave Fullerton has reproduced the correlation for Log STN for the period 1988-2013 (using slightly different Fall X2 values than those used by Kimmerer). That result is below: [see Attachment 22] As can be observed from Dave Fullerton's analysis using the more plausible log scale model, the "p" value for previous X2 is not statistically significant. The reason Fall X2 is not significant can be discerned visually in Figures 9-6 and 9-7, where the Stock Recruitment ratios STN/PFMWT are plotted on a log scale against Fall X2. Figure 9-6 covers 1988-2006, the years originally analyzed by Feyrer while Figure 9-7 covers the years from 1988-2013. Kimmerer did not report his re-analysis of Feyrer et al. 2007, 2008 (unpub.) using a log scale, although he criticized the Feyrer et al. 2007, 2008 (unpub.) on other statistical grounds at TNC, p. 64, stating: Equation 6.1 is somewhat illogical in modeling TNS as an additive function of MWT and X2, and it is also strongly influenced by the data point from 1998, the wettest fall among those included in the analysis. Kimmerer took his review further, however, and completed his own analysis of a potential delta smelt abundance-fall X2 relationship. (See TNC 2013, pp. 64-65.) Kimmerer applied a "robust" regression technique to the data, which is sometimes applied when the residuals of the standard regression are not normally distributed. Others have reviewed the Kimmerer analysis and questioned his assumption regarding the distribution of the data. Dr. Ken Burnham reviewed the data and concluded that the residuals of the standard correlation are perfectly normal. Dr. Burnham (unpub.) concluded that: I do not claim to know what the effect of X2 might be, I only assert that these data do not scientifically support an inference of any effect.Dr. Bryan Manly also evaluated the Kimmerer analysis. Manly performed an analysis to test these data to determine if a "robust" regression is needed. Manly performed a randomized statistical analysis and concluded that, "…there is no evidence that robust regression is needed with these data." (Many and Kauffman, unpub. at p. 4.) In a second analysis, Manly tested whether the "robust" equation regression method is biased in terms of assessing the significance of the X2 effect. Manly determined that the "robust" regression was significant twice as often as it should have been and this indicates that, "…robust regression gives too many significant results for X2 and therefore does not provide a suitable analysis." (Manly unpub. at p. 6.)	
1742	119	ATT22: Summary Output.	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.
1742	120	ATT23: Figure 9-6. Summer abundance/previous fall abundance v. Fall X2. Not statistically significant.	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.
1742	121	Figure 9-7. Summer abundance/previous fall abundance v. Fall X2. Updated to 2013	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not

DEIRS Ltr#	Cmt#	Comment	Response
		(1988-2013). Not statistically significant.	already addressed in the comment referencing the attachment or the Final EIR/EIS.
1742	122	Dr. Mueller-Solger, as part of the MAST exercise, also reviewed Feyrer et al. 2007, 2008 (unpub.). Mueller-Solger apparently agreed with Kimmerer in rejecting Feyrer et al.'s linear correlation, using logarithms instead. Similar to the analysis presented above, evaluating the data using a more biologically appropriate log scale (log STN = a*log(PFMWT) + b*PX2+c). Mueller-Solger's analysis did not find a statistically significant relationship. (Delta Science Program Outflow Workshop, Day 2, presentation by Anke Mueller-Solger, slide 48). As was done by Kimmerer, Mueller-Solger also took her review further, completing her own analysis. However, instead of using a robust analysis, Mueller-Solger's equation modified her original analysis in two ways: Eliminated log(PFMWT) as a variable, and Included a step function which shifts between 2002 and 2003. Mueller-Solger presented this analysis to the Delta Science Panel as well as another analysis in which she found correlations between the delta smelt 20 mm tow-net index and Fall X2. (2014 Delta Science Program Outflow Workshop, Day 2, presentation by Anke Mueller-Solger.) [footnote 8: The Mueller-Solger analysis is currently unpublished and anticipated as part of the MAST Report.] The Panel at p. 35 observed uncertainty in the Mueller-Solger correlation between the 20 mm survey and fall X2, stating: Many of the uncertain, but restrictive assumptions that would need to be stated explicitly in a properly documented full life-cycle model are often implicit, but never evaluated, in simpler analyses. A good example here would be the negative relationship between the trend in the 20 mm tow-net series for delta smelt and fall X2 (IEP MAST 2013, as presented by Mueller- Solger at the Workshop on Day 2). If that relationship alone is used to support increased flows, then decision makers are implicitly assuming that increasing the abundance of larval delta smelt will lead to a similar increase in the population of adults. This may not be the case if flow has substantial effects on growth and survival in later life stages or if the effects of environmental factors unrelated to X2 are important in determining the ultimate survival to the adult stage. Life cycle modeling offers a framework for making explicit the calculations from changes in larval to population-level responses. As explained above, the various life cycle modeling (and multivariate) efforts have not found fall X2 to be an important driver of species abundance. To test the possible extent of the uncertainty identified by the Panel associated with the draft analysis presented by Mueller-Solger, Dave Fullerton reanalyzed her summer tow-net: Fall X2 correlation. Fullerton's analysis raises questions about the summer tow-net correlation. At the 2014 Delta Science Program Outflow Workshop, Mueller-Solger presented the following correlation between the STN delta smelt index and previous FMWT for the years 1988 -- 2013: ln TNS = 10.03-1.76*(Step Period) - 0.081*(Fall X2y-1) n=26, R2adj.=0.69 Step change between 2002 and 2003 (2014 Delta Science Program Outflow Workshop, Day 2, presentation by Anke Mueller-	The BDCP effects analysis focused on the Feyrer et al. (2011) analysis as opposed to the Feyrer et al. (2007, 2008) analyses. The main uncertainties and limitations of the analysis based on Feyrer et al. (2011) were outlined both in the public draft EIR-EIS (p. 11-119) and in the description of the method in Appendix 5.C of the BDCP (p. 5C.4-118). The uncertainty surrounding the importance of fall X2 is recognized with the inclusion of the Decision Tree for fall X2 under CM1. The final BDCP will include enhanced discussion of the BDCP's intention to investigate and reduce the uncertainty related to the importance of fall X2. Please also see Master Response 44 related to the Decision Tree process. Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A, which no longer includes habitat restoration, beyond what is required to mitigate effects of constructing and operating the project. Alternative 4A would not serve as habitat conservation plans/natural community conservation plans (HCPs/NCCPs) under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). Alternative 4A would be operated under the H3+ scenario, which includes Fall X2 requirements consistent with the 2008 USFWS BiOP and spring outflow criteria to avoid project impacts to longfin smelt.

DEIRS Ltr#	Cmt#	Comment	Response
		Solger, Slides 48-49.) [footnote 9: The Mueller-Solger analysis is currently unpublished and anticipated as part of the MAST Report.] Dave Fullerton reviewed her analysis and identified several questions regarding her analysis: The correlation is largely driven by two outlier points -- in 1996 and 1999. Except for those two points, there is only a cloud of points between 1988 and 2013. The relationship is only statistically significant because of the assumed step-change between 2002 and 2003. An analysis of the years from 1988 to 2013 indicate no statistically significant relationship. Figure 9-8. By assuming a step-change between 2002 and 2003, the points below the regression line in Figure 9-9 are bumped up the y-axis and the result is a statistically significant relationship. Figure 9-10, showing points effected by the assumed step-change. Further adding to the uncertainty is that during the last decade (post-POD period), there has been no statistically significant relationship. Figure 9-9. Removing previous FMWT out of the correlation eliminates consideration of stock recruit relationships from the analysis and complicates the interpretation of the step function, which now could be an inaccurate proxy either for fall abundance or for a regime shift. If a proxy for abundance, FMWT should have been used directly. However, if a step change is a proxy for a regime shift, there is some uncertainty related to whether a regime shift actually occurred. Thomson et al. 2010 identified a notable drop in delta smelt abundance in 2004, but was unable to identify a mechanism for the change, finding some evidence of turbidity and winter entrainment as being factors but nothing definitive. Moreover, between POD species, Thomson et al. 2010 was unable to identify a common cause of the step- change for all or most POD species, which raises questions as to whether a regime shift occurred. If a regime shift didn't occur, it may not be appropriate to apply a step-change to the data, rather delta smelt may just be in a period of low abundance. Moreover, since turbidity was identified by Thomson et al. 2010 as having some statistical power in explaining abundance in the POD years, the post- 2004 delta smelt abundance trends could result from changes in catchability (at least in part). (See, R. Latour submittal to SWRCB, 2012, and presentation to Delta Science Program, 2014.) Figure 9-8 illustrates the effect of the outlier points: 1996, 1999. Even with these two outlier points, it is worth observing that the R2 is low, indicating low significance. The use of the step change effectively shifts the circled points in Figure 9-8 upward by almost an order of magnitude, thus eliminating much of the scatter and creating a correlation. However, the correlation is still driven by the outlier points in 1996 and 1999. Equally important, there is no correlation between STN and previous Fall X2 for the period 2003-2013 (Figure 9-10). The numerous critical reviews of Feyrer et al. 2007, 2008 (unpub.) lead to uncertainty in applying the 2008 FWS RPA (that was based on it) to determine project effects on delta smelt. This uncertainty needs to be acknowledged.	
1742	123	ATT25: Figure 9-8. Delta Smelt STN Index v Previous Fall X2 1988-2013. Without the outlier year 1999 there would be no fit whatsoever. X2 is averaged September-November from Dayflow.	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.
1742	124	ATT26: Figure 9-9. Delta Smelt STN Index v Previous Fall X2 1988-2013. The points that are	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
		shifted with a step change in 2003.	already addressed in the comment referencing the attachment or the Final EIR/EIS.
1742	125	ATT27: Figure 9-10. Delta Smelt STN Index v Previous Fall X2 2003-2013.	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the comment referencing the attachment or the Final EIR/EIS.
1742	126	The Feyrer et al. 2011 analysis is difficult to interpret and therefore it is uncertain that delta smelt distribution or abundance can be predicted using changes in X2 or the volume of the LSZ. Since Feyrer et al. 2011 did not consider the full range of habitat factors that potentially explain species presence- absence or distribution; and as a result statistical power is being attributed to environmental factors that may or may not be the cause of the correlation, and therefore the analysis is uncertain. The Feyrer et al. 2011 paper does not identify a direct relationship between species abundance and fall X2, or the volume of the LSZ in the fall, rather it includes a series of linked correlations and the observed relationship is actually between a habitat index (of salinity, Secchi depth and surface area) and the Fall Midwater Trawl. To illustrate the linked correlations see Figure 9-11, below. Fall flows define a salinity field which is closely related to both X2 and the habitat index. Secchi depth values in the FMWT survey are closely related to the habitat index while average Secchi depth in the FMWT survey is highly correlated with the FMWT index. It is therefore unsurprising, indeed expected, that X2 correlates to the habitat index and that habitat index correlates to the FMWT. The Feyrer et al. 2011 analysis found Secchi depth and conductivity to be equally powerful explanatory factors, but then only used conductivity when reaching conclusions regarding abundance and in proposing management actions. However, average Secchi depth is well correlated with the FMWT index, while X2 is not. See Figures 9-12 and 9-13.	The main uncertainties and limitations of the analysis based on Feyrer et al. (2011) were outlined both in the public draft EIR-EIS (p. 11-119) and in the description of the method in Appendix 5.C of the BDCP (p. 5C.4-118). The uncertainty surrounding the importance of fall X2 is recognized with the inclusion of the Decision Tree for fall X2 under CM1. The final BDCP will include enhanced discussion of the BDCP's intention to investigate and reduce the uncertainty related to the importance of fall X2. The decision-tree process for fall X2 will involve clear articulation of scientific hypotheses designed to reduce uncertainty about fall outflow criteria, development of a science plan and data collection program to test the hypotheses and, at the start of CM1 operations (following completion of the proposed north Delta intakes), identification by the permitting fish and wildlife agencies of fall outflow criteria sufficient to meet the BDCP's biological objectives for covered fishes. The research currently being applied for the FLaSH Studies within the context of adaptive management of the USFWS (2008) BiOp would inform the decision-tree process; additional research actions under the BDCP decision-tree process would add to knowledge gained from the FlaSH studies. Of particular importance to addressing uncertainties associated with fall outflow management are research efforts to be initiated under the Collaborative Science and Adaptive Management Program. Please also see Master Response 44 related to the Decision Trees process. Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A, which no longer includes habitat restoration, beyond what is required to mitigate effects of constructing and operating the project. Alternative 4A would not serve as habitat conservation plans/natural community conservation plans (HCPs/NCCPs) under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). Alternative 4A would be operated under the H3+ scenario, which includes Fall X2 requirements consistent with the 2008 USFWS BiOP and spring outflow criteria to avoid project impacts to longfin smelt.
1742	127	ATT28: Figure 9-11. Graphical representation of the Feyrer et al. 2011 linked correlations.	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.
1742	128	ATT29: Figure 9-12. Fall abundance v fall Secchi depth, 1962-2012.	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.
1742	129	ATT30: Figure 9-13. Fall abundance v fall X2, 1967-2012.	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.
1742	130	Even assuming that the relationships observed in Feyrer et al. 2011 were not solely the result of a series of linked correlations, it is difficult to interpret the identified statistical relationships because the handful of environmental variables that were included in the analysis are cross-correlated with each other and with variables not included in the analysis. Thus, flow is correlated with conductivity, X2, suspended sediment loading, and Secchi depth. Conductivity is correlated with X2, suspended sediment loading, Secchi depth, and geographical location. Secchi depth is correlated with conductivity, suspended sediment loading, and geographical location. Food supply is also cross correlated with various factors. Any remaining significance after the induced correlation is accounted for in Feyrer et al.	The main uncertainties and limitations of the analysis based on Feyrer et al. (2011) were outlined both in the public draft EIR-EIS (p. 11-119) and in the description of the method in Appendix 5.C of the BDCP (p. 5C.4-118). The uncertainty surrounding the importance of fall X2 is recognized with the inclusion of the Decision Tree for fall X2 under CM1. The final BDCP will include enhanced discussion of the BDCP's intention to investigate and reduce the uncertainty related to the importance of fall X2. The decision-tree process for fall X2 will involve clear articulation of scientific hypotheses designed to reduce uncertainty about fall outflow criteria, development of a science plan and data collection program to test the hypotheses and, at the start of CM1 operations (following completion of the proposed north Delta intakes), identification by the permitting fish and wildlife agencies of fall outflow criteria sufficient to meet the BDCP's biological objectives

DEIRS Ltr#	Cmt#	Comment	Response
		2011 is difficult to interpret because the cross correlations between environmental factors pervade the analysis. The 2010 National Academy of Sciences agreed, stating in its review of the 2008 FWS BiOp fall X2 RPA at p. 53, that: …the examination of uncertainty in the derivation of the details of this action lacks rigor. The action is based on a series of linked statistical analyses (e.g., the relationship of presence/absence data to environmental variables, the relationship of habitat to X2, the relationship of X2 to smelt abundance) with each step being uncertain. The relationships are correlative with substantial variance being left unexplained at each step. The uncertainty in the Feyrer et al. 2011 analysis is further compounded because they only evaluated a very limited number of environmental factors. The authors acknowledged the possibility that limiting their analysis to a couple factors could be problematic, and recommend considering these in future analyses (Feyrer et al. 2011, p. 5). Indeed, Kimmerer et al. 2013, p. 13 agreed that other descriptors of habitat other than salinity should be included in future analyses. In so doing, the Kimmerer et al. 2013 analysis strongly suggests that the Feyrer et al. 2011 paper should not have used salinity alone to define species habitat. This limited analysis (i.e., using only salinity to predict future abundances) is propagated in the DEIR/EIS. The DEIR/EIS must acknowledge the uncertainty in the assumption that X2 alone is a good descriptor of delta smelt habitat, thereby largely ignoring the significant influence of turbidity and other physical and biological factors. The conclusions in the BDCP DEIR/EIS interpreting changes in fall outflow that deviate from the Fall X2 RPA as potentially significant are uncertain.	for covered fishes. The research currently being applied for the FLaSH Studies within the context of adaptive management of the USFWS (2008) BiOp would inform the decision-tree process; additional research actions under the BDCP decision-tree process would add to knowledge gained from the FlaSH studies. Of particular importance to addressing uncertainties associated with fall outflow management are research efforts to be initiated under the Collaborative Science and Adaptive Management Program. Please also see Master Response 44 related to the Decision Trees process. 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. Additionally, please note that the Preferred Alternative, 4A, does not include an HCP or the decision tree process. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.
1742	131	The interpretation of any fall X2-abundance correlation is uncertain because the underlying mechanism is not understood. The discussion in the longfin section, above, regarding the importance of understanding causal mechanisms underlying a statistical correlation before using the correlation to define a management action or to make a future prediction is equally applicable to any fall X2-species abundance relationships. On this point, the Delta Science Program Outflow Panel (Reed et al., 2014 p. 23) explained: X2 is an indicator of an unresolved mixture of biological and physical conditions that are often referred to as "habitat quantity and quality," yet description of habitat involves multiple factors with importance that varies over space and time and by species, and whose effects can involve complicated interactions among all of the elements of the environment that sustain a species or a community (Day et al. 1989). For example, the management-based definition of habitat may involve such easily measured factors as temperature, salinity, and turbidity (e.g., Feyrer et al. 2011) without explicitly knowing whether higher quality habitat was due to faster growth or lower mortality. The X2-abundance regressions use higher densities or more frequent presence, not processes like growth and mortality. The habitat description process then requires further defining the relationship between X2 and these processes to complete the management linkage. This overall discussion was followed in the FWS Biological Opinion on delta smelt, and led to debates concerning the statistical methods used and the conceptual interpretation of the inter-relationships involved (NRC 2010). This illustrates how a statistical relationship between habitat and a highly aggregated indicator like X2, without knowledge of the causes for the correlations, can lead to debate and uncertainty about the expected biological	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) also 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
		responses to changes in X2. This complexity was anticipated by Kimmerer and Monismith (appendix A to Schubel et al. 1993), who noted "X2 is an index of habitat conditions, and can be used as a predictor in statistical models, but we do not assert that it is the direct cause of any of the responses observed." The Interagency Ecological Program's FLaSH studies are specifically designed to identify possible biological mechanisms, assuming the statistical relationships in the Feyrer et al. papers are real or meaningful (even though that assumption is uncertain). Based on preliminary progress reports from the FLaSH studies at IEP conferences and in other informal forums, it is our understanding that scientific opinion has not coalesced around a particular biological mechanism. Since a biological mechanism that would explain any potential Fall X2: abundance relationship has yet to be identified, any management action or predictive analysis relying on such a statistical relationship is uncertain.	
1742	132	The location of X2 in the fall has not trended eastward (upstream) from September to November, so the assumption that delta smelt habitat (assuming it can be defined by X2) has been increasingly constricted throughout the fall months is uncertain. Feyrer et al. 2008, unpub., at pp. 16-17 hypothesizes that delta smelt have experienced a contraction of their fall habitat because X2 has moved east over time. The 2008 FWS BiOp is based on this premise (USFWS 2008, pp. 282-283, see also, SWRCB 2010, p. 98).	The source for the comment that "X2 in the fall has not trended eastward" is not clear; regardless, the draft EIR/EIS and public draft BDCP acknowledged the uncertainty in the importance of X2 and the habitat quantity/quality that it may represent. The uncertainty surrounding the importance of fall X2 is recognized with the inclusion of the Decision Tree for fall X2 under CM1. The final BDCP will include enhanced discussion of the BDCP's intention to investigate and reduce the uncertainty related to the importance of fall X2. The decision-tree process for fall X2 will involve clear articulation of scientific hypotheses designed to reduce uncertainty about fall outflow criteria, development of a science plan and data collection program to test the hypotheses and, at the start of CM1 operations (following completion of the proposed north Delta intakes), identification by the permitting fish and wildlife agencies of fall outflow criteria sufficient to meet the BDCP's biological objectives for covered fishes. Please also see Master Response 44 related to the Decision Trees process. Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A, which no longer includes habitat restoration, beyond what is required to mitigate effects of constructing and operating the project. Alternative 4A would not serve as habitat conservation plans/natural community conservation plans (HCPs/NCCPs) under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). Alternative 4A would be operated under the H3+ scenario, which includes Fall X2 requirements consistent with the 2008 USFWS BiOP and spring outflow criteria to avoid project impacts to longfin smelt.
1742	133	Data and Methods Table 9-1 summarizes the data used for this trends analysis. The analysis uses monthly flow time series in units of cubic feet per second (cfs.) for the available period of record from October 1921 through September 2010 (Water Years 1922 to 2010). All references to years in this study are to water years (October 1 through September 30 of the calendar year in which it ends) unless otherwise noted. These time series were used to compute annual time series in units of thousand acre-feet (TAF) per year or million acre-feet (MAF) per year. These time series were also used to create 12 monthly data series (e.g., a September series, a October series, etc.) where successive values are 1 year apart. The primary source of historical Delta inflow and outflow data is the DAYFLOW database (DWR 2012). Monthly averages are computed from daily values provided in the database. Historical flows prior to October 1929 are based on a joint DWR-Bureau of Reclamation (1958) hydrology study and provided as monthly averages by the staff of DWR's Bay-Delta Office. Historical Eastside inflow is computed as the sum of historical river flows from the Mokelumne, Cosumnes, and miscellaneous streams. Historical Delta outflow, as reported in	The comment presents historical information. The EIR/EIS analysis compares alternatives to existing conditions as of the time of the publication of the Notice of Preparation and Notice of Intent in 2009, and not historical conditions.

DEIRS Ltr#	Cmt#	Comment	Response
		the DAYFLOW database, is a computed value based on water balance. In reality, Delta outflow is tidally influenced and fluctuates over daily diurnal flood-ebb cycles and over bimonthly spring-neap cycles. For example, outflow during summer tidal cycle can vary in direction and amount from 330,000 cfs. upstream to 340,000 cfs. downstream (Delta Atlas (1995) at http://baydeltaoffice.water.ca.gov/DeltaAtlas/)	
1742	134	ATT31: Table 9-1. Data Utilized in Trends Analysis.	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.
1742	135	Annual Delta Outflow (1922--2010) Annual Delta outflow shows no clear long-term time trend. Fox et al. (1990) found no statistically significant trend in annual Delta outflow between 1922 and 1986. The investigators concluded that precipitation had increased faster than water use within the watersheds. They noted that other factors, including imports, the redistribution of groundwater, and changes in runoff patterns, may have balanced the increase in water use within the watersheds. As shown on Figure 9-14, visual inspection suggests no statistically significant long-term trend in Delta outflow (shown as the blue bars) from 1922 and 2010. The black line shows a 5-year center-weighted average outflow. A Sen's nonparametric estimate of the long-term trend was conducted. A Mann-Kendall test, a two-sided test performed at the 95 percent confidence level, confirms that no statistically significant time trend exists. To further characterize the outflow time series, Delta outflow is shown as decadal averages on Figure 9-15. The figure shows that decadal average outflows have varied, following no particular trend. However, outflow decreased in the most recent decade (2001--2010), the decade often described as the Pelagic Organism Decline (POD) period, compared to the previous decade (1991--2000), the pre-POD period and the second wettest period of record. [footnote 11: The 1991-2000 is the second wettest period of record based on the 8-River index.]	The comment presents historical information. The EIR/EIS analysis compares alternatives to existing conditions as of the time of the publication of the Notice of Preparation and Notice of Intent in 2009, and not historical conditions.
1742	136	ATT32: Figure 9-14. Annual Variation in Outflow (TAF) showing no statistically significant trend over time.	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.
1742	137	ATT33: Figure 9-15. Delta outflow by decade (1922--2010) showing no particular long term trend and a decrease in outflow in the most recent decade (the POD period) compared to the previous decade (the pre-POD period).	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.
1742	138	In an effort to understand the reasons for the decrease in outflow from the prior decade (1991--2000) to the recent decade (2001--2010), this analysis evaluates changes in inflows to the Delta and increases in water diversions, by source, both upstream and in-Delta. Figure 9-16 demonstrates that annual outflow reduction is primarily the result of dryer hydrologic conditions between the prior decade (1991--2000) to the most recent decade (2001--2010). The vertical bar chart inset in the top right-hand corner of the figure demonstrates that the difference in outflow is explained in large part by the difference in unimpaired outflow (i.e. the unimpaired outflow reduction [red bar at 7,825 TAF/year] accounts for a majority of the outflow reduction [blue bar at 8,827 TAF/year]). In other words, the outflow reduction between decades is primarily the result of dryer hydrologic	The comment presents historical information. The EIR/EIS analysis compares alternatives to existing conditions as of the time of the publication of the Notice of Preparation and Notice of Intent in 2009, and not historical conditions.

DEIRS Ltr#	Cmt#	Comment	Response
		conditions; however, water management also contributed to the outflow reduction. The horizontal blue bars in the main body of the figure represent normalized contributions by individual hydrologic drivers towards the decrease in annual outflow between decades. These horizontal blue bars sum to the difference between the vertical bars. The figure shows that, after the reduction in unimpaired outflow, the reduction in Sacramento Valley accretions (1,016 TAF/year) is the most significant hydrologic factor explaining the decrease in outflow between the 2 decades. In-Delta appropriations by the CVP and SWP have a much smaller contribution to the outflow reduction (546 TAF/year); this contribution aggregates effects of in-Delta appropriations by the CVP and SWP and inflows from the Sacramento River (below Shasta), the Feather River, and the American River.	
1742	139	ATT34: Figure 9-16. Contributions to decrease in annual outflow. Horizontal bars indicate sources of the change in outflow between decades. The majority of the difference in outflow between these two decades is due to differences in natural hydrology as measures by unimpaired outflow. Reductions in Sacramento accretions are the next largest contributor, followed by increases in CVP/SWP appropriations.	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.
1742	140	Calculated X2 Location (1922-2010) The location of X2 [footnote 12: The Dr. Paul Hutton not aware of any studies that conclude that the two part per thousand isohaline location (X2) is preferred by native fish over, for example, the one part per thousand or three parts per thousand isohaline positions. The resident native fish are largely adapted to a wide range of salinities (euryhaline). Instead, management of the X2 location was believed to create hydrodynamic conditions that maintain the "entrapment zone" in a location that is conducive to successful fish rearing (Jassby et al. 1995). References in this paper to shifts in the X2 location, therefore, should be understood to refer to shifts in hydrodynamic conditions and are not intended to suggest that any absolute salinity level has been found to be a central driver to fishery success.] is determined by a variety of factors. Freshwater from the upstream watersheds mixes with salty ocean water in the Delta. This freshwater flow (i.e., Delta outflow) pushes the freshwater- seawater interface downstream; therefore, changes in Delta outflow (annual volumes as well as seasonal timing) affect the location of X2. Long- term changes in tidal energy, including sea level rise, influences how effectively freshwater flow pushes seawater downstream. Geometry of the land-water interface plays a key role in determining the tidal prism, amplitude, and excursion. Therefore, historical changes, including, but not limited to, changes in floodplains, channel configuration, bathymetry, and depth, affect long-term trends in the position of X2. Operation of water facilities such as the Suisun Marsh salinity gates and the Delta Cross Channel influence the flow paths within the Bay-Delta, therefore, also affect X2 positions. The analysis presented here is limited in its ability to evaluate the multiple factors that affect long-term X2 trends. As described in the following section, the X2 locations described in this study were estimated from flow data and therefore capture the influence of Delta outflow only. Therefore, the trend analysis does not reflect possible changes associated with sea-level rise, Delta island flooding, etc. It is anticipated that further analysis will be undertaken that will utilize measured salinity data to evaluate long-term X2 trends and, therefore, will reflect changes associated with other factors.	Chapter 11 describes the uncertainty of different factors considered in the delta smelt life history, including considerations related to X2. However, X2 is a measurement that is included in SWRCB Decision 1641 and in the 2008 USFWS Biological Opinion. Therefore, comparisons of the ability to comply with X2 criteria under the Existing Conditions, No Action Alternative, and all action alternatives are considered in Chapter 8 of the EIR/EIS and the associated appendices. The associated effects of varying locations of X2 on delta smelt are described in Chapter 11 of the EIR/EIS.
1742	141	Data and Methods The metric used in this study to evaluate long-term X2 trends is the calculated monthly	The calculation for the X2 location in the CALSIM II model run used in the No Action Alternative and several of the action alternatives in the EIR/EIS are based upon the interpretation of the model simulations

DEIRS Ltr#	Cmt#	Comment	Response
		average X2 location. The Delta outflow data described in Table 1 were used to estimate time series of the monthly average X2 location. These time series were also used to create 12 monthly data series (e.g., a September series, an October series, etc.) where successive values are 1 year apart. A time series of the historical monthly average X2 location was developed for this trend analysis using the Kimmerer-Monismith (K-M) equation (Jassby et al. 1995). The K-M equation predicts average X2 location as a function of current month Delta outflow and previous month X2 location. The early historical Delta outflow time series includes several months when the value was negative. Since the K-M equation is a function of the common log of Delta outflow, the equation is not defined when outflow is less than 1 cfs. Therefore, an alternate approach was developed and utilized to estimate the X2 location when the K-M equation is not valid (Hutton 2011). As the X2 location used in the comparison and trend analysis reported below is a calculated location, differences may occur between the calculated X2 locations and the actual location, particularly in low outflow years after 1990.	developed in coordination between DWR, Reclamation, USFWS, and NMFS.
1742	142	Fall X2 The 2010 State Water Resources Control Board Flow Criteria Report cited Feyrer et al. (2007, 2011), (the latter of which was still in review at the time), for the conclusion that the average X2 location during fall has moved upstream, resulting in a corresponding reduction in the amount and location of suitable delta smelt abiotic habitat, as estimated by the X2 location (2010 SWRCB Flow Criteria Report, p. 108). The 2010 SWRCB Flow Criteria Report relies heavily on the 2008 FWS BiOp, both of which are relied on by the BDCP DEIR/EIS. Dr. Paul Hutton reviewed these analyses and concluded that: Fall outflows were higher than unimpaired flows during the period 1956 to 1987 because the reservoirs were operating and making releases to reach mandatory reduced storage levels before the next rainy season. During this period, water demand throughout the watershed and in the Delta was developing so reservoir releases to create flood control space kept the Delta artificially fresh. The relevance of the time periods used in the 2010 SWRCB Flow Criteria Report, 2008 FWS BiOp, and in Feyrer et al. (2007, 2011) is not clearly articulated nor justified. The hydrological conditions that existed in the 1950s thru 1980s were highly altered, as further evidenced by the artificially fresh Delta in the fall, which to a certain extent flattened the hydrograph rather than supported variability. The actual trends in the location of X2 in fall are different than those presented in the 2010 Flow Criteria Report and 2008 FWS BiOp. The X2 location is, in fact, further downstream in the Delta (the Delta is fresher) in September, and about the same in October, compared to conditions before Shasta Dam was constructed. The historical data indicate that the calculated X2 location early in the fall has been moving west (Delta becoming fresher) over time, with a flattening of that trend in more recent decades. The X2 data for the months August and September show the location of X2 trending closer to the San Francisco Bay, a downward trend (Figures 9-17 through 9-20). The month of August is added to this analysis because X2 in August affects X2 in September. A Sen's nonparametric estimate of the long-term trend was conducted, showing downward trends in August and September of 1.2 and 0.7 kilometers per decade, respectively. A Mann-Kendall test confirms the statistical significance of these trends.	The calculation for the X2 location in the CALSIM II model run used in the No Action Alternative and several of the action alternatives in the EIR/EIS are based upon the interpretation of the model simulations developed in coordination between DWR, Reclamation, USFWS, and NMFS.

DEIRS Ltr#	Cmt#	Comment	Response
1742	143	ATT35: Figure 9-17. Calculated X2 location in August 1922--2010, showing a statistically significant downward trend (i.e., more outflow) of 1.2 kilometers per decade over the time period.	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.
1742	144	ATT36: Figure 9-18. Calculated X2 location in August by decade (1922-2010).	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.
1742	145	ATT37: Figure 9-19. Calculated X2 location in September 1922--2010, showing a statistically significant downward trend (i.e., more outflow) or 0.7 kilometers per decade over the time period.	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.
1742	146	ATT38: Figure 9-20. Calculated X2 location in September by decade (1922--2010).	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.
1742	147	Figures 9-21 and 9-22, upon visual inspection, indicate no long-term trend in the position of X2 in Octobers. A Mann-Kendall test confirms that no significant long-term trend exists. Figures 9-23 and 9-24 for the month of November show a different trend, with increasing X2 over time. A Sen's nonparametric estimate of the long-term trend was conducted, resulting in an increasing trend of 0.5 kilometer per decade. A Mann-Kendall test confirms the statistical significance of this trend.	The calculation for the X2 location in the CALSIM II model run used in the No Action Alternative and several of the action alternatives in the EIR/EIS are based upon the interpretation of the model simulations developed in coordination between DWR, Reclamation, USFWS, and NMFS.
1742	148	ATT39: Figure 9-21. Calculated X2 location in October 1922--2010, showing no significantly significant trend in salinity over the time period.	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.
1742	149	ATT40: Figure 9-22. Calculated X2 location in October by decade (1922--2010).	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.
1742	150	ATT41: Figure 9-23. Calculated X2 location in November 1922--2010, showing a statistically significant increasing trend of 0.5 kilometers per decade over the time period.	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.
1742	151	ATT42: Figure 9-24. Calculated X2 location in November by decade (1922--2010).	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.
1742	152	Figure 9-25 demonstrates that the recent September outflow reduction is primarily the result of dryer hydrologic conditions that have occurred between decades, from the prior decade (1991--2000) to the most recent decade (2001--2010). The vertical bar chart inset in the top right-hand corner of the figure demonstrates that the difference in outflow is explained in large part by the difference in unimpaired outflow (i.e., the reduction in unimpaired outflow [red bar at 99 TAF/year] accounts for a majority of the reduction in outflow [blue bar at 171 TAF/year]). However, water management also contributed to the outflow reduction. The horizontal blue bars in the main body of the figure represent normalized contributions by individual hydrologic drivers towards the decrease in annual outflow between decades. These horizontal blue bars sum to the difference between the vertical bars. The figure shows that, after reduction in unimpaired outflow, the reduction in Sacramento Valley accretions (33 TAF/year) is the next most significant hydrologic factor	The comment presents historical information. The EIR/EIS analysis compares alternatives to existing conditions as of the time of the publication of the Notice of Preparation and Notice of Intent in 2009, and not historical conditions.

DEIRS Ltr#	Cmt#	Comment	Response
		explaining the decrease in September outflow between the 2 decades. The CVP/SWP Projects appear to have had minimal (4 TAF/year) contribution to reductions in outflow. Increased exports are nearly balanced by increased upstream project reservoir releases.	
1742	153	ATT43: Figure 9-25. Contributions to decrease in September Delta outflow (1991-2000 compared to 2001-2010). The majority of the difference in outflow between these two decades is due to differences in natural hydrology as measured by unimpaired outflow. Reductions in Sacramento accretions are the next largest contributor.	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.
1742	154	Similar to Figure 9-25, Figures 9-26 and 9-27 identify the hydrologic factors that drive the decrease in October and November outflow from the prior decade (1991-2000) to the most recent decade (2001-2010), respectively. The vertical bars on Figure 9-28 show that unimpaired flow was higher in 2001-2010 than in 1991-2000 (red bar at -14 TAF/year). The figure shows that the reduction in Sacramento Valley accretions (93 TAF/yr) and San Joaquin River inflow at Vernalis (40 TAF/year) were the most significant factors in explaining the decrease in October outflow between the 2 decades. The CVP/SWP Projects actually contributed to higher outflow in 2001-2010 (-57 TAF/year), i.e., increased exports were more than fully balanced by increased upstream project reservoir releases. The vertical bar chart inset in the top right-hand corner of Figure 9-29 demonstrates that the difference in November outflow is explained in large part by the difference in unimpaired outflow; that is, the reduction in unimpaired outflow [red bar at 107 TAF/year] accounts for a majority of the reduction in outflow [blue bar at 136 TAF/year]. The horizontal blue bars in the main body of the figure represent normalized contributions by individual hydrologic drivers towards the decrease in annual outflow between decades. These horizontal blue bars sum to the difference between the vertical bars. The figure shows that, after reduction in unimpaired outflow, no single hydrologic factor stands out in explaining the decrease in November outflow between the 2 decades. In other words, while water management also contributed to the outflow reduction between decades that reduction is primarily the result of dryer hydrologic conditions.	The comment presents historical information. The EIR/EIS analysis compares alternatives to existing conditions as of the time of the publication of the Notice of Preparation and Notice of Intent in 2009, and not historical conditions.
1742	155	ATT44: Figure 9-26. Contributions to decrease in October Delta outflow (1991-2000 compared to 2001-2010). Unimpaired flow was higher in the most recent decade. Reduction in Sacramento Valley accretions and San Joaquin River inflow at Vernalis were the most significant factors in explaining the decrease in October outflow between the two decades. CVP/SWP Projects contributed to higher outflow in 2001-2010.	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.
1742	156	ATT45: Figure 9-27. Contributions to decrease in November Delta outflow (1991-2000 compared to 2001-2010). The difference in November outflow is explained in large part by the reduction in unimpaired outflow. After reduction in unimpaired outflow, no single hydrologic factor stands out in explaining the decrease in November outflow between the two decades.	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.
1742	157	Outflow in September has increased as compared to pre-project conditions, outflows in October are variable as compared to pre-project conditions, and outflows in November have decreased as compared to pre-project conditions. Moreover, November (and December) outflows are not related to outflows in the prior months, being influenced instead by hydrology within these months and the new water year. The disconnect in the hydrology over the September-December averaging period used in the Feyrer et al. papers and 2008 FWS BiOp leads to further uncertainty because the averaging period spans two different water years even though the Fall X2 RPA (Reasonable and Prudent Alternative)	The comment presents historical information. The EIR/EIS analysis compares alternatives to existing conditions as of the time of the publication of the Notice of Preparation and Notice of Intent in 2009, and not historical conditions. The EIR/EIS and BA describe the uncertainties associated with the Feyrer et al. papers and the adaptive management program specifically identifies Fall X2 as an active area of investigation that will continue to better understand the necessity of this criteria.

DEIRS Ltr#	Cmt#	Comment	Response
		trigger is linked to the hydrology of the prior spring and summer.	
1742	158	The results in the 2008 FWS BiOp are largely driven by the selection of a post-project baseline that reflects artificial conditions of un-naturally high fall outflow and less than fully developed water use that existed when the reservoirs were first constructed. Use of the full hydrologic record, as was done in this analysis, is more informative as it includes a pre-project period. An even more appropriate comparison would be to a pre-project and pre-development period, which more closely approximates the conditions within which delta smelt evolved.	The calculation for the X2 location in the CALSIM II model run used in the No Action Alternative and several of the action alternatives in the EIR/EIS are based upon the interpretation of the model simulations developed in coordination between DWR, Reclamation, USFWS, and NMFS.
1742	159	Fox et al., in review, estimated pre-developed outflow and determined that current annual outflow is comparable to pre-development annual outflow. See Figure 9-28. The Fox et al. analysis suggests that the most biologically meaningful difference between the pre-development era and today is not outflow, rather it is the long list of physical changes that have occurred in the Delta, including but not limited to: changes in channel configuration, draining of Delta islands, destruction of wetlands and tidal marshes, construction of large network of levees, and the miles of rip-rapped channels. It is these physical changes in the Delta that the BDCP habitat restoration efforts are targeting, which is why the comprehensive and multifaceted approach proposed by the BDCP is the preferred project.	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) also 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.
1742	160	ATT46: Figure 9-28. Illustration of Fox et al., in review. High and low estimates of pre-development annual outflow approximate current annual outflow. High and low estimates of pre-development annual outflow are also significantly less than unimpaired outflow, which is a descriptor of an environmental condition that has never existed. Pre-development outflow was regulated by the natural channel configurations and extensive native vegetation, so it cannot be reasonably assumed that unimpaired outflow traveling down heavily rip-rapped and highly channelized Delta channels approximates natural conditions.	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.
1742	161	The DEIR/EIS needs to acknowledge the uncertainty in the Fall X2 trends analysis underlying Feyrer et al. 2007, 2011, and the 2008 FWS BiOp, all of which are the implicit underlying bases for the DEIR/EIS assumption that a fall outflow that deviates from the 2008 FWS BiOp Fall X2 Reasonable and Prudent Alternative is a significant effect. In fact, the trends in X2 in the fall using the full hydrologic record are not as described in any of these underlying documents, and therefore the basis for the RPA triggers is uncertain.	The calculation for the X2 location in the CALSIM II model run used in the No Action Alternative and several of the action alternatives in the EIR/EIS are based upon the interpretation of the model simulations developed in coordination between DWR, Reclamation, USFWS, and NMFS. The EIR/EIS and BA describe the uncertainties associated with the Feyrer et al. papers and the adaptive management program specifically identifies Fall X2 as an active area of investigation that will continue to better understand the necessity of this criteria.
1742	162	How should the delta smelt analysis be corrected? The BDCP DEIR/EIS needs to explain the high uncertainty in using the Feyrer et al. 2011 abiotic habitat index to predict the effects of the project and project alternatives. The BDCP DEIR/EIS also needs to explain the high degree of uncertainty in the predicted abundance benefits of the high outflow scenario. The analysis should include an analysis of the complete range of known habitat attributes for the fall season. Such habitat attributes likely include food availability, salinity,	The main uncertainties and limitations of the analysis based on Feyrer et al. (2011) were outlined both in the public draft EIR-EIS (p. 11-119) and in the description of the method in Appendix 5.C of the BDCP (p. 5C.4-118). Additional descriptions about this method and the current evaluation of its application to management of fall outflow, as well as the need for fall outflow, was added to the methods section of the REIR/SEIS. The adaptive management program will include enhanced discussion of the proposed project's intention to investigate and reduce the uncertainty related to the importance of fall X2. Please also see Master Response 44 related to the Decision Trees process as it pertains to Alternative 4. Various qualitative analyses for other habitat attributes were included in the analysis of other conservation measures, e.g.,

DEIRS Ltr#	Cmt#	Comment	Response
		temperature, substrate, and perhaps turbidity. This analysis could be qualitative.	potential increases in potential food availability from CM4 (see p. 11-279 DEIR/EIS) and potential effects of CM1 and CM4 on water clarity (see pp. 11-267 and 11-168 DEIR/EIS).
1742	163	Whether the high outflow scenario would increase delta smelt abundance is uncertain. There is disagreement among experts. For all of the reasons identified above, the best available science supports the conclusion that it is uncertain that the high outflow scenario would result in an increase in delta smelt abundance. The Delta Science Outflow Panel agreed concluded at p. 29 [footnote 13: Reed et al. 2014 is the citation for the Delta Science Program's Delta Outflow Panel's Report.] that implementing the fall X2 Reasonable and Prudent Alternative probably would not result in an increase in species abundance, stating: In the Panel's judgment, based on X2-abundance relationships the evidence that the relatively modest changes in fall Delta outflows that are being proposed are going to result in substantial increases in abundance of key pelagic fish species is highly uncertain. (Emphasis added.) The DEIR/EIS analysis needs to acknowledge the uncertainty surrounding whether the high outflow scenario would result in increased species abundance. Acknowledging this uncertainty is particularly appropriate as the high outflow scenario will be investigated as part of the Decision Tree.	Recognizing the uncertainty in the effectiveness of different operational scenarios, the BDCP proposes the decision tree process to address for delta smelt the importance of fall outflow and the magnitude of fall outflow to be adopted upon commencement of CM1 operations. This is reflected in the discussion of impact AQUA-5 on pages 11-1295 to 11-1298 of the public draft BDCP. 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 also see Master Response 44 related to the Decision Trees process. Please note that the current Preferred Alternative, 4A, does not include a HCP or the decision tree process. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.
1742	164	The assumption that delta smelt spring habitat can be defined by X2 (outflow) or the volume of Low Salinity Zone habitat is uncertain. The DEIR/EIS assumes that changes in spring outflow would be expected to negatively affect delta smelt spawning habitat. [footnote 14: It is unclear what analytical tools were used in the BDCP EIR/EIS to evaluate the potential effects of the proposed project and alternatives on delta smelt egg incubation habitat (spring). For example, on p. 11-264, Alternative 1A, the analysis describes a "Wetland Bench Inundation" analysis but this same analysis is not described in the discussion of Alternative 4. It seems that the Wetland Bench Analysis is more appropriate for salmon than delta smelt so we question whether it was actually used; and if it was, we question whether such an analysis is appropriate from a technical perspective.] For example, the DEIR/EIS at p. 1295 states: The effects of operations under Alternative 4 on abiotic spawning habitat would be similar as those described for Alternative 1A (Impact AQUA-4). Flows affect the amount of spawning habitat available to delta smelt (Hobbs et al. 2005, 2007), although spawning habitat is not known to be limited. Alternative 4 would reduce flows downstream of the north Delta intakes, with the reduction being the greatest for H1 and H3 (which do not include enhanced spring outflow) and lowest for H2 and H3 (which would enhance spring outflow). However, flow reductions below the north Delta intakes are not expected to substantially reduce available spawning habitat under any of the operating scenarios for Alternative 4 because implementation of CM4 Tidal Natural Communities Restoration is expected to more than offset any loss of spawning habitat caused by reduced flows below north Delta intakes. (Emphasis added.) Metropolitan Water District is unaware of any published paper that supports the assumption that delta smelt spring spawning habitat can be defined by outflow, or "abiotic habitat," and that a change in spring flow would have a negative effect on the species abundance, including the references to Hobbs et al. 2005, 2007. [footnote 15: It is also	Impact AQUA-4 was revised in the Final EIR/EIS to address this issue.

DEIRS Ltr#	Cmt#	Comment	Response
		unclear what the DEIR/EIS assumes is the significance threshold is for any change in spring outflow, meaning when does the DEIR/EIS consider a change in spring outflow "significant" and what is the scientific basis for that assumption. The scientific literature does not support a conclusion that a change in spring outflow would have a negative effect on delta smelt.] MWD is aware of several published papers that do not support this assumption.	
1742	165	Hobbs et al. 2005, 2007 do not support the DEIR/EIS' assumption that spring outflow (abiotic habitat) defines delta smelt spring spawning habitat, or that changes in spring outflow could negatively affect the species. We were unable to locate the Hobbs et al. citations in the bibliography but assume these are references to: Hobbs, J. A., Yin, Q., Burton, J., Bennett, W.A. 2005. Retrospective determination of natal habitats for an estuarine fish with otolith strontium isotope ratios. Marine and Freshwater Research, vol. 56:655-660. Hobbs, J. A., Bennett, W.A., Burton, J. 2007. Classification of larval and adult delta smelt to nursery areas by use of trace elemental fingerprinting. Transactions of the American Fisheries Society, vol. 136: 518-527. Hobbs et al. 2005, 2007 describe efforts to identify delta smelt natal habitats using otolith chemistry. These studies determined that otolith technology can be used to identify natal habitats. Different chemical signatures were identified for different areas of the Delta, the Napa River, and Suisun Marsh. Specifically, for the 1999 year-class, Hobbs et al. 2007 determined that 77-79% of the population originated from the Delta, "…and a small but significant proportion of the population originated from the Napa River (16-18%) and Suisun Bay (4-8%)." These studies do not address the question of whether outflow or the volume of the LSZ defines spring delta smelt habitat, nor do the studies suggest that a change in spring outflow could negatively affect delta smelt. To some extent, the Hobbs et al. studies suggest just the opposite by identifying significant spawning populations in the Napa River and Suisun Bay.	Impact AQUA-4 was revised in the Final EIR/EIS to address this issue.
1742	166	There are a number of studies that have specifically considered the relationship between spring X2 (outflow), or spring abiotic habitat, and delta smelt abundance and these studies do not support the hypothesis that delta smelt spring habitat is primarily defined by flow, starting with Bennett 2005 at p. 32 who observed that: Inter-annual abundances of various biota are explained by the amount of freshwater outflow as indexed by X2, defined as the average distance (km) of 2 psu bottom salinity from the Golden Gate bridge (cites omit). Numerous mechanisms may underlie these relationships (Kimmerer 2002). However, unlike many other species, the abundance of delta smelt is not easily explained by this indicator or its analogue, freshwater flow (Figure 11, Steven and Miller 1983; Kimmerer 2002). [footnote 16: Jassby et al. 1995 p. 279 concluded, "Except for Eurytemora and delta smelt, each biological variable exhibits a statistically verifiable relationship with X2."] Overall, delta smelt recruitment success is poor during drought and flood years, and highly variable during intermediate flow years when low salinity habitat is located in Suisun Bay (Figure 19A, Moyle and other 1992). This observation was first formalized by Obrebski (1993) who identified a significant relationship between the number of spring days X2 was located in Suisun Bay and adult abundance; a relationship that underlies the logic for the	Impact AQUA-4 was revised in the Final EIR/EIS to address this issue.

DEIRS Ltr#	Cmt#	Comment	Response
		current salinity standards. However, this co rrelation no longer holds…in several recent years (since 1993) adult abundance remained fairly low even though X2 frequently was located in Suisun Bay (Figure 19C). Although recent abundances have been lower than anticipated, adult abundance is always low when X2 is located in the lower Sacramento and San Joaquin rivers (Figure 19A). One possibility driving confusion may be that delta smelt are responding differently to X2 since the population declines, or that other changes in physical habitat have overridden the influence of freshwater discharge. Recently, Kimmerer (2002) found a positive relationship between juvenile smelt abundance and X2 position before the decline occurred in 1982, and a negative trend…since that time. Similarly dividing the data into pre-and post- decline years for juvenile abundance and the number of days X2 was located in Suisun Bay, does not improve these relationships (Figure 19D). While these findings are puzzling, the differences in the trends suggest that spawning or rearing habitat in the lower rivers and Delta may have been more favorable for delta smelt before the 1982 than over the last two decades. (Emphasis added.) In response to this lack of evidence supporting a delta smelt abundance: spring outflow relationship, Bennett 2005 proposed an alternative hypothesis at p. 32: The importance of spawning and rearing habitat in Suisun Bay is also suggested by the analyses of Unger (1994). He showed that the overall surface area of habitat bounded by 0.3 to 1.8 psu was maximized with X2 position in Suisun Bay. When this habitat measure was weighted by the average monthly occurrence of larval and juvenile smelt he found a significant correlation with adult abundance. This finding is provocative, although it is preliminary and based on a fairly loose definition of delta smelt habitat. Changing habitat volume may be a key mechanism underlying density dependence…A potential change in habitat volume may underlie the observation that juvenile delta smelt are now rarely caught in the south Delta (cite omit). Thus, it would be worthwhile to revisit this idea using current knowledge of the delta smelt habitat and newer modeling capabilities. (Emphasis added.) Kimmerer et al. 2013 revisited this idea that "changing habitat volume may be a key mechanism" explaining delta smelt abundance and, using newer modeling capabilities, found that it was not. Kimmerer et al. 2013 at p. 3 explained that they were testing the importance of habitat volume as identified by Bennett 2005 and found that spring (March-July) [footnote 17: Kimmerer et al. 2013 at p. 3 explained that "…the results apply to the range of flows regardless of season."] habitat volume did not correspond to delta smelt abundance (Figure 8 and p. 15, "…it is not surprising that such a simple descriptor or habitat is inadequate for this species). This conclusion is consistent with the earlier findings of Kimmerer et al. 2009 at p. 6 (emph. add.): The X2 relationship for delta smelt in the summer townet survey has a step change in slope in 1981 (Fig. 3e), but the midwater trawl survey had an essentially flat relationship with X2 and a step change in intercept in 1987-1988. Kimmerer et al. 2009, Figure 3, confirms the earlier finding that before 1987, delta smelt abundance decreased with increasing flow. Kimmerer et al. 2009 at p. 11 ultimately concluded that:	

DEIRS Ltr#	Cmt#	Comment	Response
		In contrast, abundance of delta smelt did not vary with X2…Adding the previous year's fall midwater trawl index as a covariate did not improve the fit of the X2 model for the fall index of delta smelt abundance. Despite the evident increase in the amount of habitat, delta smelt abundance appears to be regulated by other factors so far unidentified. The DEIR/EIS acknowledges that delta smelt do not appear habitat limited (p. 11- 1295) and that is probably a reference to the lack of relationship between X2, or the volume of Low Salinity Zone habitat, and species abundance. However, what the lack of relationship also means is that X2 or the volume of the LSZ is an inadequate descriptor of species habitat, and that any assumption that a change in X2, or the volume of the LSZ, will negatively affect the species is uncertain. On this point, Kimmerer et al. 2009 at p. 15 advised that salinity is an inadequate descriptor of habitat and that other constituents of habitat should be considered, like turbidity and/or food. Therefore, the analysis in the BDCP DEIR/EIS should identify the known range of constituents of spring delta smelt spawning habitat (e.g., spawning temperatures, availability of spawning substrates and other components of physical habitat, salinity tolerances for spawning and larvae, etc.), and evaluate the projects potential to affect those constituents of spawning habitat. This could be a qualitative analysis.	
1742	167	The BDCP DEIR/EIS needs to acknowledge that it is uncertain that green and white sturgeon will be significantly affected by flows that deviate from the selected flow threshold. The BDCP DEIR/EIS needs to recognize the uncertainty in the analyses of green and white sturgeon, which extends to the assumptions regarding abundance-flow relationships as well as the selected significance thresholds.	A discussion of uncertainty has been added to the Final EIR/EIS.
1742	168	The analysis of green sturgeon in the BDCP DEIR/EIS is uncertain. The DEIR/EIS at p. 11 states, "It was assumed that the same [flow relationship] applies to green sturgeon in this analysis." Within the context of that paragraph, it appears this means that the abundance-flow relationships identified in the literature (i.e., Kohlhorst et al. 1991 and Fish 2010) for white sturgeon were assumed to apply to green sturgeon as well. This assumption is consistent with the description of analytical methods in BDCP Chapter 5 starting at p. 5.5.8-7. However, this assumption is uncertain. Green sturgeon and white sturgeon do not fill the same niche or share the same life cycle. For example, BDCP Chapter 5, at p. 447 explains that white sturgeon spend the majority of their lives in brackish portions of the estuary in deep water, although a small number of individuals dwell in the ocean…," while, "Green sturgeon adults spend extended periods of time within the ocean making long migrations as far north as southern Alaska and as far south as Ensenada, Mexico." Since these two species exhibit significant differences in their life cycles and niches, there is no strong basis for assuming that the species are sufficiently similar as to apply the same analysis to both. Moreover, Metropolitan Water District is unaware of any published literature identifying a flow-abundance relationship for green sturgeon; therefore assuming a relationship does not appear well founded. The analytical methods should differentiate between these two species. [footnote 18: BDCP EIR/EIS conclusions are sometimes different between the two sturgeon species, see e.g., BDCP EIR/EIS, p. 36, Table 11-2A-SUM1. Results of Flow Related Effects on Fish, reporting an "adverse/significant and unavoidable conclusion" for green sturgeon migration and a "not determined/less than significant impact" conclusion for white sturgeon migration. As neither BDCP EIR/EIS Chapter 11 nor BDCP Chapter 5 identifies flow thresholds that differ between the two sturgeon species, the source of the different conclusions is unexplained and should be	A discussion of uncertainty has been added to the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		clarified.]	
1742	169	The analysis of white sturgeon is uncertain. The DEIR/EIS identifies changes in flow as a potentially significant impact on white sturgeon. Since the DEIR/EIS does not explain the methods used in this analysis, BDCP Chapter 5 was reviewed. BDCP Chapter 5 observes the abundance-flow relationships in Kohlhorst et al. 1991 and Fish 2010, identifies the untested DRERIP hypotheses potentially explaining the observed abundance:flow relationships, and then selects thresholds of significance for flows associated with spawning, rearing and migration (BDCP Chapter 5, starting at p. 5.5.8-7 and BDCP DEIR/EIS at p.11-36). The DEIR/EIS must acknowledge the uncertainty introduced at each step of this analysis. The nature of the apparent abundance: flow relationship is difficult to interpret. See e.g., Kohlhorst et al. 1991, Figure 5, below. Kohlhorst's Figure 5 has a cloud of points in the lower left, and then two points representing extremely wet years on the upper right side of the figure. From this, it is not possible to determine the shape of the apparent relationship, and it does not appear to be a constant relationship. Based on the figure, for example, it is difficult to predict what the species' response would be to flows between 0 and 1000 cubic meters per second (or approximately 0 to 35,000 cfs). It seems that all that can really be inferred from the figure is that species abundance (year-1) may increase in years with extreme flood events (around 70,000 cfs means daily outflow from April-July). Fish 2010 has similar results, see Figure 32, which is a reproduction of the Fish 2010 March-July relationship (using Fish 2010 data). Figure 9-30 also suggests that abundance of 1-2 year olds does not significantly increase until the 5 month average (March-July) flows are around 70,000 cfs. However, flows of this magnitude are beyond anything that is being proposed in the BDCP, or any of the DEIR/EIS Action Alternatives, as these are flows beyond the capability of what can practically be achieved through management actions, instead requiring extremely wet hydrology. The DEIR/EIS analysis is also uncertain because the biological mechanism underlying the white sturgeon abundance-flow relationship is unknown. As was previously discussed (above, in the longfin smelt section) the biological mechanism underlying the flow relationship must be understood before the correlation can, with any degree of certainty, be used predictively or for management purposes. Chapter 5 acknowledges that the biological mechanism underlying the white sturgeon relationship is unknown, and until the biological mechanism is understood, the nature and the magnitude of the flows that may benefit the species are undefined. [footnote 19: It seems quite plausible, for example, that the mechanism explaining the white sturgeon: flow relationship is floodplain inundation, just as is thought to be true for splittail. If that is the case, the BDCP should greatly benefit white sturgeon through its extensive habitat restoration efforts.] In fact, it is currently unknown if increased reservoir releases would generate any benefit at all. And even if reservoir releases could provide species benefits, it is unclear if increases in abundance of one or two year-old fishes would be translated into long-term increases in species abundance since white sturgeon are so long-lived. With this in mind, there is little certainty that the thresholds that were used in the DEIR/EIS are biologically meaningful, particularly since very specific thresholds were applied to multiple life stages. It seems that the level of precision this analysis suggests may not be supported by the underlying literature.	A discussion of uncertainty has been added to the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1742	170	ATT47: Figure 5 - Scatterplot of white sturgeon year class index versus mean daily outflow for April to July in the Sacramento-San Joaquin Estuary. Numbers adjacent to points designate year classes.	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.
1742	171	ATT48: Figure 9-30. White sturgeon "year class index" verses March-July Delta outflow (reproduction of Fish 2010, using same data).	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.
1742	172	The DEIR/EIS needs to acknowledge that it is uncertain that river and Pacific lamprey will be significantly affected by flows that deviate from the selected flow threshold. The DEIR/EIS assumes that Pacific and river lamprey require flow to support spawning, rearing, and migration. [footnote 20: The technical basis for conclusions regarding spawning, rearing, and migration is unclear. For example, BDCP Chapter 2, Appendix A, pp. 2A.10-1 and 2A.11-1, acknowledges that it is unknown the extent that Pacific and river lamprey use the Plan Area for purposes other than a migration corridor. There is no monitoring program for either species so abundance and distribution of both species is unknown. And yet, the BDCP EIR/EIS concludes that Alternative 1A would have an adverse and significant and unavoidable effect on Pacific lamprey spawning, and includes specific conclusions for both species by life stage.] (See DEIR/EIS at p. 11-17.) This assumption is uncertain because there is very little known about either of these species. This uncertainty is acknowledged in BDCP Chapter 5 at p. 5.5.9-2 where it states: During the agency biologists workshops of August 2012 that discussed species attribute importance and change under the BDCP, it was clear little was known about either the Pacific or River lamprey attributes of importance within Plan Area and any conclusions would be reached with low certainty. And, at p. 5.5.9-1, it states: Pacific and river lamprey macropthalmia migrate downstream during winter and spring, likely in association with high flow events (Moyle 2001). Downstream transport flows are a major driver of outmigration with high flow events (Moyle 2002). Downstream transport flows are a major driver of outmigration macropthalmia (Luzier et al. 2009). This stressor was assumed with low certainty to be of moderate importance. The duration of time that macropthalmia spend in the Delta is thought to be extremely short (less than 1 month), indicating that exposure to in-Delta stressors is small relative to stressors over the course of their life cycle. However the uncertainty underlying the conclusions regarding the effects of changes in flow on Pacific and river lamprey is not reflected in the DEIR/EIS. The DEIR/EIS needs to acknowledge this uncertainty.	This discussion of uncertainty has been added to the Final EIR/EIS.
1743	1	Climate Change Impacts On Surface Storage Reservoirs Documented In The DEIRS Support The Need To Develop And Adopt A Reduced Exports Plan. Friends of the River's existing comments already discuss at length the failure of the BDCP DEIRS to seriously consider as a BDCP alternative the Environmental Water Caucus' Responsible Exports Plan or any alternative that significantly reduces Delta water exports. In fact, information in the DEIRS supports the need for serious consideration of the	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 EIR/EIS analyzes all alternatives, including Alternative 4A. 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. Scoping comments from the

DEIRS Ltr#	Cmt#	Comment	Response
		Responsible Exports Plan or a reduced exports alternative. A remarkable finding buried in the BDCP is the fact that climate change under all alternatives considered in the DEIRS will result in major federal and state surface storage reservoirs upstream of the Delta being drawn down to dead pool storage by the end of the irrigation season. The BDCP claims that this is mostly due to climate change. However, several BDCP alternatives also contribute to this annual catastrophic drawn-down. According to the DEIRS: "In comparison to Existing Conditions, there would be a decrease in carryover storage at the end of September for Lake Oroville, Trinity Lake, Shasta Lake, and Folsom Lake in all years. Lake Oroville storage would decrease by 646 TAF (31%) in September average end of month storage. Trinity, Shasta, and Folsom lakes September carryover would decrease by 230 TAF (17%), 481 TAF (18%), and 146 TAF (28%), respectively under No Action Alternative as compared to Existing Conditions. The frequency of Trinity, Shasta, and Folsom Lakes dropping to dead pool storage would increase by about 10% under the No Action Alternative as compared to Existing Conditions. These changes in storage would reduce the ability of the CVP and SWP to meet system water demands and environmental water needs. Adaption measures would need to be implemented on upstream operations to manage cold-water pool storage levels under future sea level rise and climate change conditions. As described in the methods section, model results when storages are at or near dead pool may not be representative of actual future conditions because changes in assumed operations may be implemented to avoid these conditions." (BDCP DEIRS pg. 5-61) What is truly astounding about this statement is that it does not apparently result in the federal and state agencies involved in the BDCP to recognize that the BDCP goals as currently stated are inadequate to deal with the very real impacts of climate change documented in the DEIRS.	State Water Board included requests for an alternative providing for reduced diversions and an alternative incorporating changes to Delta outflows (and potentially inflows) that would reflect a more natural hydrograph. The Lead Agencies determined that an additional alternative would be required to be responsive to the State Water Board's comments. Informed by these comments, as well as several letters from the State Water Board to the Natural Resources Agency, DWR met with State Water Board staff to identify a general approach to model an increased spring Delta outflow alternative. This alternative was designed to increase spring Delta outflow by approximately 1.5 million acre-feet, on average, above the NEPA baseline assumptions. This became Alternative 8 as analyzed in the EIR/EIS. The anticipated hydrologic changes due to climate change (increased temperatures and more years of critical dryness, increased water temperatures, changes in precipitation and runoff patterns, sea level rise, and tidal variations) will constrain and challenge future water management practices across the state, with or without the proposed project. The state is addressing climate change through strategies and a decision-making framework as outlined in the California Climate Adaptation Strategy and Adaptation Planning Guide. However, no single project and indeed none of the project alternatives would be able to completely counteract all of the impacts of climate change. As shown in Chapter 5, Figure 5-12, Folsom Lake End of September Storage, of the 2013 Public Draft BDCP 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 and 25 for more information regarding climate change and GHGs and upstream reservoir effects respectively. California Waterfix would help to address the resilience and adaptability of the Delta to climate change through water delivery facilities combined with a range of operational scenarios, measures focused on the protection, restoration, and enhancement of the Delta ecosystem and measures to reduce other stressors (Environmental Commitments 3, 4, 6, 7, 8, 9, 10, 11, 12, 15, 16). In addition to the added water management flexibility created by new water diversions and operational scenarios, California Waterfix would improve habitat, increase food supplies and reduce the effects of other stressors on the Delta ecosystem. By improving and expanding available habitat, the proposed project would increase resilience and adaptability to climate change by making alternative habitat available during periods of high stress, such as very high or low freshwater inflow or very high salinity intrusion. Multiple analyses were performed in the proposed project to test the robustness of the alternatives to a range of potential future conditions. Water supply, aquatic and terrestrial resources were all analyzed with projected future conditions. The proposed project will likely remain in place and functional far into the future when salinity intrusion may require less frequent use of the south Delta pumps. Far from being stranded assets, the tunnels will be part of the state's strategy in adapting to climate change. More information on ways in which the BDCP/California WaterFix proposes to improve resiliency and adaptability of the Delta to climate change can be found in Chapter 29, Climate Change, EIR/EIS and Appendix A RDEIR/SDEIS and Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies, EIR/EIS and RDEIR/SDEIS (in appendix A) and in Master Response 19.
1743	2	The state and federal water projects in California, and their use of the Delta to export large quantities of fresh water south of the Delta, can no longer be operated as they have been. A serious change in operations is needed to prevent the severe impacts that annual reductions to dead pool storage in major reservoirs would entail (including significant water	The projected water demands in the No Action Alternative and all of the EIR/EIS alternatives include the assumptions that water conservation will be implemented by 2060 in accordance with State law as compared to the Existing Conditions, as described Section 30.1.3 of Chapter 30, Growth Inducement and

DEIRS Ltr#	Cmt#	Comment	Response
		supply shortages for senior water rights holders and the environment). The only operational change that would likely avoid these catastrophic storage reductions is an alternative the significantly reduces Delta exports. Therefore, the BDCP must fully consider, adopt, and implement a plan that reduces the statewide reliance on Delta exports, but it fails to do so. The DEIRS' simple characterization of the dead storage issue as "model results [that] may not be representative of actual future conditions because changes in assumed operations may be implemented to avoid these conditions" brings into question whether any result or impact documented in the BDCP will represent actual conditions. Since virtually every result and impact in the DEIRS are based on computer models, perhaps they can all be individually tweaked to produced different and perhaps more desirable results. Are we to assume based on this statement that nothing in the DEIRS is definitive?	Other Indirect Effects, of the EIR/EIS, including a reduction of water demand by up to 20 percent. The conditions under the No Action Alternative and Alternatives 1 through 9 include climate change and sea level rises. These changes would result in "dead pool" conditions in SWP and CVP reservoirs upstream of the Delta even without the action alternatives. The "dead pool" conditions presented in the CALSIM II model results in the EIR/EIS are 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. For additional information regarding upstream reservoir effects, please see Master Response 25. 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 under the No Action Alternative. The BDCP 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, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures). For additional information regarding storage, please see Master Response 37.
1743	3	The DEIRS clearly shows that business as usual, which includes all the alternatives considered in the DEIRS, would no longer be acceptable. California must come to grips with climate change and how it will affect our water supply and management. The best place to start should be with the BDCP and that entails serious consideration and adoption of the Responsible Exports Plan or other alternatives that significantly reduce Delta exports.	The anticipated hydrologic changes due to climate change (increased temperatures and more years of critical dryness, increased water temperatures, changes in precipitation and runoff patterns, sea level rise, and tidal variations) will constrain and challenge future water management practices across the state, with or without the proposed project. The state is addressing climate change through strategies and a decision-making framework as outlined in the California Climate Adaptation Strategy and Adaptation Planning Guide. However, no single project and indeed none of the project alternatives would be able to completely counteract all of the impacts of climate change. The proposed California WaterFix Project is designed to provide a more reliable water supply, in a way more protective of fish. It is projected that water deliveries from the federal and state water projects would be about the same as the average annual amount diverted in the last 20 years with project implementation. Please see Master Response 4. The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals that were considered but ultimately rejected by the Lead Agencies are discussed in Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1. 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.

DEIRS Ltr#	Cmt#	Comment	Response
1743	4	New surface storage is a reasonably foreseeable impact of the BDCP but the likely impacts of new storage are not considered. The DEIRS chapters about Water Storage and Surface Water (Chapter 5 and 6) fail to mention any projects currently under active study and environmental review to increase surface storage upstream of the Delta. These projects include a proposed raise of Shasta Dam and expansion of its reservoir on the Sacramento River, the Sites Offstream Storage Reservoir in the Sacramento Valley (which would be fed by major diversions from the Sacramento River), an additional proposed expansion of the Los Vaqueros Reservoir near the Delta, and the proposed Temperance Flat Dam on the San Joaquin River Gorge. Dam proponents have also been promoting expansion of the existing San Luis Reservoir in the San Joaquin Valley.	Please see Master Response 37 regarding why an alternative focused on creating additional storage, either in the Delta or elsewhere, was not included in the BDCP or EIR/EIS.
1743	5	New surface storage projects are only mentioned and briefly examined in DEIRS Appendix 1B - Water Storage. But the Appendix is quick to disavow any connection between new surface storage projects and the BDCP: "While water storage is a critically important tool for managing California's water resources, it is not a topic that must be addressed in the EIR/EIS for the BDCP. This is because the BDCP, as a proposed habitat conservation plan and natural community conservation plan, does not, and need not propose storage as a project component. Although the physical facilities contemplated by the BDCP, once up and running, would be part of an overall statewide water system of which new storage could someday also be a part, the BDCP is a stand-alone project for purposes of CEQA and NEPA, just as future storage projects would be." (Appendix pg. 1b-1) This carefully worded statement fails the validity test in a number of ways. The state legislation that created the BDCP process had two "coequal" goals: to restore the ecological functions of the Delta and to improve water supply reliability in the state of California. Legislators who established the coequal goals, state and federal water agencies, and water pundits alike (many of whom work for or represent water agencies and contractors) extoll the virtues of building additional surface storage as a crucial component of California's water management.	See Master Response 4 for discussion of the scope of the proposed project and alternatives (such as water storage) that were not carried forward for analysis in this document due to the fact that they required actions beyond the scope of the proposed project. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage. Please see Master Response 37 regarding why an alternative focused on creating additional storage, either in the Delta or elsewhere, was not included in the EIR/EIS. For more information regarding compliance with the Delta Reform Act please see Master Response 31. While water storage is a critically important tool for managing California's water resources, it is not a topic that must be addressed in the EIR/EIS for the proposed project. This is because the proposed project does not, and need not, propose storage as a project component. Although the physical facilities contemplated by the proposed project, once up and running, would be part of an overall statewide water system of which new storage could someday also be a part, the proposed project is a stand-alone project for purposes of CEQA and NEPA, just as future storage projects would be. Appendix 1B, Water Storage, of the FEIR/EIS, describes the potential for additional water storage Please see Master Response 37 regarding why an alternative focused on creating additional storage, either in the Delta or elsewhere, was not included in the or EIR/EIS.
1743	6	The HCP/NCCP aspects of the BDCP are needed to implement the water supply reliability goal. The Delta could (and many believe it should) be restored without "improving" water supply reliability by continuing or even increasing Delta exports. Federal and state law prohibits the government from continuing or increasing fresh water exports from the Delta without authorizing take of endangered and fully protected species. And take permits would not be allowed without the restoration component.	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) also 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

DEIRS Ltr#	Cmt#	Comment	Response
			ultimately approved at the conclusion of the CEQA/NEPA process.
1743	7	Another fact that directly connects the BDCP and upstream surface storage projects is that most of these projects -- particularly those located north of the Delta -- would contribute water to the Delta for export. For example, the proposed raise of Shasta Dam and enlargement of its reservoir would increase firm water supplies from 47,000 to up to 113,000 acre-feet per year, depending on the dam raise alternative chosen. From 44% up to 90% of this firm yield would be exported south of the Delta. [Footnote 1: Shasta Lake Water Resources Investigation DEIS Table S-2, U.S. Bureau of Reclamation, June 2013.] Similarly, the proposed Sites Offstream Storage Reservoir could increase water supplies from 213,000 to 246,000 acre-feet per year depending on the alternative. Of this amount, about 54-55% would be exported south of the Delta. Sites could also provide dedicated water releases to improve Delta water quality and provide a downstream shift in X2, as well as provide an emergency pulse of water in response to catastrophic Delta levee collapse. [Footnote 2: North of Delta Offstream Storage Preliminary Administrative DEIR, Table ES-5, California Dept. of Water Resources, May 2014.] In fact, most of the potential benefits of the Sites project appear to be Delta oriented and would fit quite well into the BDCP operations and purposes. It is important to understand that the Shasta Dam raise and North of Delta Offstream Storage (including Sites) were under active study when voters rejected the Peripheral Canal in 1982. The studies were subsequently shelved and were only revived in the CALFED process and reinvigorated with the advent of the BDCP. In addition, the state water bond on the November 2014 general ballot earmarks $3 billion for these projects, along with millions for Delta restoration, which increases both their connection and certainty.	Please see response to comment 5 above regarding storage alternatives.
1743	8	The proposed Temperance Flat Dam on the San Joaquin River Gorge is located south of the Delta. But it too would provide direct benefits to the BDCP, including an emergency water supply ranging from 194,000-203,000 acre-feet of water available during a "Delta Export Disruption" (a Delta levee break). In addition, the draft feasibility study for this dam project examines the potential to operate Temperance Flat in conjunction with Delta exports and San Luis Reservoir operations). [Footnote 3: Upper San Joaquin River Basin Storage Investigation Draft Feasibility Report, Table ES-1, U.S. Bureau of Reclamation, January 2014.] There is an undeniable connection between these proposed surface storage projects and the BDCP. And the failure of the DEIRS to admit this connection and disclose the reasonably foreseeable impacts of these surface storage projects on the environment is a major violation of both CEQA and NEPA	The Temperance Flat Reservoir project is included in the EIR/EIS in the Cumulative Impact Analysis which can be found in each of the relevant resource area chapters.
1743	9	[ATT 1: Comments of Friends of the River and California Wilderness Coalition in response to Shasta Lake Water Resources Investigation Draft Environmental Impact Statement. September 30, 2013.]	This comment describes an attachment to the comment letter related to the proposal to increase storage capacity at Shasta Dam. The attachment does not raise any issues related to the environmental analysis in this document. The remaining comments included in this letter are not specifically on the BDCP/CWF. Rather, these are comments on the Shasta Lake Water Resources Investigation (SLWRI) Draft EIS. The lead agencies have read and considered these comments and where possible attempted to provide a response relative to the BDCP/CWF EIR/EIS. In many instances, however, the comment is specific to the SLWRI DEIS and no response can be provided.
1743	10	[From ATT 1:] Unavailability of Hard Copies of the DEIS Made Public Review of This Massive and	The comment states that the Bureau of Reclamation's did not print hard copies of the SLWRI DEIS which is not the subject of this environmental document. It is assumed that this comment was meant for the BDCP EIR/EIS (not the SLWRI DEIS). Unfortunately, due to the size of the documents, the lead agencies did not

DEIRS Ltr#	Cmt#	Comment	Response
		Complicated Document Difficult. Friends of the River must protest the failure of the Bureau of Reclamation to provide hard copies of the Shasta Lake Water Resources Investigation (SLWRI) DEIS to the interested public. It is almost impossible to thoroughly review such a massive document online or via disc. Failing to provide printed copies of this document to those interested in conducting a thorough public review is a "penny wise, but pound foolish" approach to NEPA. We believe that a revised DEIS will be necessary and hereby request a hard copy of any future SLWRI documents.	print hard copies for individuals or organizations. However, there were several ways to review the documents including online on the project website, by requesting a DVD copy, viewing the hard copy at lead agency offices, or viewing a DVD copy at a public repository. More information on how DWR has developed the project in an open and transparent manner is provided in Master Response 41. More information about the public outreach conducted during the comment review periods for the DEIR/EIS and RDEIR/SDEIS is provided in Chapter 32 as well.
1743	11	[From ATT 1:] The DEIS Fails To Admit The Connection Between The Shasta Lake Water Resources Investigation (SLWRI) And The Bay Delta Conservation Plan. The SLWRI draft Feasibility Report clearly documents that every additional drop of water stored by a raised dam and expanded reservoir will be sold to federal water contractors. This not only refutes the Bureau's claim that the primary benefit of the dam raise is improved fisheries; it also underscores a direction connection to the SLWRI with the Bay-Delta Conservation Plan (BDCP). The current version of the BDCP proposes construction of two giant tunnels beneath the Delta to facilitate export of Sacramento River water south. The DEIS's and Feasibility Study's summary of benefits from the dam raise clearly show that 77% of the water stored behind a raised Shasta Dam will be sold to water contractors south of the Delta (the remainder will be sold to north of Delta contractors). The DEIS fails to document this important connection and is violation of the public disclosure mandate of the National Environmental Policy Act. A revised DEIS must clearly document the connection between the SLWRI and BDCP and fully disclose the role this connection plays in the cost-benefits of the SLWRI.	The issues raised in this comment have been responded to in responses 5 and 8 of this letter. Please see above.
1743	12	[From ATT 1:] Raising Shasta Dam Will Not Significantly Increase Anadromous Fish Survival As Claimed In The DEIS. The DEIS predicts that the dam raise alternatives will increase juvenile anadromous fish survival by 61,000 to 813,000 fish annually. (DEIS Table S-2, pg. ES-26) This is a misleading way to present the alleged benefits of the proposed dam raise. Although increasing juvenile salmon survival by up to 813,000 fish sounds significant, the less than 1% return rate of juveniles as adults three years later means that this billion dollar or more project may produce fewer than 813 additional adult salmon in any one year, and in most years, considerably less than that number. It is questionable as to whether the Bureau will operate the raised dam and expanded reservoir in a way that guarantees that the cold-water pool will be available during the dry and critically dry years when water temperatures are a major factor in juvenile salmon survival. Sadly, there are no hard or firm standards that the Bureau is apparently required to follow. When the Bureau finds it inconvenient to meet temperature standards for juvenile salmon survival, it simply "coordinates" (a polite way of saying it pressures) state and federal regulatory agencies to agree to move the temperature control point on the Sacramento River to a spot more convenient for the Bureau's dam and reservoir operations. The Sacramento Basin Water Quality Control Plan unequivocally sets the salmon	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		temperature control point at Red Bluff. Over the years, the Bureau has found it convenient to move this control point further upstream to Bend, Balls Ferry, and in 2013, even further upstream to a point near Anderson.	
1743	13	[From ATT 1:] In its draft Fish and Wildlife Coordination Report (June 2013), the U.S. Fish and Wildlife Service (USFWS) found the dam raise/expanded reservoir benefits of the dam raise to be "negligible". According to the USFWS, in 90% of the years, the dam raise/expanded reservoir will provide no benefits for juvenile salmon. In addition, the USFWS found that most of the fish benefits identified in the Shasta Lake Water Resources Investigation (SLWRI) are from spawning gravel augmentation and side channel rearing habitat restoration -- mitigation measures that are not dependent on the dam raise/reservoir expansion and that can be implemented regardless whether the dam is raised. It is important to recognize that the existing dam and reservoir can be operated to maintain an abundant population of endangered winter-run Chinook salmon. The completion of Shasta Dam in 1945 should have doomed this fish to quick extinction since access to its primary spawning grounds on the McCloud and upper Sacramento Rivers were permanently blocked by the dam. But once the reservoir was filed, operations of the dam in its first two decades "provided in-river conditions that sustained the winter-run Chinook population. Abundance estimates for winter-run Chinook in the 1960s ranged from a high of 125,000 in 1962 to a low of 49,000 in 1965." (National Marine Fisheries Service 1997 Proposed Winter-Run Recovery Plan, pg. II-12) Essentially, the winter-run became dependent on cold-water releases from Shasta Dam for its survival. But since 1970 to the present, dam operations have consistently failed to provide cold water to the river in order to meet federal water contract commitments in the Sacramento-San Joaquin Delta. The question is: If the existing dam and reservoir can be operated in a manner that can provide the needed cold water for improved juvenile salmon survival, why is this not an alternative under serious consideration in the SLWRI? The answer is found on DEIS page 2-49, where the Bureau states: "The adaptive management plan (for the proposed cold water pool created by the raised dam/enlarged reservoir) may include operational changes to the timing and magnitude of releases from Shasta Dam to benefit anadromous fish, as long as there are no conflicts with operational guidelines or adverse impacts on water supply reliability." (Emphasis ours) This simple statement clearly demonstrates the Bureau's lack of commitment to operate Shasta Dam and Reservoir to benefit endangered salmon regardless of whether the SLWRI is implemented or not. It reveals that the true purpose of the SLWRI is to increase the water supply for water contractors.	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1743	14	[From ATT 1:] Key Recovery Actions In The 2009 Central Valley Salmon and Steelhead Recovery Plan Are Not Considered In the Shasta Lake Water Resources Investigation (SLWRI) DEIS. The National Marine Fisheries Service's (NMFS) 2009 Central Valley Salmon and Steelhead Recovery Plan proposed a number of actions to protect and restore all runs of salmon and steelhead in the Sacramento River and its tributaries. Just a few of these actions include regulating pollution discharges from agricultural and urban sources, setting back and	It is assumed that this comment was meant for the BDCP /CWF EIR/EIS (not the SLWRI DEIS). The Recovery Plan actions were included in the baseline(s) if they have been implemented, or are certain to be implemented in the No Action Alternative. More information regarding environmental baselines is provided in Master Response 1. The Recovery Plan is a guidance document, and not all of the actions are reasonably foreseeable, and as such would not be included in either the baselines and/or the cumulative analysis. Only those actions that are included in the alternatives are evaluated. For more information regarding the adaptive management program as part of the proposed project please

DEIRS Ltr#	Cmt#	Comment	Response
		maintaining riparian vegetation on flood control levees, restoring 185 miles of continuous riparian habitat between Red Bluff and Sacramento, screening water diversions that have substantial fishery impacts, curtailing development in flood plains, negotiating additional instream flows or purchasing water rights, remediating acid mine pollution, and restoring the former footprint of Lake Red Bluff to riparian habitat. The DEIS ignores most of these actions and only obliquely refers to others. For example, it is unclear that adaptive management flows mentioned in the DEIS are the same thing as this specific recovery action proposed by the NMFS: "Implement a river flow management plan that balances carryover storage needs with instream flow needs for winter-run Chinook salmon based on runoff and storage conditions, including flow fluctuation and ramping criteria." (USFWS 2001) A revised SLWRI DEIS should include sufficient detail and information to make it clear whether adaptive management flows proposed in the DEIS meet the intent of the recovery action proposed in the Recovery Plan. The Recovery Plan also calls for the restoration of 185 miles of continuous riparian habitat along the Sacramento River between Red Bluff and Sacramento. It is important to note that the USFWS clearly believes that "the reduction in winter flows with the raising of Shasta Dam would result in adverse effects to riparian habitat along the Sacramento River..." (USFWS Coordination Report pg. 176) The SLWRI proposes as a specific restoration measure to restore riparian habitat in the upper and lower Sacramento Rivers (upstream and downstream of Red Bluff respectively) the development and implementation of a Riverine Ecosystem Mitigation and Adaptive Management Plan (REMAMP). The plan will supposedly avoid and compensate for the impact of altered flow regimes on the river's riparian and wetland communities. But little information is provided in regard to the REMAMP, which apparently does not exist even in draft or outline form, nor does it seem to apply to the Delta (as recommended in the Recovery Plan). There is no assurance that the REMAMP will actually meet the riparian habitat restoration objective found in the Recovery Plan.	see Master Response 33 and Chapter 3 of the Final EIR/EIS.
1743	15	[From ATT 1:] Some impacts identified in the DEIS imply that conditions for fish populations targeted for recovery may worsen. For example, remediation efforts at Iron Mountain Mine now controls 95% of the mine pollution that formerly flowed into the river. But the USFWS in its coordination report notes that the Shasta Lake Water Resources Investigation (SLWRI) reservoir expansion may exacerbate acid mine pollution by inundating additional abandoned mines and mine tailings that could leach additional metals into the river. The DEIS notes that "In addition to runoff from the historic workings (i.e., adits and portals), a number of large mine tailing deposits are currently leaching various metals into tributaries of Shasta Lake." (DEIS pg. 7-15) The Bureau apparently eliminated reducing acid mine and metal pollution as a recovery objective from the SLWRI "due to numerous implementation issues." It proposes to prepare and implement a site-specific Remediation Plan for historic mine features subject to inundation but its not clear if this will be completed in time to allow for the completion of the dam raise and filling of the enlarged reservoir, nor is it clear whether this mitigation meets the intent of the Recovery Plan.	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1743	16	[From ATT 1:] The Recovery Plan recommends minimum instream flows and ramping rates to benefit	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		salmon. The DEIS notes that the 1993 NMFS Biological Opinion (BO) set minimum flows in the river, but it is unclear whether these are the same minimum flows recommended in the Recovery Plan, nor does the BO address ramping rates. Interestingly, the primary fish recovery goal of Shasta Lake Water Resources Investigation alternative CP4 is to provide a more "fish-friendly" environment with "reservoir storage dedicated to fish, to either improve flows or water temperatures." (DEIS pg. 11-54, emphasis ours) This is hardly the firm recovery objective outlined in the Recovery Plan. Apparently, the Bureau believes it can either improve flows or temperatures but not both. The primary constraint is the reservation of much of the existing storage, as well as the additional water provided by the raise, to meet water contract commitments.	
1743	17	[From ATT 1:] Another recovery action virtually ignored in the DEIS is the reduction of agricultural and urban pollution into the Sacramento River and Delta. Although there are a number of mitigation measures in the DEIS to reduce pollution from construction and other upland activities into Shasta Reservoir, there is little assessment of the need to reduce agricultural, municipal, and industrial pollution into the Sacramento River downstream of the Dam, in order to reduce adverse impacts on salmon. For example, one of the specific recovery actions outlined by NMFS in its original 1997 winter run recovery plan is to control contaminant input from the Colusa Basin Drain, which visibly degrades the water quality of the Sacramento River. The Drain is the largest source of agricultural pollution to the river and is a major source of pesticides, turbidity, sediments, nutrients, dissolved solids, trace metals, and warm water into the river. Exposure of juvenile salmon to this kind of pollution is suspected to be detrimental. And yet, there is no effort in the Shasta Lake Water Resources Investigation to consider pollution remediation in the river downstream of Shasta Dam as yet another action that could be taken to improve juvenile salmon survival.	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1743	18	[From ATT 1:] The Recovery Plan proposes to restore key populations to former habitat that has become inaccessible due to dams, including Shasta Dam. The DEIS pays short shrift to this proposal, which is particularly inexcusable given the alleged focus of the Shasta Lake Water Resources Investigation.	This comment letter pertains to a different project than BDCP/CWF. However, to the extent this action, and others included in the Recovery Plan, are reasonably foreseeable, they are considered as part of the cumulative analysis for the BDCP/CWF EIR/EIS.
1743	19	[From ATT 1:] If the Bureau is truly serious about improving salmon survival, a revised Shasta Lake Water Resources Investigation (SLWRI) should incorporate more of the Recovery Actions outlined in the NMFS Recovery Plan. In addition, the SLWRI should seriously consider an alternative that re- operates the existing dam/reservoir in order to fully meet downstream temperature needs and flow requirements (for salmon as well as riparian habitat). A revised DEIS must connect the key objectives and recovery actions in the 2009 Recovery Plan to the mitigation measures proposed in the SLWRI DEIS. Further, the revised DEIS should evaluate and determine the feasibility and role of the Bureau in implementing all recovery actions, particularly in restoring populations upstream of Shasta Dam. A revised SLWRI should include an alternative that focuses on the salmon improvement measures recommended in the USFWS Coordination Report, including restoration of spawning and rearing habitat, improving fish passage, increasing minimum flows, and screening water diversions. (USFWS Coordination Report pg. v), as well as other specific management measures initially considered in the SLWRI but removed from further analysis	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		(as outlined in the USFWS Report pg. vi).	
1743	20	[From ATT 1:] The Project's Impacts on Sensitive, Threatened, and Endangered Species Are Underestimated In the DEIS. The DEIS admits that there will be significant and unavoidable impacts on a number of sensitive, threatened, and endangered wildlife species and their habitat, including the Shasta salamander, foothill yellow-legged frog, tailed frog, northwestern pond turtle, bald eagle, northern spotted owl, purple martin, willow flycatcher, Vaux's swift, yellow warbler, yellow-breasted chat, long-eared owl, northern goshawk, Cooper's hawk, great blue heron, osprey, red-tailed hawk, red-shouldered hawk, American robin, Anna's hummingbird, Pacific fisher, American marten, ringtails, eight special status bat species, and four special status mollusks. The DEIS also admits to significant and unavoidable permanent loss of general wildlife habitat and critical deer winter and fawning range. According to the DEIS, impacts associated with the take and loss of the endangered California red-tailed frog are still to be determined. And also according to the DEIS, impacts on riparian associated special status wildlife species may be potentially significant but are supposedly reduced to less than significant by the development and implementation of the previously mentioned but amorphous Riverine Ecosystem Mitigation and Adaptive Management Plan. Despite the fact these significant and unavoidable impacts on these many sensitive and special status wildlife species are documented in the DEIS, the document fails to adequately reveal the serious nature of these impacts, particularly on the seven rare but not federally listed species endemic (found nowhere else) to the Shasta Reservoir vicinity, including the Shasta salamander, two rare plant species, and three rare snails (mollusks). Some species are particularly susceptible to inundation by the expanded reservoir. For example, tree snags in the Pit River Arm of Shasta Reservoir appear to support a stable population of 18 breeding pairs of purple martin, a migratory bird that is generally uncommon in California and is considered by the California Department of Fish and Wildlife to be a species of special concern. The Pacific Coast population of purple martin has substantially declined in the last 50 years. Raising Shasta Dam will completely submerge the martin's existing nesting habitat and it would take decades for new nesting snags to become available to replace the lost habitat. A revised DEIS should better document significant and unavoidable impacts on endemic and other special status species and more fully consider alternatives that reduce the impacts to insignificant levels.	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The public draft BDCP, public draft EIR/EIS, and RDEIR/SEIS do not discuss impacts to many of the species cited in this comment because those species do not occur in the plan area.
1743	21	[From ATT 1:] The DEIS Underestimates Impacts Of Modified Flows From A Raised Shasta Dam On The Sacramento River And The Proposed Mitigation Measure Is Too Vague And Incomplete. The DEIS claims that potentially significant impacts on riparian associated aquatic and terrestrial special status wildlife due to modifications of the existing flow regime caused by the dam raise will be reduced to less than significant levels by the development and implementation of a Riverine Ecosystem Mitigation and Adaptive Management Plan	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		(REMAMP). The DEIS also recognizes that the impacts of flow modification on riparian habitat and ecosystem processes is inconsistent with local and regional plans and goals promoting riparian habitat on the Sacramento River. The DEIS notes that these are potentially significant impacts reduced to less than significant levels by the proposed REMAMP. The USFWS unequivocally states that reduced winter flows caused by the raising of Shasta Dam will result in adverse effects to riparian habitat along the Sacramento River. So these are real issues but unfortunately, the proposed mitigation (the REMAMP) does not yet exist, so there is no way for the public to understand just how the proposed mitigation will truly reduce these impacts to insignificance.	
1743	22	[From ATT 1:] Flow modification impacts to the Sacramento River's riparian and aquatic ecosystems, and the many sensitive, threatened, and endangered fish and wildlife species that depend on these dynamic ecosystems, are generally given short shrift throughout the DEIS. These impacts were well documented in Sacramento River Ecological Flows Study Final Report (CALFED Ecosystem Restoration Program, March 2008). Just a few of the more pertinent facts from this report include: * Dam-related alterations of river flow regimes have been identified as one of the three leading causes of declines in imperiled aquatic ecosystems. * Available data support the hypothesis that the reduced frequency and duration of floodplain inundation in the post-dam era may have contributed to the decline of the winter-run Chinook population. * The Shasta Dam raise will reduce the "stream power" of the Sac by 16% and reduce the amount of floodplain area reworked by high flows by 8%. Diversions from the river to fill the proposed Sites Offstream Storage Reservoir (another CALFED water storage project under study) will further reduce the river's stream power by up to 15%. * Fremont cottonwood initiation success, Chinook and steelhead rearing WUA (weighted useable area), and Chinook and steelhead redd scour risk are the indicators most sensitive to flows. * The altered hydrograph of the Sac River appears to limit cottonwood seedling survival. * Maintaining natural channel migration and cutoff processes is necessary for providing new patches for seedling recruitment and for periodical resetting of riparian vegetation succession, which are both critical for maintaining the diverse, dynamic, and functional riparian-floodplain ecosystem. * Reductions in peak flow magnitude will likely reduce bank erosion and thus have potential impacts on spawning gravel availability, and might also affect lateral channel migration, which is essential for creating off-channel habitats important to many Sacramento River species. * The flow impacts of the Shasta Raise and Sites combined are expected to reduce progressive channel migration by approximately 10%. * As flows recede below 8,500 cfs, the inlets of secondary channels (which provide crucial	The new preferred alternative, Alternative 4A, will not change operational criteria for any upstream reservoir or waterway. Any deviations from baseline flows and water temperatures will be minimized through real-time operations. Please refer to Master Response Operational Criteria and Master Response 33, Adaptive Management for additional information and reference to relevant EIR/EIS Chapters and Appendices.

DEIRS Ltr#	Cmt#	Comment	Response
		habitat for juvenile salmon) become increasingly disconnected from the main stem. * Removing rip-rap (bank revetment) may mitigate the floodplain impacts of the Shasta Raise (note: this is not a proposed mitigation in the DEIS). * Revetment removal plus flow management that allows occasional high flows are both necessary and sufficient for habitat creation and persistence. * The importance of fish passage improvements is strongly suggested by past studies; assessment of benefits only possible through implementation and monitoring. * The CALSIM II model, which is used in the DEIS to assess the flow impacts of the dam raise, functions at a monthly time-step, which is a recognized shortcoming. Daily flow disaggregations below Red Bluff used in our study are known to be flawed and do not remain consistent with monthly time-step totals. (Note: Development and use of a true daily flow model is also a NMFS recommended recovery action). These findings clearly underscore the potential severity of flow modification impacts on the Sacramento River ecosystems, the sensitivity of the river to multiple impacts caused by current projects under study (Shasta Lake Water Resources Investigation and Sites), and the need for a well-defined, detailed, and permanent plan that assures true mitigation of these impacts. A revised DEIS should fully assess flow modification impacts on the river, its ecosystems, and fish and wildlife species, and include at least a draft Riverine Ecosystem Mitigation and Adaptive Management Plan for review and comment by the public.	
1743	23	[From ATT 1:] This plan should fulfill the role of the Sacramento River and Delta Riparian Habitat Restoration and Management Plan outlined in the NMFS [National Marine Fisheries Service] Recovery Plan and noted as a needed mitigation measure in the USFWS [U.S. Fish and Wildlife Service] Coordination Report. The Adaptive Management Plan should also fully comply with all local and regional plans to protect and restore riparian habitat along the river. It is even more important that this Adaptive Management Plan be completed and available for public review in the revised DEIS because it will determine the future health of riparian and aquatic ecosystems on more than 31,000 acres of federal, state, and other public lands that support some of the most important riparian and aquatic habitat on the Sacramento River (including the BLM's [Bureau of Land Management] Sacramento River Bend Outstanding Natural Area, the USFWS' Sacramento River National Wildlife Refuge, State Wildlife Areas managed by the California Department of Fish and Game, four State Parks and Recreation Areas, and several local parks and recreation areas).	While this comment is specific to the SLWRI, the lead agencies have attempted to respond from the perspective of the BDPC/CWF EIR/EIS. As noted in previous responses, the BDCP (Alternative 4) is no longer the proposed project. Note that Alternative 4A alters the structure of the adaptive management and monitoring program, relative to the BDCP proposal. Considerable scientific uncertainty exists regarding the Delta ecosystem, including the effects of CVP and SWP operations and the related operational criteria. To address this uncertainty, DWR, Reclamation, DFW, USFWS, NMFS, and the public water agencies will establish a robust program of collaborative science, monitoring, and adaptive management. It is assumed the Collaborative Science and Adaptive Management Program (AMMP) developed for Alternative 4A would not, by itself, create nor contribute to any new significant environmental effects; instead, the AMMP would influence the operation and management of facilities and protected or restored habitat associated with Alternative 4A. Collaborative science and adaptive management will support the proposed action by helping to address scientific uncertainty where it exists, and as it relates to the benefits and impacts of the construction and operations of the new water conveyance facility and existing CVP and SWP facilities. The collaborative science effort is expected to inform operational decisions within the ranges established by the biological opinion and 2081b permit for the proposed action. However, if new science suggests that operational changes may be appropriate that fall outside of the operational ranges evaluated in the biological opinion and authorized by the 2081b permit, the appropriate agencies will determine, within their respective authorities, whether those changes should be implemented. An analysis of the biological effects of any such changes will be conducted to determine if those effects fall within the range of effects analyzed and authorized under the biological opinion and 2081b permit. If NMFS, USFWS, or DFW determine that impacts to listed species are greater than those analyzed and authorized under the biological opinion and

DEIRS Ltr#	Cmt#	Comment	Response
			2081b Bay Delta Conservation Plan/California WaterFix permit, consultation may need to be reinitiated and/or the permittees may need to seek a 2081b permit amendment. Likewise, if an analysis shows that impacts to water supply are greater than those analyzed in the EIR/EIS, it may be necessary to complete additional environmental review to comply with CEQA or NEPA. Please also see Master Response 33 which provides additional information on adaptive management.
1743	24	[From ATT 1:] It is unclear whether the adaptive management plan intended to benefit salmon is the same adaptive management plan intended to benefit the downstream riparian and aquatic ecosystems. The term "adaptive management plan" seems to be interchangeable throughout the DEIS. If they are the same plan, then we assume that the Bureau's qualification about the timing and magnitude of releases from Shasta Dam to benefit downstream ecosystems will be applied -- "as long as there are no conflicts with operational guidelines or adverse impacts on water supply reliability." (DEIS pg. 2-49) If this is the case, it is clear that this proposed Adaptive Management Plan will not reduce the flow modification impacts on riparian and aquatic ecosystems to less than significant levels simply because water contracts will always trump well-meaning but relatively toothless mitigation measures.	See response to comment 1743-23.
1743	25	[From ATT 1:] Impacts of Reservoir Enlargement on Potential Wild & Scenic Rivers Enlarging Shasta Reservoir by raising the dam from 6.5 to 18.5 feet will flood public lands managed by the Forest Service encompassing segments of the upper Sacramento, McCloud, and Pit Rivers, Salt Creek, and several small tributary streams. This flooding, however minor it may seem to the Bureau, triggers several requirements and mandates in the National Wild & Scenic Rivers Act. Although the DEIS attempts to address Wild & Scenic River issues in Chapter 25, it fails to recognize the actual requirements of the Act and the true implications of the reservoir enlargement in regard to previous Forest Service studies and commitments made in the 1994 Shasta-Trinity National Forests Plan. Nor does the DEIS adequately address the impacts of reservoir enlargement and the legal implications of violating the California Public Resources Code.	The proposed project does not include physical modifications of the Shasta Dam. However, the No Action Alternative and Cumulative impact analysis does include the Shasta Lake Water Resources Investigation, which includes alternatives for expansion of Shasta Reservoir. Please see Appendix 3D, FEIR/EIS, for more information on projects and programs that are included in the Existing Conditions baseline, No Action Alternative, and Cumulative impact analysis.
1743	26	[From ATT 1:] The National Wild & Scenic Rivers Act requires consideration by all federal agencies of federal Wild & Scenic River protection for the McCloud, upper Sacramento, and Pit Rivers, and other reservoir tributaries as an alternative to the federal proposal to raise the dam and expand the reservoir. Section 5(d)(1) of the National Wild & Scenic Rivers Act states: "In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic, and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic, and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. . The activities related to the Whiskeytown-Shasta-Trinity National Recreation Area are outside the purpose and scope of the BDCP.

DEIRS Ltr#	Cmt#	Comment	Response
		water and related land resources involved." This section of federal law clearly requires the Bureau of Reclamation to go beyond the simple reporting of past state and federal considerations of Wild & Scenic protection for the river segments affected by the Shasta Lake Water Resources Investigation. It specifically requires consideration of Wild & Scenic protection in the context of and as an alternative to the proposed dam raise and reservoir enlargement, not only for the McCloud, but also for the upper Sacramento and Pit Rivers, and all other streams on public lands tributary to Shasta Reservoir. No such comprehensive assessment of Wild & Scenic Rivers is provided in the DEIS. The Bureau should work with the Forest Service to include in a revised DEIS a comprehensive assessment specifically addressing the impacts of the dam raise and reservoir enlargement on the free flowing character and outstanding values of all rivers and streams tributary to the reservoir and include a range of alternatives that proposes Wild & Scenic protection with and without various reservoir enlargement alternatives. For example, the Forest Service in the 1994 Shasta-Trinity National Forests Draft Plan found the upper Sacramento River from Box Canyon Dam to the Whiskeytown-Shasta-Trinity National Recreation Area to be eligible for federal protection, but the agency did not recommend it because of land ownership patterns along the river. But the river was also not actively threatened by reservoir expansion at that time. The Wild & Scenic Rivers Act requires the Forest Service and the Bureau to revisit potential Wild & Scenic protection of the upper Sacramento River in the context of the project outlined in the revised DEIS, as well as for other rivers and streams that may be affected by reservoir expansion.	
1743	27	[From ATT 1:] The Bureau of Reclamation has previously recognized the clear mandate of the National Wild & Scenic Rivers Act to consider and evaluate potential Wild & Scenic Rivers as potential alternative uses to water and related land resources in the planning for water development. As part of its planning and study of the Auburn Dam project on the North and Middle Forks of the American River, the Bureau convened a multi-agency interdisciplinary team that determined segments of the river that would be flooded by the dam proposal to be eligible for Wild & Scenic protection in 1993 (letter dated March 17, 199 3 from Susan E. Hoffman, Division of Planning and Technical Services Chief, U.S. Bureau of Reclamation Mid-Pacific Region). The study to determine if the eligible segments were suitable for designation was scheduled for Phase II and III of the American River Water Resources Investigation. This part of the study was never completed because soon after the eligibility finding, Congress rejected authorization of the Auburn Dam project.	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The activities related to the Auburn Dam project are outside the purpose and scope of the proposed project.
1743	28	[From ATT 1:] The National Wild & Scenic Rivers Act requires consideration of federal Wild & Scenic River protection for the segments of the lower Sacramento River with significant federal lands downstream of Shasta Dam as an alternative to the federal proposal to raise the dam and expand the reservoir. The lower Sacramento River between Anderson and Colusa has several segments with substantial federal public lands managed by the Bureau of Land Management (BLM) and the U.S. Fish and Wildlife service (USFWS). In its draft Fish and Wildlife Coordination Report, the USFWS stated, "Riparian and floodplain habitat along the Sacramento River and in the Yolo	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		and Sutter Bypasses would be adversely affected by further changes in the timing, duration, and frequency of flood flows due to an enlarged Shasta Dam." (USFWS Draft Coordination Report, pg. viii, June 20 13) Even the Shasta Lake Water Resources Investigation (SLWRI) DEIS admits that flow modification from the dam raise may have potentially significant impacts on the river's riparian and aquatic ecosystems and fish and wildlife. These agency findings clearly trigger the section 5(d)(1) requirement that the federal segments of the lower river be studied and considered for potential federal protection as an alternative to the proposed water resources project. The BLM manages nearly 18,000 acres of federal public lands as the Sacramento River Bend Outstanding Natural Area (SRBONA), which encompasses a 25-mile stretch of the Sacramento River between Balls Ferry and Red Bluff. The BLM found the federal portions of this segment to be eligible for National Wild & Scenic River protection in recognition of its free flowing character and outstandingly remarkable scenic quality, recreation opportunities, cultural/historic values, anadromous and resident trout fisheries, and vegetation. The outstandingly remarkable vegetation value was specifically defined as the river's Great Valley oak riparian forests. (BLM Redding Resource Management Plan and ROD, and BLM Redding RMP FEIS, June 1993 and July 1992 respectively.) In addition to the Wild & Scenic finding, BLM management direction designated the river as an Outstanding Natural Area and requires protection and enhancement of the river's riparian vegetation, wetlands, and anadromous fisheries. BLM management direction for the SRBONA also included the long-term survival of special status species, maintenance and improvement (if feasible) of scenic quality, conserving archeological resources, and providing for semi-primitive recreation opportunities. In addition, general policy and program direction in the BLM Manual and the Redding RMP require the BLM to protect the free flowing character and specific outstandingly remarkable values of all eligible rivers. Determining the suitability of the eligible Sacramento River segment was deferred by BLM due to budgetary and personnel constraints (BLM Redding RMP pg. 28, June 1993) The BLM Manual specifically states in regard to water resources projects that may affect eligible or suitable Wild & Scenic Rivers: "The BLM should, within its authority, consider protecting the river values that make the river eligible or suitable through the land use plan and activity-level NEPA analysis. If a river is listed in the Nationwide Rivers Inventory, the Federal agency involved with the proposed action must consult with the land-management agency in an attempt to avoid or mitigate adverse effects." (BLM Manual 6400-WILD AND SCENIC RIVERS-POLICY AND PROGRAM DIRECTION FOR THE IDENTIFICATION, EVALUATION, PLANNING, AND MANAGEMENT, Sec. 3.8(D), pg. 3-14, 7/13/2012) The SLWRI DEIS mentions BLM management responsibility for public lands along the Sacramento River in several sections. It also mentions the BLM's Wild & Scenic eligibility finding for the Sacramento River between Balls Ferry and Iron Canyon and notes that BLM management direction requires its public lands along the river to be "managed to protect the outstandingly remarkable values and free-flowing character..." However, the documentation of BLM's responsibilities ends there in the SLWRI. There is no connection made between the Sec. 5(d)(1) mandate to consider potential Wild & Scenic protection of the river as an alternative to the SLWRI nor is there any substantive discussion about how the dam raise could modify flows and adversely affect the river's outstandingly remarkable anadromous fisheries and riparian forests, which make the river eligible for Wild & Scenic	

DEIRS Ltr#	Cmt#	Comment	Response
		protection. The SLWRI DEIS fails to connect the Bureau's proposed alternatives with the BLM's mandate to protect the river's eligible segment. The SLWRI is also inconsistent with the BLM's current management direction for this part of the Sacramento River. As part of a revised DEIS, the Bureau must consult with the BLM and pursuant to Sec. 5(d)(1) of the Act the BLM must initiate a Wild & Scenic River suitability study for the segment of the Sacramento River identified as eligible by the BLM as an alternative to the SLWRI.	
1743	29	[From ATT 1:] The DEIS fails to recognize that Sec. 5(d)(1) of the National Wild & Scenic Rivers Act also applies to federal public lands that comprise the Sacramento River National Wildlife Refuge. The USFWS manages more than 10,300 acres of federal public lands along the Sacramento River between Red Bluff and Colusa as the Sacramento River National Wildlife Refuge. These lands were acquired by the USFWS and incorporated in the Refuge in order to protect and restore riparian and aquatic habitats and the many sensitive, threatened and endangered species that depend on these habitats. As far as we know, none of the Refuge lands along the river have been studied for their Wild & Scenic eligibility or suitability per Sec. 5(d)(1) of the Act. Nor does the DEIS make any mention of potential Wild & Scenic eligibility and suitability of these segments. A revised DEIS, the Bureau must consult with the USFWS and pursuant to Sec. 5(d)(1) of the Act, the USFWS must initiate a Wild & Scenic River suitability study for the Refuge segments of the Sacramento River as an alternative to the Shasta Lake Water Resources Investigation.	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1743	30	[From ATT 1:] The DEIS admits that all alternatives to raise the Shasta Dam and expand its reservoir will adversely affect the McCloud River's eligibility as a National Wild & Scenic River and will specifically harm the river's free flowing character, water quality, and outstandingly remarkable values. In Chapter 25, the DEIS documents that raising Shasta Day by 6.5-18.5 feet will flood from 1,470 feet to 3,550 feet of the segment of the McCloud River eligible for National Wild & Scenic River protection. The DEIS also admits that this flooding will adversely affect the McCloud's free flowing character, water quality, and outstandingly remarkable Native American cultural, wild trout fishery, and scenic values. Conservationists believe that even more of the eligible segment of the McCloud River will be harmed by the dam raise alternatives because the Bureau incorrectly identifies elevation 1,070 feet as the terminus of the McCloud segment identified by the Forest Service. In fact, the terminus of the eligible McCloud segment is simply defined by the Forest Service as "Shasta Lake". (Land and Resource Management Plan (LRMP) FEIS, Appendix pgs. E-4, E-13) The Forest Service's map depicting the eligible segment of the McCloud shows that eligible segment ends at the McCloud River Bridge (FEIS Appendix E pg. 3-36). There is no mention of elevation 1,070 [feet] as the terminus of the eligible segment and there is no reference in the LRMP to the McCloud's so called "transition reach". Hence, the impact of the dam raise and reservoir expansion is greater than what is documented in the DEIS.	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1743	31	[From ATT 1:] Flooding the McCloud River violates the 1995 Shasta-Trinity National Forests Land and Resource Management Plan and Record of Decision in regard to protecting the McCloud River's eligibility as a potential National Wild & Scenic River. The Forest Service recommended Wild & Scenic River protection for the McCloud River in its 1990 draft of the Shasta-Trinity National Forests Land and Resource Management Plan (LRMP). In response to concerns expressed by riverside landowners, the Forest Service chose to pursue protection of the McCloud River's free flowing character and outstandingly remarkable values through a Coordinated Resource Management Plan (CRMP) developed by the Forest Service and other federal and state agencies and the riverside landowners. This decision is reflected in the 1995 final Shasta-Trinity National Forests LRMP and Record of Decision (ROD), which state: "A Coordinated Resource Management Plan (CRMP) has been adopted for long term management of the Lower and Upper McCloud River and Squaw Valley Creek This agreement is between private land owners, the Forest Service, Pacific Gas & Electric, Nature Conservancy, CalTrout, and the DFG. This plan will effectively maintain the outstandingly remarkable values of this potential wild and scenic river. If for any reason the terms of the CRMP are not followed and the wild and scenic river eligibility is threatened, the Forest Service will recommend these segments for Federal Wild and Scenic designation." (1995 Final LRMP, page 3-23) "If, after a period of good faith effort at implementation, the CRMP fails to protect the values which render the river suitable for designation then the Forest Service will consider recommendation to the national Wild and Scenic River System." (1995 ROD page 17) The DEIS admits that raising the dam will periodically flood 1,470 feet of the eligible segment of the McCloud River, which would make the flooded segment ineligible for federal Wild & Scenic protection. (DEIS pg. 25-26) Conservation groups believe that more of the eligible river would be flooded. Regardless, it is clear that the Bureau's proposal to raise Shasta Dam and expand its reservoir directly violates the intent and constitutes failure of the CRMP, and it also violates the protective management proposed in the LRMP. Therefore, the Forest Service is bound by its own ROD to consider and recommend federal protection for the river. This requirement is not reflected in the DEIS and it should be included in the revised DEIS. The Bureau is misleading the public when it claims that raising the dam and expanding the reservoir will not conflict with the Shasta-Trinity National Forests LRMP because the portion of the McCloud that would be flooded is private land and not National Forest land. The Forest Service has the authority to study and recommend the river within its reservation boundary, as it did so in the 1990 draft LRMP. It has the authority to determine that reservoir expansion and flooding of the eligible segment of the McCloud reflect a de-facto failure of the CRMP and therefore triggers Forest Service reconsideration of its Wild & Scenic River recommendation for the McCloud. This important protection is a fundamental component of the LRMP, which means that the Bureau's proposal violates the LRMP.	Please see response to comment 26 of this letter.
1743	32	[From ATT 1:] All dam raise/reservoir enlargement alternatives violate the California Public Resources Code 5093.542 prohibiting the construction of a reservoir that would harm the McCloud's	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		free flowing condition and extraordinary wild trout fishery upstream of the McCloud River Bridge. In 1989, the California Legislature passed and the Governor signed legislation declaring that the McCloud River possesses extraordinary resources, including one the of the finest wild trout fisheries in the state, and that continued management of river resources in their existing natural condition represents the best way to protect the unique fishery of the McCloud, and that maintaining the McCloud in its free- flowing condition to protect its fishery is the highest and most beneficial use of the waters of the river. The legislation specifically prohibited any dam, reservoir, diversion, or other water impoundment on the McCloud River upstream of the McCloud River Bridge. It also prohibited any state agency cooperation, participation, or support for any dam, reservoir, diversion, or other water impoundment facility that could have an adverse effect on the free flowing condition of the McCloud River or on its wild trout fishery. These prohibitions and conditions are now memorialized in the California Public Resources Code (PRC) 5093.542. The DEIS admits that all dam raise alternatives will have a significant unmitigated impact on the McCloud's free flowing condition and will have a potentially significant impact on the river's wild trout fishery (DEIS pg. 25-40). The DEIS suggests that the wild trout fishery impacts could be mitigated to less than significant levels but these mitigations have yet to be identified. Regardless, all the dam alternatives in the DEIS clearly violate state law. To ensure compliance with PRC 5093.542, the California Legislature and the Governor passed and signed statewide water bond legislation prohibiting use of the bond funds to raise Shasta Dam. Clearly, the Shasta Lake Water Resources Investigation's proposal to raise Shasta Dam and expand its reservoir violates state law. So why is the Bureau of Reclamation continuing to study this illegal project? Does the Bureau intend to cite federal preemption over state law in regard to this matter? If so, the DEIS should admit this.	
1743	33	[From ATT 1:] The DEIS fails to mention that the Sacramento River between Anderson and Colusa is in the Nationwide Rivers Inventory and is protected by Presidential Directive. A segment of the Sacramento River from the I-5 bridge crossing in Anderson to Arnold Bend upstream of Colusa was included in the National Park Service's 1982 Nationwide Rivers Inventory (NRI). The NRI was created by a directive from President Carter. The directive requires each federal agency, as part of its normal planning and environmental review process, to take care to avoid or mitigate adverse effects on rivers identified in the NRI. Further, all agencies are required to consult with the National Park Service prior to taking actions which could effectively foreclose wild, scenic or recreational stats for rivers on the inventory. The NRI describes this segment of the Sacramento River as a swift moving river isolated from surrounding civilization by a narrow band of dense riparian vegetation that meanders over a wide area with numerous islands and oxbow lakes. It also notes that the river flows through scenic Iron Canyon with a stretch of rapids, supports important anadromous fish populations and the state's most important salmon spawning grounds, includes outstanding riparian habitat for the yellow-billed cuckoo and giant garter snake, provides excellent	This comment letter pertains to a different project than BDCP/CWF. The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		rafting and boating opportunities, receives intense recreational use with fishing as the most popular activity, and is an important popular recreation resource for nearby urban areas. There is no mention in the Shasta Lake Water Resources Investigation of the NRI segment of the Sacramento River, the mandate to avoid or mitigate adverse effects on the NRI segment and its specific outstanding values, or the requirement to consult with the National Park Service. A revised DEIS should substantively address these issues.	
1743	34	[From ATT 1:] The DEIS fails to adequately identify potential project effects on protected National Forest roadless areas and the Whiskeytown-Shasta-Trinity National Recreation Area. A portion of the boundaries of the Backbone and Devil's Rock roadless areas on the Shasta-Trinity National Forests parallel the existing reservoir's high water line. The action alternatives could flood a portion of the roadless areas, which are protected under the Roadless Area Conservation Rule. While the DEIS admits to significant unavoidable impacts on National Forest lands and resources, as well as non-compliance with existing Forest Service management, it fails to describe the adverse impacts on federally protected roadless areas. The revised DEIS should include consideration of these impacts.	Please see response to comment 26 of this letter.
1743	35	[From ATT 1:] The DEIS fails to adequately consider the impacts of the dam raise alternatives on the Whiskeytown-Shasta-Trinity National Recreation Area (WSTNRA). The WSTNRA was established by Congress and President Kennedy in 1963 to: "... provide, in a manner coordinated with the other purposes of the Central Valley project, for the public outdoor recreation use and enjoyment of the Whiskeytown, Shasta, Clair Engle, and Lewiston reservoirs and surrounding lands in the State of California by present and future generations and the conservation of scenic, scientific, historic, and other values contributing to public enjoyment of such lands and waters ..." (16 USC Sec. 460q) The DEIS documents the impact on recreation facilities, but fails to adequately identify the impacts on scenic, scientific, historic and other public land values the WSTNRA was established to conserve. Further, it is not clear that the impacts on recreation and recreation infrastructure will be fully mitigated. Although owners of private resorts and other recreation facilities will be reimbursed for the fair market values of their property, they will not be reimbursed for the loss of income nor is there any guarantee that these owners will be able to replace their facilities to provide comparable services in the future. In addition, the DEIS fails to assess the impacts of moving existing facilities elsewhere on undeveloped National Forest lands. A revised DEIS must fully assess the impacts of the proposed dam raise on the all the purposes of the WSTNRA, as well as the actual impacts on private recreation facilities, and the impacts of proposed relocation of public and private facilities.	Please see response to comment 26 of this letter.
1743	36	[ATT 2: Letter from Friends of the River to U.S. Bureau of Reclamation commenting on the Upper San Joaquin River Basin Storage Investigation Draft Feasibility Report. April 21, 2014.]	The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the comment referencing the attachment or the Final EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
1744	1	Modeling of impacts to hydrology of climate change is inadequate. The EIR/EIS also does not have adequate discussion of sensitivity analyses. As a result, risk to projected water supplies and to the environment is not adequately evaluated. The climate change modeling in the EIR/EIS omits any discussion of likely flows under drier climate change scenarios. Instead the EIR/EIS uses a "Central Tendency" projection which is essentially a 50% exceedance projection The EIR/EIS discussion of likely impacts of climate change and associated modeling is not sufficient for the public, for stakeholders, or water agencies to evaluate the water supply benefits or water supply risks of the project.	The EIR/EIS analysis is based upon comparison of conditions under the action alternatives 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, which is 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 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 BDCP and Draft EIR/EIS climate change analysis is not required to, nor would it be possible to analyze all potential future conditions that are possible as the climate changes. The 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 BDCP and Draft EIR/EIS use a central tendency projection that is considered a reasonably foreseeable future condition as described in the Draft EIR/EIS, in Appendix 5A. The No Action Alternative and the action alternatives were compared the Existing Conditions which included a “0 percent reduction” Delta outflow condition. Also, during the preparation of the Draft 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 EIR/EIS only evaluates the incremental differences, and not absolute values, between the Existing Conditions and the No Action Alternative and the action alternatives, the incremental changes appear to be similar under a range of climate change scenarios. A discussion on modeling can also be found in 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. Refer also see Master Response 5 (BDCP) and Master Response 19 (Climate Change and GHGs) for more information. Please also see Final EIR/EIS, Appendices 29A – Effects of sea-level rise on Delta tidal flows and salinity; 29B-Climate change effects on hydrology in the study area used for CALSIM Modeling Analysis; 29C – Climate change and the effects of reservoir operations on water temperature in the study area; 29D – Climate change analyses an discussion of future uncertainty.
1744	2	The [climate change] modeling is also not sufficient for the California Department of Fish and Wildlife or the National Marine Fisheries Service to evaluate the potential impacts of the project on endangered species of fish.	As discussed in the response to Comment 1744-1, the analysis in the EIR/EIS is a comparative evaluation for the action alternatives as compared to the Existing Conditions and the No Action Alternative; and should not be used to determine absolute values. As presented in Appendix 5A of the Final EIR/EIS, Section D.3, Climate Change Modeling, the incremental differences between the climate change scenarios for Alternative 1 and the No Action Alternative are similar. Therefore, if any of the Q1 through Q5 climate change scenarios were used in the No Action Alternative and Alternatives, the comparative results would be similar to those in the EIR/EIS to determine the impacts of project implementation. Regarding permitting and compliance with the Endangered Species Act, please see Master Response 45 and Master Response 29, respectively.

DEIRS Ltr#	Cmt#	Comment	Response
1744	3	The project proponents have done modeling of likely flows under both a "more warming, more drying" scenario [Q1], and a "more warming, less drying" scenario [Q2]. While this information was used in early sensitivity analysis, it has not been released in the EIR/EIS. An internal presentation on BDCP modeling shows that runoff in the Sacramento River watershed could decrease significantly due to climate change, as much as 13-17% by mid-century. Assuming proportional reductions in BDCP yield, this would mean a greatly reduced yield. The EIR/EIS should have included projected project yields, reservoir levels, and river flows under these scenarios. Also, recent modeling by the USGS shows that Sacramento River flows could be reduced by as much as a third by 2070, under some of the drier climate change scenarios. This would reduce the projected yields of the project even more. For this reason, the entire climate change modeling appendix in the EIR/EIS is inadequate.	The comparisons described in this comment are presented in Appendix 5A, Section D.3, Climate Change Modeling, of the EIR/EIS. Please see response to comments 1744-1 and 1744-2 for more information on modeling and climate change.
1744	4	The "Central Tendency" projection used as input to the BDCP hydrologic models for the Bay Delta Conservation Plan essentially assumes that wetter and drier futures in California are equally likely. By its very structure, the Central Tendency projections are close to current norms of precipitation, since it assumes that wetter and drier futures are equally likely. BDCP uses the ensemble of 112 climate change model/greenhouse gas emissions scenario projections, available from Lawrence Livermore National Lab. The graph [ATT1], from an internal presentation by Jamie Anderson on selection of climate change scenarios, [Footnote 1: Jamie Anderson, presentation on Climate Change Approaches, Department of Water Resources, March 2012. Incorporated by reference. Available at http://www.water.ca.gov/climatechange/docs/CCTAG_climate_change_approaches%20final_3-28-12_Jamie%20Anderson_with%20extra%20slides.pdf] illustrates the ensemble scheme.	As described in 1744-1, the EIR/EIS uses a central tendency climate projection that is considered a reasonably foreseeable future condition. During the preparation of the EIR/EIS, a sensitivity analysis was completed, as presented in Final EIR/EIS Appendix 5A, Section D.3, Climate Change Modeling, to simulate conditions under the No Action Alternative and Alternative 1 under five climate change scenarios, including the central tendency. 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 EIR/EIS only evaluates the incremental differences, and not absolute values, between the Existing Conditions and the No Action Alternative and the action alternatives, the incremental changes appear to be similar under a range of climate change scenarios.
1744	5	[ATT1: Graph of ensemble-informed scenario selection, precipitation and temperature changes relative to historical conditions.]	This comment describes an attachment to the comment letter. Please see response to comments 1744-4 and 1744-6 regarding comments related to this graph.
1744	6	The 112 projections are broken into four different quartiles, [see ATT1] based on the mean projected change in temperature and mean projected change in precipitation for the ensemble. Each quartile was used to produce an ensemble model, after pruning off the 10% driest and 10% wettest models. The output of the ensemble models was not disclosed in the BDCP EIR/EIS.	The results of the ensemble models are included by reference as cited in Appendix 5A, Section A, and Appendix 5A, Section D.3, of the EIR/EIS.
1744	7	The graph [ATT2], also from the presentation by Anderson, shows different trends in Sacramento River runoff for the different quartiles. The drier, more warming Q2 model predictions include the worst case scenarios. The drier, less warming Q1 model predictions show weaker but still noticeable drying. The predictions of these models are red and yellow, and all show significant reductions in river flows, more by the end of the century. Although not discussed in BDCP, the Q3 wetter, less warming quartile and Q4 wetter, more warming quartiles generally represent lower GHG emissions scenarios and lower sensitivity climate models, which may be less likely. Anderson's graph [ATT2] shows the projections of the wetter quartiles in light and dark blue. All the wetter models show increases in	Please see response to comment 1744-1 and response to comment 1744-4 regarding modeling and climate change.

DEIRS Ltr#	Cmt#	Comment	Response
		streamflow, but less by the end of the century, particularly in the San Joaquin Valley The predictions of the Central Tendency model, Q5, are shown in green. Q5 is based on the entire ensemble, after throwing out the driest half of the driest models, the wettest half of the wettest models, the warmest half of the warmest models. Throwing out these models from the ensemble may also throw out information on risk. The Central Tendency model tends to reproduce the historical precipitation patterns in the near term. It is only over the long term, when the severe potential drying under the drier models far outweighs the effects of the wetter models, that the Central Tendency model begins to show some drying. Conclusion: using the Central Tendency model for BDCP could significantly underestimate the reduction in river flows from the effects of climate change.	
1744	8	[ATT2: Graph of simulated changes in annual runoff from Sacramento River for the different quartiles referenced in ATT1.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-1 and response to comment 1744-4 regarding comments related to this graph.
1744	9	Recent research indicates that the climate change models showing a lower level of "climate sensitivity," that is, higher temperature increases for a given level of CO2 emissions, may not agree with current observations from satellite data. A recent study by Sherwood, Bony, and Dufresne [Footnote 2: S.C. Sherwood, S. Bony, and J. Dufresne, "Spread in model climate sensitivity traced to atmospheric convective mixing", Nature, vol. 505, pp. 37-42, 2014. http://dx.doi.org/10.1038/nature12829. Incorporated by reference.] found that: "The mixing inferred from observations appears to be sufficiently strong to imply a climate sensitivity of more than 3 degrees for a doubling of carbon dioxide. This is significantly higher than the currently accepted lower bound of 1.5 degrees, thereby constraining model projections towards relatively severe future warming." Similar results were found in a 2012 study by Fausilio and Treberth, which compared current observations of May through August relative humidity with model projections. [Footnote 3: J.T. Fasullo, and K.E. Trenberth, "A Less Cloudy Future: The Role of Subtropical Subsidence in Climate Sensitivity", Science, vol. 338, pp. 792-794, 2012. http://dx.doi.org/10.1126/science.1227465. Incorporated by reference.] These studies show that there is potentially huge risk in assuming that low temperature sensitivity models are valid. Although the BDCP EIR/EIS did not consider the properties of the individual Intergovernmental Panel on Climate Change GHG (greenhouse gas) models in the Lawrence Livermore lab dataset, the California Climate Scenario Assessment team, which did modeling for the California Climate Change Adaptation Strategy, did look at the relationship between increases in temperature over California with increasing GHG emissions and projected reductions in precipitation.	The selection of models used for the proposed project did not consider model GHG sensitivity. Note that both referenced publications were published subsequent to the modeling decisions made for the proposed project. Please note that the California Climate Change Adaptation Strategy referenced in the comment also did not include GHG sensitivity modeling. There was modeling done for the California Climate Change Assessment in 2006, 2009, and 2013 but the model selection criteria for those assessments did not consider GHG sensitivity either. The modeling for the proposed project appropriately characterizes temperature and other climate factors for the adaptation analysis. Please also see response to comment 1744-1 and response to comment 1744-4 for more information on modeling and climate change.
1744	10	Not too surprisingly, the higher sensitivity models generally predict more drying. The graph [ATT3] shows the difference in projected temperatures over California of the Intergovernmental Panel on Climate Change climate change models, for two GHG (greenhouse gas) scenarios: A2 (medium high) and B1 (low) greenhouse gas emissions scenarios. The models were ranked on difference between projected temperatures. Blue was lowest sensitivity, green medium, and orange highest. [See ATT3]	No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS were raised. Please see response to comment 1744-1 and response to comment 1744-4 for information on modeling and climate change.

DEIRS Ltr#	Cmt#	Comment	Response
1744	11	[ATT3: Graph of difference in A2-B1 projected temperature change over California.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-1 and response to comment 1744-4 for information on modeling and climate change.
1744	12	The Intergovernmental Panel on Climate Change global climate models which show the highest temperature increases with increased GHG levels also tend to show the largest reductions in precipitation with increased GHG (greenhouse gas) levels. The graph [ATT4] shows the differences in projected precipitation change over California, between the B2 and A1 scenarios, for 25 models. [Footnote 4: California Climate Scenario Assessment Team, Model Page. Incorporated by reference. Available at http://meteora.ucsd.edu/cap/cccc_model_prelim.html#contents] Of the highest sensitivity models, two thirds showed a marked decrease in precipitation between the A2 and B1 scenarios, and three fourths of the medium sensitivity models.	No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS were raised. Please see response to comment 1744-1 and response to comment 1744-4 for information on modeling and climate change.
1744	13	[ATT4: Graph of difference in A2-B1 projected precipitation change over California.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-1 and response to comment 1744-4 for information on modeling and climate change.
1744	14	Unfortunately, the higher GHG (greenhouse gas) emissions scenarios appear to be the most likely, given current trends in global development and the current trajectory of increases in greenhouse gas emissions. In the discussion for the Cal-Adapt the draft Natural Resources Agency policy on Climate Adaptation states: "Of the two options provided by Cal-Adapt, the A2 scenario is the more realistic choice for decision-makers to use for climate adaptation planning. The B1 scenario is optimistic in the high level of international cooperation assumed. This cooperation would necessitate sweeping political and socioeconomic change on a global magnitude that is as yet unprecedented. The roughly two billion-person decline in population over the last half of the century is also reliant on broad assumptions of low mortality and low fertility. Generally, the B1 scenario might be most appropriately viewed as a version of a "best case" or "policy" scenario for emissions, while A2 is more of a status quo scenario incorporating incremental improvements." [Footnote 5: California Natural Resources Agency, draft California Climate Change Adaptation Policy Guide, April 2012. Incorporated by reference. Available at http://resources.ca.gov/climate_adaptation/docs/APG_-_PUBLIC_DRAFT_4.9.12_small.pdf] At the time the California Climate Change Adaptation Policy guide draft was written, it is clear that higher greenhouse gas emissions scenarios appeared more likely than lower greenhouse gas emissions scenarios. The graph below [ATT5] shows that world CO2 emissions, which had declined during the recession, are back to tracking the higher emissions trajectories, which include A2 (medium high) and A1Fi (highest.) This information on the likely trajectory of GHG emissions was clearly available to the Natural Resources Agency when the BDCP EIR/EIS was drafted. However, there is no disclosed analysis of sensitivity to GHG emissions scenarios.	As described in Section 5A.7.2. of Appendix 5A, Section A, Modeling Methodology a total of 112 future climate projections used in the IPCC AR4, subsequently bias-corrected and statistically downscaled (BCSD), were obtained from Lawrence Livermore National Laboratory (LLNL) under the World Climate Research Program's (WCRP) Coupled Model Intercomparison Project Phase 3 (CMIP3). This archive contains climate projections generated from 16 different GCMs developed by national climate centers and for SRES emission scenarios A2, A1b, and B1. Many of the GCMs were simulated multiple times for the same emission scenario due to differences in starting climate system state, thus the number of available projections is greater than simply the product of GCMs and emission scenarios. These projections have been bias corrected and spatially downscaled to 1/8th degree (~12km) 36 resolution over the contiguous United States through methods described in detail in Wood et al. 37 2002, Wood et al. 2004, and Maurer 2007. Please also see responses to comments 1744-1, 1744-4, and 1744-9.
1744	15	[ATT5: Graph of International Energy Agency CO2 Emissions per Year vs. Intergovernmental Panel on Climate Change Scenarios.] [Footnote 6: IEA CO2 Emissions Update 2011 - the Good News and the Bad, Skeptical Science, May 30, 2012. Available at http://www.skepticalscience.com/iea-co2-emissions-update-2011.html. Incorporated by	This comment describes an attachment to the comment letter. Please see response to comment 1744-14 regarding the comment related to this graph. Please also see responses to comments 1744-1, 1744-4, and 1744-9.

DEIRS Ltr#	Cmt#	Comment	Response
		reference.]	
1744	16	While the BDCP document states that the modeling was agreed to after extensive consultation with representatives from Department of Fish and Wildlife, National Marine Fisheries Service and US Fish and Wildlife Service, fish biologists do not have any particular expertise in climate change modeling, and could not be expected to make authoritative comments on the potential impacts of the modeling choices. The sensitivity analyses used in discussions with NMFS and USFWS should have been disclosed in the EIR/EIS so that a wider range of stakeholders could comment. The end result of these omissions is to eliminate any real information in the EIR/EIS on the risk of climate change to the projected yields from BDCP, and also to minimize the potential ecological risks of the proposed diversion on the Sacramento River.	The development of the climate change and sea level rise assumptions for the EIR/EIS are presented in Appendix 5A, Sections A, D2, and D3, in the EIR/EIS. The State and federal agencies' team members that participated included environmental engineers and hydrologists that are climate experts from the Department of Water Resources, the Bureau of Reclamation's Technical Services Center, U.S. Fish and Wildlife Service, and National Oceanic and Atmospheric Administration Geophysical Fluid Dynamics Laboratory. Fisheries biologists from California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, and National Marine Fisheries Service assisted in development of assumptions of accommodating existing biological criteria assumptions for the existing biological opinions. For more information on modeling and climate change please see response to comment 1744-1 and response to comment 1744-4.
1744	17	The US Geological Survey (USGS) released a paper in 2012 using the Global Fluid Dynamics Lab (GFDL) climate model with the A2 (medium high) emissions scenario. [Footnote 7: R.T. Hanson et al., "A method for physically based model analysis of conjunctive use in response to potential climate changes," Feb 4, 2012. Incorporated by reference. Available at http://ca.water.usgs.gov/projects/cvhm/Hanson_etal_2012_WRR.pdf.] The study was done by R.T. Hanson and other researchers at USGS in collaboration with Daniel Cayan, who oversaw the modeling for the California Climate Adaptation Strategy. The GFDL A2 projection is drier projection which was used in the California Climate Adaptation Strategy. [ATT6] is a graph of predicted river flows in the Central Valley. The USGS models predict a 16-17% reduction in Sacramento River flows from 2020-2030 and 2040-2050, and a 34% reduction by 2080-2090. Similar reductions are predicted for the Tuolumne and Kern Rivers.	No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS were raised. The trends in the cited USGS report are comparative to previous climate change reports cited in Appendix 5A of the EIR/EIS. If the more substantial climate change projections were used, the projections would need to be included in the No Action Alternative and the action alternatives. It is anticipated that the incremental differences in model output would be similar to the results presented in the EIR/EIS, in a manner similar to the analysis in Appendix 5A, Section D.3. As described in responses to previous comments in this letter, only incremental differences are considered in the EIR/EIS analysis. Please see response to comment 1744-1 and response to comment 1744-4 for more information on modeling and climate change.
1744	18	[ATT6: Graphs of predicted river flows in the Central Valley.]	Please see response to comment 1744-17 regarding the comment related to this graph. Please see response to comment 1744-1 and response to comment 1744-4 for more information on modeling and climate change.
1744	19	The maps [ATT7] show details of the reduction in river inflows from the US Geological Survey modeling. The different basins are color-coded, based on flow. There is a marked reduction in flows in all basins in the Central Valley by the end of the century.	No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS were raised. Refer to response to comment 1744-17 for more information. Please see response to comment 1744-1 and response to comment 1744-4 for more information on modeling and climate change.
1744	20	[ATT7: Maps of the predicted reduction in Central Valley river flows over time.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-19 regarding the comment related to this graph. Please see response to comment 1744-1 and response to comment 1744-4 for more information on modeling and climate change.
1744	21	The Central Tendency model for the Bay Delta Conservation Plan may not have even included the Global Fluid Dynamics Lab/A2 projection, since the algorithm threw out the driest half of the drier quadrant projections before any further computation. (25%-75% pruning algorithm.) The algorithm for computing the Central Tendency model is also not adequately described in the BDCP EIR/EIS climate change technical appendix. The model pruning step could have thrown out a large number of high sensitivity, higher greenhouse gas emissions projections which recent may be more likely. The BDCP EIR/EIS climate change modeling technical appendix is inadequate because it contains no information on which models are thrown out under the 25%-75% pruning, and so it is impossible to estimate the effect on the hydrologic	The details are presented in several sections of Appendix 5A, as described in previous responses including responses to comments 1744-1 and 1744-4.

DEIRS Ltr#	Cmt#	Comment	Response
		modeling.	
1744	22	The U.S. Bureau of Reclamation for the 2011 Westwide Climate Risk Assessment also used the Lawrence Livermore ensemble of 112 projections for the 2011 Westwide Climate Risk Assessment. [Footnote 8: West-Wide Climate Risk Assessments: Bias-Corrected and Spatially Downscaled Surface Water Projections, U.S. Department of the Interior Bureau of Reclamation Technical Memorandum No. 86-68210-2011-01, March 2011. Available at http://www.usbr.gov/WaterSMART/docs/west-wide-climate-risk-assessments.pdf] The Westwide Climate Risk Assessment also used a median of the entire ensemble. This approach was similar to the BDCP "Central Tendency" model. However, the Bureau modelers used less severe pruning of the model space prior to taking the median. The Bureau models only tossed out the 10% outlying models, rather than the 25% outlying models. The results [see ATT8] show significant projected drying in Southern California and the Central Sierras by mid-century, as well as drying across the Southwest. By the 2070s, the ensemble median projected drying throughout California. [See ATT9] While the BDCP technical appendix includes a table of other modeling approaches, there are no comparisons of actual precipitation projections between the BDCP Central Tendency model and the Bureau model. The lack of comparison with other modeling means that the BDCP Central Tendency model has little validation. Approval by biologists is not an acceptable validation procedure.	As already noted, if different climate change projections were used, the projections would need to be included in the No Action Alternative and the action alternatives. It is anticipated that the incremental differences in model output would be similar to the results presented in the EIR/EIS, in a manner similar to the analysis in Appendix 5A, Section D.3. As described in the above responses to previous comments in this letter only incremental differences are considered in the EIR/EIS analysis. Please see response to comment 1744-1 and response to comment 1744-4.
1744	23	[ATT8: Map of 2050s-1990s Ensemble Median Change (%) in annual precipitation.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-22 regarding the comment related to this attachment. Please see response to comment 1744-1 and response to comment 1744-4.
1744	24	[ATT9: Map of 2070s-1990s Ensemble Median Change (%) in annual precipitation.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-22 regarding the comment related to this attachment. Please see response to comment 1744-1 and response to comment 1744-4.
1744	25	The US Bureau of Reclamation maps [see ATT10 and ATT11] are striking, when compared with recent droughts in California and the Southwest. The 2013-2014 California water year has been the second driest in recorded history. The California drought followed a record drought in New Mexico in 2012 and in Texas in 2011. The droughts were exceptional for the combination of record heat and reduced precipitation, and some for unprecedented length. Richard Seager's climate change team published a study in 2007, "Model Projections of an Imminent Transition to a More Arid Climate in Southwestern North America." [Footnote 9: Model Projections of an Imminent Transition to a More Arid Climate in Southwestern North America, Richard Seager, Mingfang Ting, Isaac Held, et al., Science, Vol 316 no. 5828 p. 1181-1184, May 25, 2007. Available at http://www.sciencemag.org/content/316/5828/1181.short] The study by Seager et al. was consistent with the recent droughts. The authors pointed out that it is not only precipitation changes that affect runoff, but precipitation minus evapotranspiration. Even if precipitation does not change, runoff can decrease due to increased temperatures and increased evapotranspiration. The BDCP EIR/EIS only discusses potential precipitation shifts in California. For this reason, the sensitivity study is inadequate.	The climate change analysis includes changes in reservoir storage due to increased water temperatures, as described in Appendix 5A of the Final EIR/EIS. More information on modeling and climate change can be found in response to comment 1744-1 and response to comment 1744-4. Please also see Master Response 47 for a discussion on drought.

DEIRS Ltr#	Cmt#	Comment	Response
1744	26	[ATT10: Map from U.S. Drought Monitor (http://droughtmonitor.unl.edu/) showing different drought intensities in May 2012 in the U.S.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-25 regarding the comment related to this attachment.
1744	27	[ATT11: Map from U.S. Drought Monitor (http://droughtmonitor.unl.edu/) showing different drought intensities in April 2014 in the U.S.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-25 regarding the comment related to this attachment.
1744	28	The problems with the BDCP climate change modeling are not limited to the method of generating forcing under global climate change model/greenhouse gas projections. BDCP is using a bias-corrected method of downscaling. The statistical downscaling has a tendency to reproduce the same frequency and severity of droughts as in the historical period. In an early draft of a 2006 report, one of the modelers for DWR commented, "...Furthermore, the method of downscaling global climate model information for CalSim-II input only captures the general trends of average rainfall and seasonal shifts in runoff. There is no information included about changes in weather variability. In each of the scenarios, the frequency and length of the droughts remained the same. If climate change influences these underlying weather phenomena, then we are missing important information necessary to determine impacts to CVP and SWP operations. "	Please see responses to comments 1744-1 and 1744-4. A discussion on drought and the California WaterFix can be found in Master Response 47.
1744	29	Two studies sponsored by the California Climate Change Center in conjunction with the 2009 and 2012 California Climate Change Assessments, show that the limitations of bias correction using the historical water sequence could be significant. Both studies, using completely independent models, projected increased frequency and severity of droughts in California, based on projected changes in runoff. Study 1: Water and Energy Sector Vulnerability to Climate Warming in the Sierra Nevada: Water Year Classification in Non-Stationary Climates, July 31, 2012. As part of the third California Climate Change Assessment in 2012, the California Climate Change Center released this study by Sarah Null and Josh Viers at UC Davis. The study used the six global climate models from the second California Climate Assessment, and made projections under the A2 (medium-high) and B1 (low) greenhouse gas emissions scenarios that were used in that assessment. The study also used the same Variable Infiltration Capacity model that DWR used for downscaling in BDCP, with Bias-Corrected Spatial Disaggregation. The main difference between the non-stationary study and other modeling by the Department of Water Resources is that the non-stationary study did not correct model outputs to the historical hydrology. Instead, researchers ran the models without climate forcing, and compared the results to the historical hydrology. The graph [ATT12] shows the cumulative probability of the different models compared with the observed 1951-2000 hydrology. ANOVA and t-tests using a 95 percent confidence level found that results were not significantly different from historic hydrology. The graph [ATT12] and the statistical tests show that the models do a good job of capturing historic hydrology. This was one of the criteria for model selection by the California Climate Assessment team. [Footnote 10: Climate Change Scenarios And Sea Level Rise Estimates for the California 2009 Climate Change Scenarios Assessment, A Paper From the California Climate Change Center. Cayan et	Please see responses to comments 1744-1 and 1744-4. A discussion on drought and the California WaterFix can be found in Master Response 47.

DEIRS Ltr#	Cmt#	Comment	Response
		al. Incorporated by reference.] The results of the models under the A2 and B1 scenarios show a marked shift in climate. Most of the models show major increases in dry and critically dry years, and decreases in wet and below-normal years. The histograms [ATT14] show the changes in the frequency of water year types for the Sacramento Valley Index. All of the models show a significant increase in dry and critically dry years by the latter half of the century, with a corresponding decrease in wet and above normal years. Many of the models also show an increase in dry and critically dry years in the first half. The table [ATT13] shows water year types, averaged over all six global climate models, for the two scenarios. The medium-high emissions scenario (A2) projections showed dry and critically dry years in the Sacramento Valley increasing to 23% of all years between 2000 and 2050, and to 38% of all years in the latter half of the century. Under this scenario, the incidence of dry and critically dry years would more than double. The projections also showed a decrease in wet years. In the Sacramento Valley, the A2 projections showed wet and above normal years decreased to 53% of all years in 2000-2050, and to 41.5% of years by the latter half of the century. The lower greenhouse gas emissions scenario (B1) showed similar but less dramatic shifts. Study 2: Climate Change Impacts on Water Supply and Agricultural Water Management in California's Western San Joaquin Valley, and Potential Adaptation Strategies, August 2009. [Footnote 11: Climate Change Impacts on Water Supplies and Agricultural Water Management in the Western San Joaquin Valley and Possible Adaptation Strategies, Brian A. Joyce, Vishal K. Mehta, David R. Purkey, Larry L. Dale, and Michael Hanemann. California Climate Change Center, August 2009. Available at http://www.energy.ca.gov/2009publications/CEC-500-2009-051/CEC-500-2009-051-F.PDF Incorporated by reference.] This study, done by Brian Joyce, Vishal Mehta and David Purkey from the U.S. Center for the Stockholm Environmental Institute, Larry Dale from Lawrence Berkeley National Lab, and Michael Hanemann from the California Climate Center, was released as part of the second California Climate Change Assessment in 2009, and used the same set of twelve global climate models/climate change scenarios. The study used an application of the Water Evaluation and Planning (WEAP) system developed for the Sacramento River basin and Sacramento Delta. WEAP is an integrated rainfall/runoff and water resources modeling framework that was developed in Stockholm, and has been used for water resources planning around the world. WEAP has also been used in climate modeling for the 2009 California Water Plan, and is being used in preparing the 2013 California Water Plan. WEAP has the advantage that it does not rely on perturbation of historical precipitation or runoff patterns for projections. This allows the model to capture major shifts in historical patterns. The study found marked increases in the frequency of droughts, and under the A2 scenario, a mega-drought towards the end of the century. The graph [ATT15] shows the results for different models.	

DEIRS Ltr#	Cmt#	Comment	Response
		In sum, two recent studies using two different methods of downscaling showed major changes in the structure of droughts in California. Both indicated an increase in the frequency and severity of droughts. The BDCP EIR/EIS should specifically address the possibility of increases in drought frequency and severity. The BDCP EIR/EIS also needs to include more information on projected reservoir levels, export levels, river flows, and Delta outflows in repeats of the 1929-34 drought, as well as the 1987-92 drought. Currently projected tables of projected reservoir levels, river flows, and Delta outflows only show exceedances for an individual year.	
1744	30	[ATT12: Graph showing cumulative probability of different global climate models.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-29 regarding the comment related to this attachment.
1744	31	[ATT13: Table of percentage of years in each water type by modeled time period and emissions scenario.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-29 regarding the comment related to this attachment.
1744	32	[ATT14: SVI relative frequency histograms for (a) 1951-2000, (b) 2001-2050, and (c) 2051-2099.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-29 regarding the comment related to this attachment.
1744	33	[ATT15: Graph showing results of different global climate models 1950-2090.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-29 regarding the comment related to this attachment.
1744	34	Early BDCP modeling and problems with reservoirs: In 2010, Francis Chung, head of the DWR climate change modeling team, presented results on modeling for BDCP at the California Water and Environmental Modeling Forum at Asilomar. [Footnote 12: Francis Chung, An Assessment of CVP-SWP Performance Under Alternative Delta Regulations, Infrastructure and Climate Change Scenarios Regarding CalSim II, California Water and Environmental Modeling Forum, Feb 22, 2010. Incorporated by reference. Available at http://www.cwemf.org/Asilomar/FrancisChungCWEMFPres.pdf] Chung showed results from a range of models, including the proposed operations under the "Preferred Project" with a 50% probability of exceedance of 5.5 MAF/year SWP and CVP exports. The models showed that there was a significant increase in months with dead storage in North-of-Delta reservoirs over current conditions. [See ATT16] Chung concluded: "Results appear to be unsustainable. The relative frequency of dead storage conditions in upstream reservoirs indicate that significantly modified operations will be required with climate changed conditions." and went on to say "We recommend that DWR develop a reoperation strategy for the CVP and SWP that includes modified operations scenarios to mitigate the effects of dead storage during climate change conditions prior to release of any studies (either these or BDCP) that include climate change." This was not done.	The No Action Alternative includes reasonable and foreseeable projected conditions for the Year 2060. However, it would be speculative to include future undefined facilities or operations in the No Action Alternative, including federal, state, and local agencies' responses to climate change, sea level rise, or future regulatory changes. Future changes in operations or facilities are not included in the action alternatives because they would not be implemented under the Project Objectives and Purpose and Need provisions of the EIR/EIS. However, the comparison of conditions under the action alternatives and under the Existing Conditions and the No Action Alternative are analyzed as incremental differences and not absolute values in the Draft EIR/EIS. Therefore, if other future operations were include in the No Action Alternative, they also would be included in the action alternatives; and it is anticipated that the incremental differences between alternatives would be similar to those presented in the Draft EIR/EIS. Any future changes in operations or facilities would require separate engineering and environmental studies. Please see response to comments 1744-1 and 1744-4 for information on modeling and climate change. For information on upstream reservoir affects please see Master Response 25. Please also see response to comment 1744-36. For a discussion on operational criteria please see Master Response 28.

DEIRS Ltr#	Cmt#	Comment	Response
1744	35	[ATT16: Table showing numbers of dead storage months for North-of-Delta reservoirs from climate change.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-34 regarding the comment related to this attachment.
1744	36	Effects on Reservoirs: The proposed reservoir operations under Bay Delta Conservation Plan increase water supply conflicts in prolonged droughts. The reason is that major Sacramento reservoirs are essentially exhausted by the third year of drought. Simulations show that, by the time there is 18 inches of sea level rise, the proposed operations under the Bay Delta Conservation Plan would drain Shasta and Trinity Reservoirs to minimum pool for many months in a multi-year drought. [See ATT17] This would devastate water supplies for Northern California communities, and dry up rivers from Humboldt County south to the Delta, with devastating impacts on fish populations. The Bay Delta Conservation Plan technical appendix 5.C A does not show sequences of reservoir levels or river levels during multi-year droughts, and so does not adequately disclose potential impacts of the project on the Sacramento Valley.	As described in Chapter 5, Water Supply, the EIR/EIS analyses assumes continued implementation of existing regulatory reservoir operations requirements and existing operational criteria. It is anticipated that due to climate change and sea level rise, changes in the regulatory requirements would occur in the future. However, these changes 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. For more information on operational criteria please see Master Response 28. Please also see response to comments 1744-1 and 1744-4 for information on modeling and climate change. 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. For more information on modeling please see Appendix 5A of the Final EIR/EIS and Master Response 30. Please also see response to comment 1744-34. A discussion on drought can be found in Master Response 47.
1744	37	[ATT17: Graph from BDCP March 2013 Appendix 5.C A., showing water levels in Shasta Reservoir under BDCP Evaluated Starting Operations (ESO), compared with Historic levels, Late Long Term (2060).]	This comment describes an attachment to the comment letter. Please see response to comment 1744-36 regarding the comment related to this attachment.
1744	38	Reservoir storage constraints and CALSIM code: The BDCP EIR/EIS states that reservoir storage levels under BDCP would not be substantially increased over the No Action alternative. However, the reservoir storage constraints in the CalSim No Action alternative model appear to have been substantially altered. These alterations must be discussed in the Climate Change technical appendix. The new model also needs to be validated. In particular, the projected upstream reservoir operations during droughts appear to be inconsistent with actual operations of the reservoirs. The reservoirs were operated conservatively in the 2013-2014 to protect storage, not drained to minimum pool.	The CALSIM II reservoir operations criteria are the same in the Existing Conditions and the No Action Alternative. It would be speculative to include future undefined operations in the No Action Alternative, including federal, state, or local agencies’ responses to climate change, sea level rise, or future regulatory changes. The hydrologic conditions evaluated with the CALSIM II and DSM2 models include several drought periods including the 1976-1977 and 1987-1992 droughts, as described in Appendix 5A, Modeling Technical Appendix, of the Final EIR/EIS. The models are used to evaluate long-term conditions. The EIR/EIS analysis did not evaluate emergency operations conditions such as during the recent drought because separate environmental documentation is prepared for those conditions. Refer also to response to comment 1744-36 for more information.

DEIRS Ltr#	Cmt#	Comment	Response
1744	39	Salinity intrusion: Although the Bay Delta Conservation Plan is presented as a solution to sea level rise in the Delta, there are no simulations of the operations of the proposed project under higher levels of sea level rise, nor under conditions of levee failure. Nor do the proposed habitat restoration plans take into account the potential salinity intrusion. Recent modeling by the Army Corps of Engineers [Footnote 13: Lu, S., P. Craig, C. Wallen, Z. Liu,A. Stoddard, W. McAnnally and E. Maak. Dynamic Solutions modeling for Army Corps of Engineers Presented at 2012 CWEMF Forum. Incorporated by reference.] shows the potential extent of salinity intrusion in the Delta under higher sea level rise scenarios. The maps show high levels of salinity going up the Sacramento River as far as Rio Vista. [See ATT18 and ATT19] This salinity intrusion is without increased diversions on the Sacramento River. Such diversions would likely pull salt water up to the vicinity of the proposed tunnel intakes. In addition, the impacts of salinity intrusion from proposed tunnel diversions and multi-year droughts are inadequately analyzed. Again, the diversions could pull salt water up to the vicinity of the proposed tunnel intakes. The BDCP EIR/EIS sensitivity analysis does not look at an adequate number of spatial locations to estimate the effects of sea level rise and increased diversions on the Sacramento River.	The rationale for the climate change and sea level rise scenarios is thoroughly discussed in Appendix 5A, Section A.7, Climate Change and Sea Level Rise Scenarios, of the Final EIR/EIS. The selection of climate change scenarios was guided by a technical group of federal and state agency representatives. All simulations included climate change and sea level rise. Levee failure is speculative, in both time and place, and thus it is not appropriate to include in the modeling. As salinity-related parameters have the potential to be altered by the project alternatives, these parameters, including bromide, chloride, and electrical conductivity were analyzed in detail for all alternatives in Chapter 8, Water Quality, of the Final EIR/EIS. The water quality assessment addresses effects of changes in salinity on agricultural and fish and wildlife resources due to the project alternatives via the EC assessment (Impact WQ-11) through evaluation of compliance with agricultural and fish and wildlife objectives in the Bay-Delta Water Quality Control Plan and degradation relative to existing conditions and the No Action Alternative. In addition, the assessment of bromide (Impact WQ-5), another salinity-related parameter, addresses effects to drinking water uses via assessing concentrations relative to relevant thresholds and degradation. Where significant impacts to beneficial 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. The water quality assessment evaluated changes in salinity-related parameters at 11 Delta locations, spatially oriented to capture salinity changes throughout the Delta. For more information on water quality please see Master Response 14.
1744	40	[ATT18: Map of salinity intrusion in the Sacramento-San Joaquin Delta under high levels of sea level rise (1.68 m), by 2100.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-39 regarding the comment related to this attachment.
1744	41	[ATT19: Map of salinity intrusion in the Sacramento-San Joaquin Delta during historical droughts.]	This comment describes an attachment to the comment letter. Please see response to comment 1744-39 regarding the comment related to this attachment.
1744	42	[ATT20: Appendix A. Table and text about historic droughts in the Sacramento River basin.]	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.
1744	43	[ATT21: Appendix B. Graph and text about CO2 emissions under different climate change scenarios from the Intergovernmental Panel on Climate Change.]	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.
1745	1	The BDCP is an extremely important ecosystem restoration and water supply initiative. The BDCP is intended "to protect dozens of species of fish and wildlife, while permitting the reliable operation of California's two biggest water delivery projects [footnote 1: http://baydeltaconservationplan.com/Home.aspx]," which store and deliver water in the Central Valley and the Sacramento-San Joaquin Delta. The BDCP proposes major new water supply infrastructure and operations with a suite of multi-faceted activities or "conservation measures" including extensive habitat restoration in the Delta. I concur with the sentiment of the 2011 National Academy of Sciences (NAS) review of the draft BDCP, which noted the BDCP is a "conservation plan of great importance, scope, and difficulty." The BDCP has potential to help California meaningfully manage conflicting resource goals. However, it also has ecological risks that may require intensive adaptive management outcomes. The BDCP proponents and the advising fish and wildlife agencies	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 comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		have a crucial and daunting task to find an economically and ecologically meaningful balance between competing water and land uses in the Delta and contributing watershed, as described in Section 1.7 of the draft EIR/EIS. The preferred alternative, Alternative 4, is described in detail in the BDCP Habitat Conservation Plan documentation and is evaluated in the EIR/EIS against eight other alternatives.	
1745	2	Adaptive Management. Adaptive management of an ecosystem or components of an ecosystem implies the systematic manipulation of that system and monitoring of its response(s) to determine whether the manipulations are meeting, or can meet, the stated goals or objectives (Walters and Hilborn 1978). If experimental manipulations fail, then another one is designed within the framework of the conceptual model and the process is restarted. If the initial conceptual model is found to be invalid, then the conceptual model is updated and new management strategies are implemented which are consistent with the newer information. There has been a long history of significant investments in scientific studies in the Bay-Delta and its watershed. This stems from California's large economy and comparatively high interest in environmental quality. There is also no question that water resources in California are closely managed now and will continue to be into the future (e.g., Lund et al. 2007). I believe that a commitment to science based adaptive management is a requisite component of Bay-Delta conservation. I highly recommend that the final environmental documentation have a fully developed adaptive management plan, with a strong commitment to scientific investigations to support the adaptive management plan, that can fully support the conservation of covered species, recreational and commercial fisheries, and establishes a leadership that can evaluate scientific results and implement difficult decisions based on hard data.	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) also 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.
1745	3	Adequate Measures of Fish Population Responses to Adaptive Management Decisions I recommend development of definable, measurable and relevant metrics of fish population attributes to guide adaptive management of freshwater flow/exports and tidal marsh restoration efforts. The metrics should measure key vital rates and be linked to management actions. Example questions for a "proof of concept" adaptive management plan should include: --How much change in survival of each salmonid stock can each of the 22 proposed Conservation Measures make? --How much change in the survival of each salmonid stock can the different Conservation Measure 1 operational scenarios evaluated in the EIR/EIS make? --What monitoring design and decision rules will enable the plan's implementers to optimize the balance between water supply and salmon survival? --Who will turn the scientific data into synthetic, management-relevant information to feed into monitoring design and ultimately compel the enforcement of the decision rules?	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) also 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
		Questions such as these together with clear objective and defined metrics are vital to an effective plan to protect and restore fish species.	
1745	4	Effectiveness of Tidal Marsh Restoration I support the proposed restoration of semblances of the historical habitats in the Plan Area and is confident that in most cases, these habitats would contribute to fishery production. However, uncertainties remain regarding the degree to which tidal marsh restoration can serve as an adaptive management tool to support covered species and the estuarine food web, and generally protect the public resources of the estuary in the face of freshwater exports. Moreover, for tidal marsh restoration to be effective, a significant investment in adaptive management is required, including the targeted studies and monitoring necessary to reduce uncertainty and evaluate performance. Current scientific monitoring (e.g., fish monitoring in open water habitats, bays-channels and sloughs) is not well equipped to monitor and evaluate restored tidal marsh habitats. The BDCP should establish a plan, with long term financial commitment to develop a new scientific monitoring program to evaluate tidal marsh restoration (e.g., ensure that monitoring of habitat and vegetation are appropriate for spawning and rearing of native fishes).	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) also 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.
1746	1	Upon review of the Draft BDCP and the Draft BDCP EIR/EIS, I have determined that the analysis of environmental impacts of the Bay Delta Conservation Plan is incomplete. The BDCP EIR/EIS provides a general overview and general impacts of the BDCP on the Delta. The lack of specific information regarding the location and secured funding sources for the Conservation Measures (CM) besides CM 1, led to the conclusion that all of the adverse impacts had not been assessed. As a Habitat Conservation Plan (HCP) and a Natural Community Conservation Plan (NCCP), the BDCP does not fully resolve the issues of a degraded Delta environment. CM 1 will have significant adverse impacts on the Delta environmentally and economically. It requires the implementation of the rest of the Conservation Measures along with the suggested mitigation measures to achieve the co-equal goals. This is also contingent upon if the other Conservation Measures actually achieve their intended function.	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 refer to Mater Response 2 regarding project level vs program level analysis.
1746	2	Funding for the CMs beyond CM 1 is expected to come largely from the water bond on the 2014 statewide ballot (p. 8-64). This bond measure has the potential of not passing, negating a substantial amount of funding for the remaining 21 Conservation Measures. The project is not funded co-equally and overall, is not co-equal. It is clear water supply reliability trumps ecosystem restoration when only considering secured funding sources. If CM 1 is the only conservation measure implemented the BDCP cannot be considered an HCP or NCCP because it does nothing to conserve any natural communities in the Delta.	Please see Master Response 5 regarding the proposed project's funding strategy and the plan's reliance on future water bonds. Please also see Master Response 5 regarding the rationale for CM1 as a conservation measure. 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. 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.
1746	3	When reviewing the document, implementation and location of Conservation Measures 2-22 are explained superficially. Specifically, the CMs that propose habitat restoration, CM 2-11, and those that have physical components to guard against other stressors, CM 16 to 18, and 21 do not have specific locations within the Delta. Multiple areas in the BDCP EIR/EIS state that locations for these activities have not been selected and thus the effects are unknown. This is unacceptable for an EIR/EIS. These CMs will remove a considerable	Please see Master Response 3 regarding the level of analysis for CMs 2-22. Also see Master Response 14 regarding specification of restoration sites. 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
		amount land within the Delta that is not currently managed for the proposed habitat, change in land use will have significant impacts on the Delta legacy towns and the Delta as a place.	
1746	4	Draft BDCP EIR/EIS Chapter 6: Surface Water The impacts of CM 1 on surface water downstream of the intake facilities will be significant and adverse. There is no discussion of the expected drop in water level from the operation of the intake facilities. One can infer that there could be a 3-foot drop if 6000 cubic feet per second is removed. However this discusses impacts of increased water going through the Fremont Weir in the BDCP Appendix 5C (p. 5C.5.4-6). A drop in the water level of the Sacramento River will result in associated water level drops in connected sloughs. There must be some kind of modeling to estimate the drops to determine associated negative impacts and mitigation. Due to the lack of scouring flood flows in the last decade many of sloughs have been affected by sedimentation. A further decrease in water level could impact recreation by reducing the navigability of channels or leaving recreational docks high and dry.	As described in Tables C-29-1-2 through C-29-1-13 and in Tables C-31-1-2 through C-31-1-13 (in Appendix 5A, Section C, Modeling Results), the maximum water elevations decline under the action alternatives in the Sacramento River near Freeport and Georgiana Slough would be 1.7 feet and 0.4 feet, respectively as compared to the Existing Conditions. Flows during the winter months of wet years in Steamboat and Sutter Sloughs under the action alternatives would be lower as compared to the Existing Conditions, as presented in Tables C-25-1-2 through C-25-1-13 (in Appendix 5A, Section C).
1746	5	Steamboat Resort, a private boat marina, located on Steamboat Slough about 5 miles downstream of the southernmost intake has experienced a loss of depth due to sedimentation. The decrease in water level would exacerbate this problem and could leave the dock on dry ground. At this point the resort could no longer operate and would be forced to close. This resort, once a restaurant, has been a popular destination for boaters for decades. This would be a significant impact to recreation in this part of the Delta and is inconsistent with the policies in place to support recreation set forth in the BDCP.	Operations of Alternative 4 and the new preferred alternative, 4A, are not expected to result in a substantial decrease or increase in Delta surface water levels. Please refer to Appendix 5A, Section C, CALSIM II and DSM2 Modeling Results, EIR/EIS, for more information. Section C.29 reports changes in the monthly averaged daily minimum elevation of the Sacramento River at Freeport (see tables beginning on page 5A-C1106). 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. For the full modeling simulation period, the Alternative 4 would result in one month during which average daily minimum water elevation would be lower when compared to Existing Conditions. Depending on the operational scenario selected, results indicate that daily minimum water surface elevations would be 0.3 feet or 0.4 feet lower on average during the month of March. However, during other months, the average daily minimum water surface elevation would increase when compared with Existing Conditions. For example, average daily minimum water elevations in September would increase by 0.9 to 1.3 feet under the proposed project, depending on which operational scenario was selected.
1746	6	Certain Conservation Measures require land to be permanently flooded, or in the case of CM 2, releasing more water over the Fremont Weir. This water will further reduce the amount of surface water available in the Delta. There is no discussion on the cumulative impacts of the implementation of the Conservation Measures that are implemented by diverting water and the operation of the intake facilities. The cumulative operation will require a significant amount of water and would have adverse irreversible impacts to all that irrigate or recreate on the water running through the Delta. Cumulative impacts on water level must be reviewed and assessed for all channels within the Delta. Figures 6-14 and 6-15 show the expected decrease in downstream from existing conditions when Alternative 4 intakes are operable. In wet years the decrease in flow would be about 40% less than existing conditions. Wet years provide high velocity flows that scour sediment that has accrued in Delta channels during years of low flow. A 40% reduction in these flows will significantly reduce the scouring benefits of these wet year flows. This will reduce the carrying capacity of the Delta channels and increase flood risk downstream of the intake	Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A (California WaterFix) and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A. The BDCP includes changes in surface water flows associated with increasing the frequency of flows over the Fremont Weir into the Yolo Bypass and wetland restoration of 65,000 acres in the Delta. The impacts of these actions are included in the analysis of the action alternatives as compared to the Existing Conditions and the No Action Alternative in the EIR/EIS. Flows during the winter months of wet years in Steamboat and Sutter Sloughs under the action alternatives would be lower as compared to the Existing Conditions, as presented in Tables C-25-1-2 through C-25-1-13 (in Appendix 5A, Section C). However, flows during the winter months in wet years in the Sacramento River near Freeport under the action alternatives would be higher as compared to the Existing Conditions, as presented in Tables C-20-1-2 through C-20-1-13 (in Appendix 5A, Section C). Therefore, sediment scour flows

DEIRS Ltr#	Cmt#	Comment	Response
		facilities. This adverse impact or suggested mitigation is not considered in any part of the document.	would continue to occur in the Sacramento River.
1746	7	Chapter 15: Recreation This chapter mentions the impact of reduced amount of boating recreation by the intake facilities, however it does not discuss the adverse impacts of barge traffic on recreation. Past levee improvement projects resulted in a significant amount of barge traffic along waterway. It is assumed this will apply to construction of the intake facilities and other Conservation Measures. The increased amount of barges that will be traversing the waterways will increase congestion have an adverse impact on boater safety and recreational opportunities. According to operational criteria for Alternative 4, bypass flows will be a minimum of 5000 cfs. This threshold can occur when the flow in the Sacramento River is anywhere between 11,500 cfs and 5,000 cfs. The Sacramento typically runs at 12,000 cfs near the intakes during summer months, to take the river to a minimum of 5,000 cfs would significantly reduce the flow and may make the river and associated channels too shallow or narrow for recreation. This will adversly impact recreation significantly.	Operations of Alternative 4 and the new preferred alternative, 4A, are not expected to result in a substantial decrease or increase in Delta surface water levels. Please refer to Appendix 5A, Section C, CALSIM II and DSM2 Modeling Results, EIR/EIS, for more information. Section C.29 reports changes in the monthly averaged daily minimum elevation of the Sacramento River at Freeport (see tables beginning on page 5A-C1106). 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. For the full modeling simulation period, the Alternative 4 would result in one month during which average daily minimum water elevation would be lower when compared to Existing Conditions. Depending on the operational scenario selected, results indicate that daily minimum water surface elevations would be 0.3 feet or 0.4 feet lower on average during the month of March. However, during other months, the average daily minimum water surface elevation would increase when compared with Existing Conditions. For example, average daily minimum water elevations in September would increase by 0.9 to 1.3 feet under the proposed project, depending on which operational scenario was selected. Barge routes and landing sites will be selected by the construction contractor and will be expected to comply with the following criteria: • Maximize continuous waterway access between departure port and shaft site • Maintain minimum waterway width greater than 100 feet (assuming maximum barge width of 50 feet) • Use of existing barge landings where possible • Minimum water depth of 6 feet
1746	8	Chapter 16: Socioeconomic Much of the impacts that would be social in nature from the impacts of the BDCP are disregarded because they are not considered by CEQA. However, these social impacts could become physical impacts. A nine year construction period and the removal of residences for the construction of intake facilities, will involve the removal of permanent removal of people from the Delta. Local businesses depend on people within the Delta to survive. The more people that are forced to leave the Delta or leave the Delta due to the noise, aesthetic, or inconveniences of the tunnels, the more businesses and the Legacy towns suffer. The temporary increase of people in the Delta for the construction of the BDCP will not offset the long term negative impact the tunnels will have on the Delta economy.	Wherever possible, social impacts are described under the NEPA analysis. Physical conditions, such as abandonment of buildings and houses, which are often caused by social impacts such as unemployment, are discussed in Impacts ECON-8 and -9.
1746	9	Chapter 19: Transportation In the north Delta, there are a few access routes from Interstate 5. These roads provide access for all who work, recreate, and live in the Delta. Construction activities will add a significant amount of construction related traffic on roads such as Hood-Franklin, Twin Cities and Walnut Grove-Thornton. This will increase the travel time for those who work or live in the Delta and may deter others from coming to the Delta for recreation due to a lack of	Mitigation Measure TRANS-1c notes that the project proponents would be responsible for their fair-share of costs of capacity improvements. The balance would be provided by the affected local agencies. Under Mitigation Measure AG-1c, a potential strategy to provide for economic development and other benefits is identified which would provide technical and financial assistance to promote transportation infrastructure improvements (Strategy 21).

DEIRS Ltr#	Cmt#	Comment	Response
		accessibility. This impact will be significant and costly for those who depend on this access for business. Considering the estimated amount of construction time of nine years, this will be significant and adverse. Mitigation measure Trans 1-C discusses enhancing the capacity of these congested roadway segments but that requires the take of more private property, add significant cost and there is no discussion of funding. Any expansion would be infeasible on Highway 160 because it would require widening the levees. Thus, these roads would remain extremely congested and would have unavoidable adverse impacts on all businesses within the Delta, especially agriculture.	
1746	10	I urge National Marine Fisheries, Fish and Wildlife Services, and California Department of Fish and Wildlife to deny a take-permit for the BDCP. It will have significant and irreversible adverse impacts on the Delta species and communities. There is only one Sacramento-San Joaquin Delta, please save it from certain demise.	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. DWR and BOR will continue to coordinate with the wildlife agencies to demonstrate that Alternative 4A meets the criteria for issuance of the needed incidental take authorizations for state and federally listed species.
1747	1	First the Bay Delta Conservation Plan is a misnomer. It is really the Bay Delta Justification for the Tunnels Plan and how they can compensate for the horrendous damage to the environment the tunnels will cause. Fundamentally, the premise is fatally flawed. This State does not have a transportation of water problem; it has a shortage of water problem caused in large part by its own agencies. California is an arid state; however, with proper management and storage during the few wet years we do have, we would not have the drastic drought conditions we now face.	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) also is being considered. 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.
1747	2	It is my understanding that the Department of Water Resources, with questionable authority, contracted out water rights that they cannot now fulfill. The contracts themselves caused farming in equally questionable areas which now do not have the water to water the crops they should not have planted in the first place. The solution is to take water from farmers with priority water rights and who are located in the best farm land in the State to give it to poor farmland in a desert. The truth is more insidious. The State (and its citizens) who will be paying for a water diversion that they do not control or benefit by; instead it is given to certain water districts for their own benefit to manage and sell the water they will control.	The State Water Resources Control Board, not DWR, is responsible for decisions relating to water rights. DWR holds water rights approved by the State Water Resources Control Board but does not have the power or authority to issue water rights to others. Additionally, the proposed project does not seek any new water rights nor include any regulatory actions that would affect water rights holders other than DWR, Reclamation, and SWP and CVP contractors. Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two agencies. Exports do not come at the expense of other water rights holders. The proposed project and its alternatives analyzed in the EIR/EIS only include the use of water from existing SWP and CVP water rights or voluntary water transfers from other water rights holders. The proposed project and its alternatives do not reduce the protections for other water right holders. The issue of crops and water use is beyond the scope of the proposed project . For more information please refer to the updated draft 2013 California Water Plan's strategy for agricultural water use efficiency, which describes the use and application of scientific processes to control agricultural water delivery and use. Also, refer to Master Response 6 and Appendix 1C for further information on demand management measures, including increasing agricultural water use efficiency and conservation. For more information regarding changes in delta exports please see Master Response 26. For more information regarding funding sources please see Master Response 5.
1747	3	15.3.1.1 Assessment Methods. Are vague, unintelligible and refer you to other sections as opposed to explaining the specifics about how they relate to this Chapter, Recreation. The section discusses questionable scenarios (sea level rise and climate change) for which there is no reliable scientific data. The same can be said about 15.3.2 Determination of Effects. (15-62.)	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.

DEIRS Ltr#	Cmt#	Comment	Response
1747	4	15.3.3 Effects of Mitigation are equally vague and send us to other sections for additional discussion. The statement says overall construction is expected to last up to 9 years, which is on the low end of other predictions at the meetings could be more likely in the neighborhood of 15 years. Implementation would be ongoing for a term of 50 years which would outlive the BDCP authors. (15-63.) The section addresses subjects that are of little relevance to the real socioeconomic problems of completely devastating the enjoyment of their homes or the destruction of their businesses; for example it "is not anticipated to result in an increased demand or adverse effects on existing neighborhood and regional parks." That is a fair statement since no one will be visiting those parks. It makes a ludicrous conclusory statement that "noise traffic modeling indicates that increased noise levels from construction truck hauling and worker commutes would not result in substantial increases in local noise levels." (15-64.) The statement is absurd and again they refer us to a chapter elsewhere.	Construction of the proposed project is expected to last up to 9 years. 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.
1747	5	15.3.3.1 No Action Alternative. Again this section is unintelligible and discusses matters that have nothing to do with the area of impact and the matters of most concern to the effected residents. (15-64,65) They again bring up this nonsense about rising sea levels and climate change of which they claim that in any event, "is not possible to specifically define the exact extent of the changes due to future no conditions"; exactly, so why did they bring it up? (15-66.) Catastrophic Seismic Risks. (15-67.) This section suggests that the Delta is within a highly active seismic area and that there is the potential for significant damage. That "earthquake damage could result in...failure of existing levees…with a substantial number of these structures exhibiting moderate to high failure probabilities." (15-67.) They do not give one example of a levee failure due to an earthquake because there hasn't been one. The matter is pure scare tactics without any actual incident in the 150 years of the levees and it is nothing more than the irrelevant padding of information or lack thereof. (15-67.) They interestingly talk about the danger of an influx of seawater which is more likely to occur with the tunnels sucking water out of the Delta than from an illusory earthquake. Finally, they conclude that the "effects on recreation would either be only short term disruptions…or the programs would result in net beneficial effects on recreation opportunities"? The above sections said next to nothing about the true nature of the risks to recreation, gave no particular information or facts to support their conclusions or for us to assess the potential mitigation issues.	The No Action Alternative considers changes in recreation that would occur due to the continuation of existing plans, policies, and operations by federal, state, and local agencies as of the year 2060. Therefore, catastrophic risks are considered as risks that may occur by 2060. For more information on the No Action Alternative, please see Chapter 4, Section 4.2.1.1 "CEQA and NEPA Baselines." Please refer to Appendix 3B of t EIR/ EIS for more information regarding the effectiveness of mitigation measures, environmental commitments, and conservation measures.
1747	6	We are then required to go deep into the Recreation section for any meaningful discussion of the true problems even if misreported. BDCP is addressing Alternative 4, which appears to be the least invasive of the alternative scenarios (15-253). In the Summary (15-260), BDCP opens with the only true statement in the report. "Construction of Alternative 4 intakes and water conveyance facilities would result in disruption to recreational opportunities"; to put it mildly. (15-260.) That "construction may occur year-round and last from 1 to 8 years…and in-river construction would be primarily limited to June 1 through October 31 each year, which would result in a long-term reduction of recreational opportunities or experiences." (15-261.) Of course that is the major portion of the recreation season. While they talk about commitments by DWR, the promise to enhance "interest in the site construction by constructing viewing areas…which may attract people who may use the recreation facilities" it is laughable. (15-262.) As is the creation of	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. Aspects of Alternative 4 (i.e., CM 3,4, 6-12, 15, 16) are included in the preferred alternative as environmental commitments.

DEIRS Ltr#	Cmt#	Comment	Response
		bicycle and foot access to the Delta. (15-262.)	
1747	7	They discuss as a mitigation measure the preparation of site-specific traffic management plans that would address potential public access routes (15-262) and that DWR would provide and publicize alternative modes of access. The truth is that there are no alternative modes of access. There are minimal roads into and around the Delta and with the construction traffic, the ability for the residents to travel in and out of the area would be a nightmare which would persist for 9 to 15 years. The people who have boats at the local marinas will leave long before the construction is done and the resorts and marinas will long be out of business by the time they come back. The businesses in the towns of Clarksburg, Hood, Courtland, and Walnut Grove will go bankrupt and they will become ghost towns.	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. Construction of the intakes is most likely to have the most direct impact on transportation within the towns of Clarksburg, Hood, Courtland, and Walnut Grove. This portion of the proposed project is anticipated to last fewer than 9 years and the construction schedule will be staggered for each intake. The detailed Mitigation Measure TRANS-1a lists many measures which could be taken to decrease impacts on transportation, including, coordination with transit providers to develop, where feasible, daily construction time windows during which transit operations would not be detoured or significantly slowed. Mitigation Measure TRANS-1b would also limit hours or the amount of construction activity on congested roadway segments, so as not to impact acceptable level of service conditions on roads. For more information regarding socioeconomic impacts please see Chapter 16 and Appendix 16A of the FEIR/EIS.
1747	8	We are familiar with large trucks in the area during the various harvests. The roads are narrow and dangerous during those seasons with long waits getting over bridges. Most of the roads are narrow levee roads and the cost to widen them as proposed would be extremely costly. Is that in the budget? Part of your mitigation costs? Are you going to build new highways? Is that budgeted? You add in the 24 hours a day trucking and the people wanting to enjoy their trip to the Delta and their boat will be gone. You cannot avoid the traffic problem and the result will be people doing their boating elsewhere. Have you included in your mitigation costs, waiting for the Marinas to go out of business before you realize the damage you have done. What about the people who live here, Are they expected to wait 10 years before the nightmare ends? What about the towns of Hood and Walnut Grove who literally will lose their minds from the constant pounding of the pilings? It is in effect a condemnation of their homes and property. Have you a mitigation fund for them? You live in a fantasy land to think that will not happen and you can mitigate for them. The fact that you have been threatening to do these very tunnels has already diminished the value of their homes. The noise and traffic congestion problems are insurmountable and very, very real. As you propose (15-262), you cannot address construction noise effects through mitigation measures and a noise abatement plan. You cannot address the traffic issues, even at an exorbitant cost; because that would at a minimum be necessary.	As described in Section 3.4.1 of Chapter 3, Alternatives, other facilities to support the function of the conveyance may include new bridges to connect existing roads and highways, new access roads, improvements to existing roads or bridges, improvements to local drainage systems affected by the alternatives, and other utilities improvements. Where specific locations for these facilities are known, such areas are identified in Mapbook Figures M3-1 through M3-5. Please see Master Response 5 regarding costs of implementation and funding for the BDCP. Socioeconomic impacts are discussed in Chapter 16; impacts related to regional economics are discussed under Impacts ECON-5, 7 and 11. Additionally, DWR is revising the Socioeconomic Impact Analysis for the project based on changes included in the Recirculated Draft EIR/Supplemental Draft EIS. When required, DWR would provide compensation to property owners for economic losses due to implementation of the alternative. Construction of the conveyance alternatives is anticipated to take 13 to 14 years. Mitigation measures NOI-1a and NOI-1b are available to reduce the effects of noise during construction. Worst-case daytime noise levels during pile driving are indicated in the EIR/EIS. As indicated in Chapter 23, Table 23-17, at a distance of ½ mile, noise levels are predicted to be as high as 58 dBA at exterior locations. This assumes an average 100% utilization of pile drivers during construction, in combination with other heavy equipment (mostly heavy trucks). Assuming a conservative outdoor-to-indoor attenuation rate of 20 dB for structures with closed windows, worst-case interior levels would be about 38 dBA. With windows open, the level would be about 48 dBA. In practice the majority of piles would be installed at intake locations greater than ½ mile from the communities of Clarksburg, Hood and Walnut Grove. However project related truck traffic is expected to result in a significant increase in noise levels along SR 160 which passes through the communities of Clarksburg, Hood and Walnut Grove.
1747	9	I am on the Delta Citizens Municipal Advisory Committee advisory committee. No one is making improvements to their homes, no one is doing anything. No one wants to open a business here. You have already irreparably harmed this community. Who is paying for that? The tunnels are a bad idea. It does not address the real problem; a lack of water. The Bay Delta Conservation Plan will conserve nothing. Do not worry about restoration, there will be nothing to restore. However, the lawsuits and damages will be devastating and unyielding. I am not telling you anything you do not already know. You went through 58 pages describing how important the Delta is to the State and its people. You have listed the reasons and background for the mandates for the State and local governments concerning protecting the Delta and how important Recreation is to its health and the enjoyment of all.	As a plan prepared to meet the rigorous standards of the federal and state Endangered Species Acts, the proposed project is intended to be environmentally beneficial, not detrimental. By establishing a point of water diversion in the north Delta and new operating criteria to improve water volume, timing, and salinity, the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility. The 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.

DEIRS Ltr#	Cmt#	Comment	Response
		I have addressed those issues which your report seems to have ignored or at least have failed to truly address.	
1747	10	15.1.1.1 Recreational Activities and Opportunities. By the reports own admission, the Delta is one of the favorite destination places for California boaters (behind the Colorado River (?)) and "nearly half of the registered boats in the state" are located there. (15-1.) Thus, the interruption and/or impact to recreation, in particular boating and fishing, would be a major environmental consideration. While the study focuses on breaking down the various water activities between small boats and large boats (15-3), they miss the common denominator between all the activities and is most pertinent to the subject at hand and that is the people just enjoy being on the water. The constant pounding of pilings and construction traffic for 10 to 15 years in the subject area will drive away all boating and fishing and the area will never recover. The mitigation costs will be significant because the damage will be total for surrounding resorts and landowners.	Please refer to Chapter 16, Socioeconomics, regarding socioeconomic impacts on the Delta from the project. Please also note that DWR is revising the Socioeconomic Impact Analysis for the project based on changes included in the Recirculated Draft EIR/Supplemental Draft EIS. 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.
1747	11	Recreation Participation Trends and Projections. This section appears to stress a slowing growth of recreation into the next decade (2010-2020) based on declines in the past decade (2000-2010) without even mentioning the worst recession since the great depression and the spiraling gas prices caused by the government's negative treatment of energy resources. (15.23.)	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Section 15.1.1, the Environmental Setting section of Chapter 15, Recreation, discusses past and current recreational trends, as well as projections, in the Delta, and uses this as the existing baseline for the CEQA analysis. Please refer to this section for more details. Similarly, please refer to Chapter 16, Impacts ECON-5, 7, 11, and 17 for more information related to socioeconomic impacts on recreation.
1747	12	15.1.1.2 Description of Existing Conditions in the Upstream of the Delta Region. (15-24 et seq) Mentions that the "CVP was reauthorized in 1992 through CVPIA…added mitigation protection of fish and wildlife as a project purpose. Further, the CVPIA specified that dams and reservoirs of the CVP should now be used 'first, for river regulation, improvement of navigation; and flood control; second, for…fish and wildlife enhancement. '" Obviously, "improvement of navigation" positively effects boating and recreation and is an already stated priority, even higher that fish and wildlife enhancement. Later suggestions want to impede the navigability of Steamboat, Sutter and Georgiana Sloughs. (15-24.)	Waterways will still be navigable during construction and operation of the proposed project. 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 possible 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. 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. Barge routes and landing sites will be selected by the construction contractor and will be expected to comply with the following criteria: • Maximize continuous waterway access between departure port and shaft site • Maintain minimum waterway width greater than 100 feet (assuming maximum barge width of 50 feet) • Use of existing barge landings where possible • Minimum water depth of 6 feet
1747	13	15.2.2.1 Delta Protection Act and Delta Protection Commission and Resource Management Plan. The BDCP notes that the Delta Protection Act of 1992 (Act) established the DPC "to	Please see response to comment 1676-93.

DEIRS Ltr#	Cmt#	Comment	Response
		plan for and guide the conservation and enhancement of the Delta's natural resources while sustaining agriculture and meeting increased recreational demand." That "Section 29702 indicates that the basic goals of the state for the Delta include the protection, maintenance, and, where possible, the enhancement and restoration of the overall quality of the Delta environment, including but not limited to, agriculture, wildlife habitat, and recreational activities." (15-24, emphasis added.) It further notes that "Section 29705 indicates that the Delta's wildlife and wildlife habitats are valuable, unique and irreplaceable resources of critical statewide significance and should be preserved and protected for the enjoyment of current and future generations." (15-24, emphasis added.) The construction of the tunnels as currently proposed will have nothing but a negative impact on the Delta and must be viewed in lieu of the most critical of criteria.re is nothing positive that can be shown." Furthermore, "Section 29712 acknowledges that the Delta's waterways and marina's offer recreational opportunities of statewide and local significance are a source of economic benefit to the region…" (15-35.) It is from these high standards and critical nature that the recommendations of the BDCP must be held.	
1747	14	The needs for the enhancement of recreation cannot be given a superficial treatment by BDCP. It is also noted that Chapter 5 of the Act requires DPC (and by extension the BDCP) to adopt a "comprehensive long-term resource Management Plan that includes the following recreation and access policies." (15-35.) Among the items listed was expansion of public recreation (Policy P-1); encourage expansion of privately owned, water oriented recreation (Policy P-2); that any new (public or private) recreational or access facilities are prioritized (Policy P-3); provide publicly funded amenities adjacent to private facilities (Policy P-5); and promote and encourage Delta-wide communication, coordination, and collaboration on boating and waterway-related programs including removal of debris and abandoned vessels, invasive species control, maintenance of existing anchorage, mooring, and berthing areas (Policy P-10). (15-35.) Recreation and the enjoyment of the public of this is "irreplaceable resource" must be "preserved and protected" by the BDCP, as well, in its analysis. (15-34, 35.) 15.2.2.3 California Department of Parks and Recreation Plans. The BDCP also notes that the Department of Parks and Recreation was mandated to develop recommendations to expand state recreation areas in the region. (15-36.)	Please see Impact REC-12 in Chapter 15,EIR/EIS regarding project compatibility with local plans, policies, or regulations.
1747	15	15.2.2.5 California Department of Boating and Waterways Regulations and Programs. The CDBW also supports providing boaters with adequate facilities on the water for public entities and providing private marina owners with the ability to apply for construction loans for loans for improvements, such as berthing, restrooms, vessel pump outs, boat launching, parking facilities, and dry boat storage. There is also The Aquatic Weed Control Program for control of water hyacinth, Brazilian waterweed (Egeria densa), and South American spongeplant in the Delta, which are highly invasive species and widespread in the Delta and have substantial impacts on recreation. There is also an Abandoned Watercraft Abatement Fund. (15-41, 42)	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1747	16	15.2.3 Regional and Local Plans, Policies, and Regulations. This section lists the city and county plans for the development and maintenance of recreational lands and facilities for the use of the public and as part of their economic development. All of them recognize the need to enhance and protect recreational facilities and the importance of recreation, the	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.

DEIRS Ltr#	Cmt#	Comment	Response
		unique nature of the land, its scenic features, the historical and cultural sites and the need to preserve them for their respective communities and for the people in the State, and the nation in general. (15-44 to 15-58.)	
1748	1	Delta Smelt are tiny fish in the vast and crucial San Joaquin Delta near Sacramento, but it's impact on California water issues is far larger. Smelt is critical to salmon in the Delta, a vast network of wetlands fed by greatly diminished snowmelt from the Sierra every spring. Bay Delta is a major water source for California. But a sharp drop in smelt populations led to court decisions protecting it, affecting Delta pumps that support the state's complicated water system, and threatening state agricultural areas that depend on water from the Delta. Now, the 500-year drought is challenging the very practice of agriculture as we have known it.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1748	2	Bay Delta Conservation Plan proposes to adjust the pumps and pipes taking water from the Delta, diverting up to 25% of Sacramento River's wet season flow via 40 foot diameter tunnels 35 miles south intending to provide the State with emergency water supply during any catastrophe's aftermath, while protecting wetlands, wildlife and restoring more water resources to our agricultural regions. The Plan would not send additional water to Los Angeles, but they would likely affect the overall water balance in the state. From the State's perspective, the Bay Delta Conservation project is: "to resolve decades of conflict between water demand and wildlife habitat in the estuary at the heart of the state." [http://www.sacbee.com/2013/12/09/5986905/delta-water-tunnel-plan-presents.html] But the Plan is no stranger to controversy. Farmers object to preferential benefits given to almond and pistachio growers. Other environmentalists claim that the proposed water pumping will not only fail to protect the smelt, but rather increase environmental damage in the Delta by allowing ever-rising seawater to flow north into the drier Bay and tunnel more water out of Northern California.	DWR will continue to comply with the terms of the 1981 NDWA contract. This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. In response to comments received during the 2013-2014 public comment period, State and Federal agencies decided to add three additional alternatives that potentially achieved meeting the project objectives without preparing a habitat conservation plan (HCP) or natural community conservation plan (NCCP). 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. 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, the proposed project is designed to improve native fish migratory patterns and allow for greater operational flexibility.
1748	3	The project cost and the additional cost to finance the bonds are a point of major friction. Critics point to extras increasing the estimated budget that has been presented so far, stating the final cost could be approaching three times higher. And while it has many funding sources, including some support from the federal government, the project will depend on state water bond and debt service, along with and contributions from local utilities, hiking water rates across the state.	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), a response is provided generally referring the commenter to relevant information.
1748	4	Despite the ongoing arguments for and against, the Plan continues through the regulatory process. California's Department of Water Resources extended public review comments until July 29, 2014 for the Plan and Environmental Impact Report (EIR). Over the course of the extended 228-day review period, California is not the same, from the ravages of worsening and permanent drought. Premise and policy supporting BDCP regulations have been moved by our climate calamity. Mitigation of permanent drought has given way to adaptation and relocation as means of government policy and standard to address exigent of continued habitation in California. Relying on obsolete policy to address and solve problems is courting more human suffering and ecologic loss, the degraded economic and	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. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Final EIR/EIS Appendix 1C, Water Demand Management). Please see Master

DEIRS Ltr#	Cmt#	Comment	Response
		ecologic conditions, offering proven yet creative alternatives to BDCP centralized proposals, while maintaining adherence to the BDCP principled objectives.	Response 4 for information on alternatives analyzed for the project, Master Response 5 for information on the BDCP, Master Response 6 for information on demand management, Master Response 7 for information on desalination, and Master Response 37 for information on storage.
1748	5	[Taking exception to viability of Bay Delta Conservation Plan, or as it has become known as the "Twin Tunnels" project, using public money is intolerable for what amounts] to [dewatering] the Sacramento-San Joaquin Delta for the benefit of a few water contractors and agribusinesses. (http://action.biologicaldiversity.org/o/2167/p/dia/action3/common/public/?action_KEY=16104)	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.
1748	6	These tunnels would sharply reduce water flow throughout the Delta and harm thousands of sensitive aquatic species, including chinook salmon, steelhead trout, smelt, and green and white sturgeon. The tunnels would also wipe out food sources and habitat for migratory birds and other wildlife that depend on a functioning Delta ecosystem to survive. The project's heads justify this killing by proposing future habitat restoration even as they readily admit uncertainty about where and how to make such a plan work. Further, the $25-$60 billion tunnels will rely on taxpayers to fund most of this restoration. Water is a public trust resource, and taxpayers shouldn't have to shoulder the burden of this project while water contractors turn a profit from exporting the Delta's water. (http://action.biologicaldiversity.org/o/2167/p/dia/action3/common/public/?action_KEY=16104)	The Final EIR/EIS analyzes all alternatives, including the preferred alternative, Alternative 4A. The operational criteria included in Alternative 4A are intended to avoid and minimize effects of sensitive aquatic species. See Final EIR/EIS Chapters 11 and 12 and Master Response 17 for information on biological resources. See Master Response 28 for information on the operational criteria and Master Response 34 for information on beneficial use of water. The proposed project, Alternative 4A which is the new preferred alternative, is estimated to cost significantly less relative to the former preferred alternative, Alternative 4. The difference in cost is largely due to the reduced level of restoration specifically funded by the project, as well as other Conservation Measures that are not included under Alternative 4A. The construction of the water delivery facilities under Alternative 4A is estimated to cost $14.9 billion, an amount that would be paid for by the state and federal water contractors who rely on Delta exports. The range of costs for water vary widely among contractors south of the Delta. Costs depend on the source of water, transport facilities, energy requirements, among other factors. For the agricultural customers of the CVP, prices range from $100 per acre-foot to more than $400 per acre-foot. The Metropolitan Water District of Southern California, which buys water from the SWP, estimates that the cost of the proposed project would translate into about $5.00 extra per household, per month in its service area. The final cost of water from the new conveyance facilities would be determined by numerous factors. A number of these significant factors, such as the project yield and allocation of costs, have yet to be determined. Please see Master Response 5 for information regarding funding of the proposed project..
1748	7	California's water crisis is best solved by adopting a combination of water conservation, efficiency, reuse and desalination strategies for both cities and farms. The state and nation should invest in [] proven [and innovative] strategies, instead of wasting tax dollars and sacrificing our [vanishing] natural resources. [The BDCP permit process must not proceed, in order to protect our Delta estuary with local watershed projects.] (http://action.biologicaldiversity.org/o/2167/p/dia/action3/common/public/?action_KEY=16104)	See Response to Comment 1748-4. Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the proposed project. Please see Master Response 4 for discussion of the scope of the proposed project and alternatives (such as desalination or water storage) that were not carried forward for analysis in this document due to the fact that required actions beyond the scope of the proposed project. Also, refer to Master Response 6 and Appendix 1C for further information on demand management measures, including increasing agricultural water use efficiency and water conservation. Please see Master Response 5 regarding funding of the proposed project.
1748	8	The BDCP also proposes to restore or protect approximately 145,000 acres of Delta habitat. Many believe that the BDCP is a wolf in sheep's clothing. The Delta's environmental decline occurred as federal and state pumps in the south Delta diverted up to 60% of the estuary's fresh water inflow. BDCP critics question the logic of trying to restore an ecosystem degraded by fresh water diversions by building new infrastructure capable of diverting even more fresh water. And despite millions of dollars of public funds proposed to "restore" Delta habitat, restoration will not be successful unless and until we restore fresh water flows into	The preferred alternative, Alternative 4A, no longer includes an HCP. 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. See Master Response 17 for information on biological resources.

DEIRS Ltr#	Cmt#	Comment	Response
		the Delta, particularly from the San Joaquin River system, to meet the needs of Delta fish and wildlife and the habitat that sustains them. (http://www.friendsoftheriver.org/site/PageServer?pagename=DeltaCanal)	
1748	9	The 45 mile-long twin Delta tunnels and their fresh water intakes, forebays, tunnel debris disposal sites, and additional facilities will eat up at least 5,700 acres of Delta farmland and wildlife habitat. Some of the facilities and debris disposal sites will be located on Brannan Island State Park and on conservation land purchased with public funds to provide habitat for the threatened sandhill crane. The diversion intakes, access roads, lights and other urban intrusions associated with these facilities, will be directly adjacent to the Stone Lakes National Wildlife Refuge and Delta Meadows State Park. (http://www.friendsoftheriver.org/site/PageServer?pagename=DeltaCanal)	See Response to Comment 1748-8.
1748	10	The BDCP project Environmental Impact Report has yet to be released in complete form. In addition, the State has failed to produce a cost-benefit analysis. All independent analyses indicate that Southern California ratepayers will be left to pay a disproportionate share for the project, with Westlands Water District and Kern County water agency receiving the majority of the benefits. Southern California will not receive any additional/new water from the project. (RestoreTheDelta.org)	The complete EIR/EIS was released for public review and comment on December 13, 2013. The Recirculated Draft EIR/Supplemental Draft EIS (RDEIR/SDEIS) was released on July 10, 2015. CEQA and NEPA do not require a cost-benefit analysis. See also Response to Comment 1748-6.
1748	11	The financially unsustainable and untenability of the Bay Delta Conservation Plan serves to remind one, we (the North Hollywood Northeast Neighborhood Council) in the East San Fernando Valley have one of the largest aquifer in California that requires immediate Superfund cleanup to dovetail with Los Angeles Department of Water and Power's Groundwater Replenishment project, LA County DPW, National Park Service, Army Corp of Engineers Sediment Management and LADWP projects: Big Tujunga and Pacoima reservoirs and Debris Basin cleanouts, and LADWP's Tujunga Spreading Ground project to remediate the potential to wean Los Angeles off unaffordable and vanishing water from the Bay Delta, the Sierra, Lakes Mead and Powell, and the Colorado River. We are on our own and must properly assess the survivability of our urban settlement in this bit of Mediterranean Climate in terms of Local watershed management to provide most of our water resources. "[We] promote a smaller and greener water bond [http://org2.salsalabs.com/dia/track.jsp?v=2&c=EyFFLg4duXV4Ao%2F9BEkd7WKD4U3Lahjf] [for each of California's 58 counties] that prioritizes regional water self-sufficiency and a 'reduce, reuse, recycle and restore' approach; challenge the massive 'twin tunnels' [http://org2.salsalabs.com/dia/track.jsp?v=2&c=8EAlKbH9uk4uS3hs2tcQuWKD4U3Lahjf] that maintain our over reliance on environmentally devastating water transfers rather than taking a more holistic approach to water [http://org2.salsalabs.com/dia/track.jsp?v=2&c=38s0cblIGK9tYLA8BaBc%2F2KD4U3Lahjf]; continue leading the CEQA Works coalition and fight to ensure that California's environmental 'bill of rights' stays strong and vibrant." (Planning and Conservation League, http://org2.salsalabs.com/o/5056/t/0/blastContent.jsp?email_blast_KEY=1275235)	The project assumptions include continued investment by 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 Final EIR/EIS Appendix 1C, Water Demand Management).See Response to Comment 1748-4. 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.

DEIRS Ltr#	Cmt#	Comment	Response
1748	12	Flawed Twin Tunnel Documents Released: After seven years, $240 million, and numerous delays, the State has finally released [http://org2.salsalabs.com/dia/track.jsp?v=2&c=buMilZ5No0FeDaW1CsxXxGKD4U3Lahjf] an expensive paperweight: 34,000 pages of the public draft Bay Delta Conservation Plan (BDCP) and associated environmental documents. This draft of the BDCP still stubbornly pushes to build two massive, multi-billion dollar, environmentally destructive tunnels over more sustainable water solutions. Despite their nine-foot thickness when printed, the BDCP documents continue to lack analysis and answers to key questions [http://org2.salsalabs.com/dia/track.jsp?v=2&c=ELqAjUVOj1vGHHGxz18zcmKD4U3Lahjf], including financing and operations of the twin tunnels. [] In order to press forward with BDCP, the water contractors are being asked to risk another $1.2 billion (yes, billion) [http://org2.salsalabs.com/dia/track.jsp?v=2&c=6%2FR0575s1KeT9rI2gAJkUGKD4U3Lahjf] of their ratepayers' money -- just in additional planning costs. This expensive gamble moves to a whole new level if the tunnels are built. An independent economist recently released a report detailing the 11 Financial Red Flags [http://org2.salsalabs.com/dia/track.jsp?v=2&c=yTXivDLNwNCBIS%2BQgrwC22KD4U3Lahjf] of BDCP, which include debt service costs, questions of financial liability, overestimated benefits, and drying up money for local projects. It's time to stop squandering money and paper on the tunnels, and start exploring viable alternatives. (Planning and Conservation League, http://org2.salsalabs.com/o/5056/t/0/blastContent.jsp?email_blast_KEY=1275235)	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.
1748	13	Though separate from the Bay Delta Conversation Plan, budgetary overlaps seem evident in a water bond being floated to California's November ballot, as advocated by a consortium of California's water authorities, the Association of California Water Agencies (ACWA). Is it just possible some self-interest might be at play? AB 2686 [http://www.leginfo.ca.gov/pub/13-14/bill/asm/ab_2651-2700/ab_2686_bill_20140325_amended_asm_v98.pdf] by Assembly Member Henry Perea (D-Fresno) and SB 1250 [http://www.leginfo.ca.gov/pub/13-14/bill/sen/sb_1201-1250/sb_1250_bill_20140421_amended_sen_v98.pdf] by Sen. Ben Hueso (D-San Diego) closely reflect ACWA's proposal for a modified water bond. ACWA supports the current version of the water bond set to be on the November 2014 ballot. However, ACWA's Board of Directors has recognized that modifications to reduce the size and remove earmarks from the $11.14 billion bond will improve its chance of passage. The Association is working with legislators and stakeholders to build support for a water bond that can be approved by the necessary two-thirds vote in both houses, signed by the Governor and then approved by California voters in November 2014. ACWA believes any bond that advances must meet the following criteria: Include $3 billion, continuously appropriated, for additional water storage (both above and	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.

DEIRS Ltr#	Cmt#	Comment	Response
		below ground); * Provide adequate funding for Delta restoration; * Eliminate "earmarks" that allocate funds for specific projects without a competitive process; * Provide substantial funding for: - Local resources development projects, including Integrated Regional Water Management programs - Groundwater cleanup - Safe drinking water for disadvantaged communities - Watershed protection In addition, ACWA is advocating that the bond's total funding remain below $10 billion to aid its passage this year. (Op. cit. http://www.acwa.com/spotlight/2014-water-bond)	
1748	14	The government's official estimate for the BDCP price tag is nearly $25 billion. Critics point out that this estimate does not include interest and other hidden costs, which could balloon the overall price tag to more than $64 billion. The construction of the tunnels and diversions would cost more than $14.5 billion, with another $4.8 billion in operation, maintenance, and administration expenses over the 50-year life of the plan. Federal and state water contractors are responsible for these costs. If the contractors incur this debt, you can be sure that they will push for diverting as much water as possible from the Delta to recover their costs. The federal and state taxpayers will be responsible for much of the BDCP's habitat restoration costs. Most of the state's share of Delta restoration costs is built into the $11 billion water bond on the November 2014 ballot. (Ibid. http://www.friendsoftheriver.org/site/PageServer?pagename=DeltaCanal)	See Response to Comment 1748-6.
1748	15	Governor Brown's supporting a water bond on the November ballot coupled to the Department of Water Resources and State water agency lobbyists pushing the Bay Delta Conservation plan is history repeating itself insanely so from 2010's [http://www.sos.ca.gov/elections/ballot-measures/pdf/sbx7-2-ch-3-stats-09.pdf] and 2012's eerily similar political posturing putting legislative responsibility onto the People, abusing the Initiative process, to solve ecological problems with strictly economic means, chasing after California's twin eco collapse "ambulance". Eco means house, not opportunism for unsustainable economic activity. Agriculture lies about it's draw on water and Big agriculture must evolve itself to permaculture, aquaculture -- using a fraction of the current real or conjured statistic water demand.	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 Final EIR/EIS. The 2013 Draft EIR/EIS, RDEIR/SDEIS and Final EIR/EIS discuss impacts to agriculture (see Chapter 14 in the Final EIR/EIS) and issues related to water conservation and agriculture.
1748	16	There are millions of gallons of water in our watersheds, especially here in the San Fernando Groundwater Basin and the Tujunga Pacoima watershed which is in my district. To the maximum extent possible we need to require Los Angeles Department of Water and Power, Counties and State clean up and detoxify groundwater via primary and tertiary treatments. With Aquifer remediation and infusion (treated water replenishment) on a massive scale, the City of Los Angeles would be provided with 10% of its overall water supply. There is not	See Response to Comments 1748-4 and 1748-11.

DEIRS Ltr#	Cmt#	Comment	Response
		enough groundwater to provide for the 18 million folks in Southern California, let alone Los Angeles County. (How Will California's Agriculture and Urban Centers Survive Ever-Worsening 500-Year Drought?, at http://www.laprogressive.com/500-year-drought/)	
1748	17	Desalination in San Diego County took 4 years from inception, construction to delivery. Desalination is appropriate for regions like San Diego where no natural groundwater basins exist. Los Angeles County needs to see its network of groundwater basins fully revitalized for potable water consumption. Desalination is costlier than groundwater cleanup and its salt byproduct threatens marine life while profiteering at ratepayer expense. (How Will California's Agriculture and Urban Centers Survive Ever-Worsening 500-Year Drought?, at http://www.laprogressive.com/500-year-drought/)	See Master Response 7 for a more detailed discussion of various desalination projects under consideration and in development at this time.
1748	18	Conservation through greater appliance efficiency, fixing leaky pipes, composting toilets, must significantly reduce water demand. This drought disaster, contrived from generational legacies of Mulholland's stolen water web of corruption, deceit, exorbitant unjust enrichment, to this day's out-of-control boss rule, was avoidable had there been forward planning on watershed remediation and conservation. To answer the Drought calamity, immediate Federal aid and local/county/state matching funds are required to de-toxify almost 200 Superfund and Brownfield cleanup projects in California, with an end goal of potable use of watersheds within 3 years. Ecosystems, farmers and urban consumers are helped. (How Will California's Agriculture and Urban Centers Survive Ever-Worsening 500-Year Drought?, at http://www.laprogressive.com/500-year-drought/)	See Response to Comment 1748-7.
1748	19	The UNCTAD [United Nations Conference on Trade and Development] report identified key indicators for the transformation needed in agriculture: * Increasing soil carbon content and better integration between crop and livestock production, and increased incorporation of agroforestry and wild vegetation * Reduction in greenhouse gas emissions of livestock production * Reduction of GHGs through sustainable peatland, forest and grassland management * Optimization of organic and inorganic fertilizer use, including through closed nutrient cycles in agriculture * Reduction of waste throughout the food chains * Changing dietary patterns toward climate-friendly food consumption * Reform of the international trade regime for food and agriculture (http://www.iatp.org/blog/201309/new-un-report-calls-for-transformation-in-agriculture) (http://truththeory.com/2014/03/12/new-un-report-small-scale-organic-is-the-only-way-to-	No issues related to the adequacy of the environmental impact analysis in the EIR/EIS were raised.

DEIRS Ltr#	Cmt#	Comment	Response
		feed-the-world/)	
1748	20	Gov. Proposes Huge Underground Tunnels to Move Water North to South in California. [http://la.curbed.com/archives/2012/07/gov_proposes_huge_underground_tunnels_to_water_north_to_south_in_california.php] That is not the tune he is singing in mid-2014. Governor Brown combined his shelved water action plan with new relief aid and Senate President pro-Tem Steinberg's water efficiency legislation to become a rewrapped Emergency Drought Bill yielding support from across the aisle, farming interests and environmental concerns. Poof! Behold Brown's Emergency Drought Bill! [http://lindbladpolicyinitiatives.wordpress.com/2014/03/26/poof-behold-browns-emergency-drought-bill/] Permaculture, drip irrigation, phasing out water intensive crops like cotton for hemp, in situ brackish water desalination, groundwater cleanup, aquifer replenishment, reservoir storage, rainwater cisterns… Some, not all of this is in Brown's package. (http://lindbladpolicyinitiatives.wordpress.com/2014/03/25/our-campaigns-railing-against-browns-warmed-over-not-appropriate-twin-tunnel-proposal-helped-in-the-larger-effort-to-see-it-removed-from-the-table/)	See Response to Comment 1748-4.
1748	21	Judging from the water rate payer's response statewide of the Governor's declaration of a voluntary 20% consumption cut and Los Angeles County's unchanged rate, folks do not understand the dire implications of maintaining present water consumption. So much for good cop. Now bad cop will ratchet the fine and penalty until the rate-payer gets it. At least for ratepayers who have not left the "Golden-crisp State." Still 200 billion gallons of California's groundwater is under threat by the Oil sector [http://priceofoil.org/2014/01/17/drought-emergency-california-raises-stakes-fracking-fight/] in their fracking greed and climate emergency denial. One acre-foot equals 325,851 gallons (the amount of water two to four families use in one year). [http://westernresourceadvocates.org/water/fillingthegap/FTG_Joint_ES.pdf] That means Big Oil is stealing water from 2,455,110 human beings for a year. Fracking, once stopped, provides water for California's future. To the extent 200 billion gallons of potable remains in the ground free from being fracked, prudent groundwater use and conservation obviates any so contrived need for Twin Tunnels. In this view, the BDCP enables fracking, and that is wrong.	See Response to Comment 1748-4.
1748	22	Today's exigent of permanent drought and eco-eco collapse seems to have brought off the dusty shelf the boondoggle of a huge 35 year abandoned, itself a myth [http://baydeltaconservationplan.com/news/blog/13-12-12/Correcting_Stubborn_Myths.aspx], but remaining behemoth Plan. We need to address the situation on an accountable local watershed level.	See Response to Comment 1748-4.

DEIRS Ltr#	Cmt#	Comment	Response
		(http://www.ppic.org/main/publication_show.asp?i=1087)	
1748	23	Following Public Comment refers to the Plan EIR Chapter 5 Water Supply [http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Public_Draft_BDCP_EIR/EIS_Chapter_5_-_Water_Supply.sflb.ashx] flawed, skewed premises: If the basis for the discussion is water consumptively used by only agricultural and M&I users, then agriculture's share would be estimated in the range of 80 percent of the total (24.66 MAF / (24.66 MAF + 6.51 MAF). However, if the percentage is based on dedicated water, which includes environmental uses, then agriculture's share is more in the range of 40 percent (24.66 MAF / 61.24 MAF). (http://www.californiawater.org/cwi/docs/CIT_AWU_REPORT_v2.pdf) "agriculture claiming 80% of state's developed water" appears to be not accurate and even alarmist: 'In the long run, what's sorely needed in California is a reprioritizing of water use. Currently, agriculture claims 80% of the state's developed water. And 55% of exported Delta water goes to two irrigation districts in the southern San Joaquin Valley.' (http://www.latimes.com/local/la-me-cap-drought-20140224,0,7451531,full.column)	The information in this comment is not consistent with the discussion in the Final EIR/EIS. As described in Section 5.1.1.3, consumptive use includes water consumed by vegetation on agricultural lands, industrial processes, municipal users, and wetlands. Consumed water is the part of applied water that does not include water that is returned to the groundwater or surface water for subsequent uses. Consumed water does not include water released for instream flows or cold water pool storage in reservoirs. As shown in Table B-1, in Final EIR/EIS Appendix 5A, Section B, 42 percent of the water supplied by the SWP and CVP is used by agriculture under Existing Conditions.
1748	24	Quoted below from Jeffrey Mount has the marks of authoritative analysis of California water usage: Which sector, urban, farming, environmental, uses what proportion of the state water supply? Jeffrey Mount, UC Davis Professor of Geology: "Whereas agriculture used to consume 80% of the state's water supply, today 46% of captured and stored water goes to environmental purposes, such as rebuilding wetlands. Meanwhile 43% goes to farming and 11% to municipal uses." The Economist, October 2009 This excerpt is from an article that focused on the never-ending skirmishes over how to divide the water of California and simultaneously meet the objectives of water supply and ecosystem health in the Delta. The statement, which appears to be attributed to Tom Birmingham of Westlands Water District, is both a mangling of the facts and an apples-to-oranges comparison. Interpreted literally, it implies that agricultural water use has been reduced from 80% to 43% with a transfer of agriculture's use of water to the environment. Reading the news over the past few years, it might have seemed like such a thing happened. It hasn't, of course. If this were the case, we would have seen a dramatic decline in agricultural water use since the implementation of environmental laws. We have seen a decline, but it is nothing close to what is implied. This statement requires some disentangling to separate the facts from the factoids (near-facts which are artfully spun). The roots of confusion lie with the change in how the	See Response to Comment 1748-23 and Master Response 30 regarding modeling for the proposed project. See also Master Response 28 for information on the operational criteria and Master Response 34 for information on beneficial use of water.

DEIRS Ltr#	Cmt#	Comment	Response
		California Department of Water Resources (DWR) reports water use. Historically, DWR only counted water that was applied for economic uses. Under this scheme roughly 80% of water went to agriculture with the remaining 20% going to urban uses. Under the new reporting system, gross water use includes both the applied water for urban and agricultural use, as well as that set aside for flow requirements to meet habitat and water quality needs. This is the source of the second part of the above statement. A more accurate figure is roughly 40% agriculture, 10% urban and 50% environment. Sounds like the environment is taking all the water after all, even with the new accounting system. But this is a larger total volume of water than in the old accounting system, since environmental water is now added in to the mix. This accounting method is both flawed and misleading. The method used by DWR sums up all of the instream flows required by regulations. The large environmental number is dominated by flows in rivers designated as Wild and Scenic. Most of the volume that flows down Wild and Scenic Rivers is in the North Coast and includes flood flows, where there is no practical way to recover it for either agricultural or urban use (see blog "water to the sea isn't wasted"). When you examine water use within the interconnected network of California that feeds farms and cities, use is roughly 52% agricultural, 14% urban and 33% environmental. While a big difference, even this overstates the environmental take. When you account based on net water use—meaning water that is lost to evapotranspiration or salt sinks and not returned to rivers or groundwater for alternative uses—this translates to 62% agricultural, 16% urban and 22% environmental. And some of that environmental water is used to keep water quality high enough for drinking. (Op. cit. http://californiawaterblog.com/2011/05/05/water%E2%80%94who-uses-how-much/) Broad statewide or system wide numbers [not included] mask important local and regional variability in how water is used. As illustrated in the map, above [ATT 1], based on DWR data, in the North Coast region most water is designated as environmental flow, and it lacks many connections to the statewide water supply system. In the Tulare Basin, almost all water use is agricultural. In the South Coast, water use is overwhelming urban. Regions are often fairly specialized in their water use. Real people and real fish live their lives locally, not statewide. (http://californiawaterblog.com/2011/05/05/water%E2%80%94who-uses-how-much/) Statewide, average water use is roughly 50% environmental, 40% agricultural, and 10% urban. However, the percentage of water use by sector varies dramatically across regions and between wet and dry years. Some of the water used by each of these sectors returns to rivers and groundwater basins, and can be used again. (http://www.ppic.org/main/publication_show.asp?i=1108) The twin tunnel diversion plan may be premised on an overestimate of water given to the environmental sector, when in fact, it's not 46%, but less than one-half, 22%. Diverting water flow from benefiting Delta wetlands in the Plan may be understated by 400%.	

DEIRS Ltr#	Cmt#	Comment	Response
		The argument that the environmental sector is being favored in the Plan is false. Just the opposite, it's made to suffer and wither.	
1748	25	[ATT 1: Map of California showing net water use exceeded local supplies based on annual average values for 1998-2006 in millions of acre-feet. Source: California Department of Water Resources.]	This comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in comment referencing the attachment or the Final EIR/EIS. Water Supply is analyzed in Chapter 5 of the Final EIR/EIS.
1748	26	Whether it's a case of stealing water by the use mix statistic, Big Oil fracking, or geoengineering, water cannot be cut from whole cloth as the purveyors and Big Agriculture benefactors of the present BDCP are pushing: an obsolete, outdated boondoggle that does not address the aggravating 500-year drought with ever increasing record-shattering temperatures, just alone over the 228 day EIR review period and out to the long term. Even the long term climate disaster scenario in the BDCP was tamped down. The real scenario borne of certainty, not corporate political posturing, is horrific and cannot be addressed or solved by big centralized politically inspired and unaccountable expenditures only lining Wall Street bond holder pockets and Big Agriculture.	Please see Master Response 3 for the purpose and need, Master Response 26 regarding the area of origin, Master Response 28 for a discussion of the proposed project's operational criteria, Master Response 34 for information on beneficial use of water, and Master Response 35 regarding MWD's water supply. The proposed project is one part of a diverse portfolio of strategies needed to meet California's overall water management needs. It is not a substitute for increased commitments to other water supply solutions, including recycling, desalination, water conservation and storage.
1748	27	Geo-engineering weather modification through cloud seeding, a Pacific Gas and Electric Company practice for 60 years, to tease out rain and snow for a burgeoning population, has not been justified as having contributed to increasing water resources. Like a dog chasing its tail, evidence is growing that as our climate wet gets wetter and and dry gets drier, geo engineering cloud seeding, unproven to making a net increase in water, may be worsening already increasing Extreme Weather. Though California hurricanes are not unheard of, the real threat exists of an Ark Event (that's the size of ten Mississippi rivers deluging over a two week period). Like the 1857 event making an inland sea in Central California, reducing agriculture then by 2/3, today's 500 year drought looms heavy to comparably destroy California's economy already in tatters, from whatever cataclysm. Extreme Hurricane, Ark Event, Permanent Drought. Or maybe pick two or three of them. (California's reliance on cloud seeding to produce rain and snow is stealing water, at http://www.scoop.it/t/california-s-reliance-on-cloud-seeding-to-produce-rain-and-snow-is-stealing-water)	This comment is not on the content or process of the EIR/EIS.
1748	28	Deteriorating conditions in California's water resources since the BDCP was written has the clear indication that agriculture and urban settlement may end as we have come to know them. Pockets of permaculture in desirous watersheds may allow limited human settlement based on frugality, not wasteful Big Everything-driven consumerism. Bond-floated Bay Delta Conservation Plan pair of 40 foot diameter tunnels likely to balloon to $69 billion with debt service designed to answer existing agriculture demands, drinking water quality for 25 million user/ratepayers, and delivery of water during and post catastrophic events like earthquakes. Though no new water supplies are for Los Angeles, water bills will skyrocket to pay off the water bond to over $30 month per ratepayer. Apart from the unbearable financial burden, a similar water conveyance plan was rejected by voters originally conceived 32 years ago by Brown, whose era then did not face a 500 year drought, rising ocean levels, and resource scarcity from the present Climate Emergency. Three unacceptable outcomes from the plan in it's present form: 1) Given Sacramento River water diversions to the twin tunnels, salt water intrusion aggravated by rising sea levels will inundate and destroy Delta wetlands, in turn threatens	The Final EIR/EIS modeling results for the No Action Alternative indicate that, with or without the proposed project, rising sea levels will bring saline tidal water farther into the Delta than occurs at present. The Final EIR/EIS evaluated a range of alternatives that would result in a range of salinity conditions in the Delta and effects on the aquatic and terrestrial biological resources in the Delta, as described in Chapters 8, 11, and 12, respectively. The CALSIM II model results indicate that the north Delta intakes would be used during wetter months which would occur more frequently in the future than under Existing Conditions because the precipitation is more likely to be rainfall than snow. As described in Chapter 3, Description of Alternatives, of the Final EIR/EIS, 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 Final EIR/EIS. Because specific agreements have not been identified for

DEIRS Ltr#	Cmt#	Comment	Response
		local potable water supply, salmon and smelt, and the role of wetlands as a carbon sink to lower greenhouse gases. 2) Drastically reduced Sierra snow melt, surging water and atmospheric temperatures point to much lower water flow in the 'high-outflow option' [http://www.sacbee.com/2013/12/09/5986905/delta-water-tunnel-plan-presents.html], estimates 'based upon assumptions for the year 2060' [http://www.sacbee.com/2013/12/09/5986905/delta-water-tunnel-plan-presents.html]. The twin tunnels, in our Climate Emergency future of no snow melt may see next to no use at all, with no 'wet' season. 3) No incentives are provided to wean Los Angeles off long-distance water, in fact, a greater dependency is proposed. Barbara Vlamis of Chico, executive director of AquAlliance, said: "We join this lawsuit because we are the heart of the area of origin for the Sacramento River watershed. The Tuscan Aquifer in Butte, Glenn and Tehama counties is the groundwater foundation that supports the streams and rivers that are vital for farms, fish, and communities throughout California. The Delta Plan's goal to expand groundwater storage north of the Delta is a fool's errand. The state of California has failed to protect its groundwater, and has acknowledged serious overdraft in 11 basins. The only reason we don't know of more overdraft conditions is because the state Department of Water Resources hasn't studied this since 1980! If water transfers increase in scope and duration, particularly when groundwater is substituted for surface water, it will escalate the losses already underway in the Sacramento River watershed's creeks and rivers and will jeopardize what remains of the hydrologic system that supports the majority of California's economy, the Central Valley's fish and flyway, and the largest estuary in North America: the Sacramento/San Joaquin Bay Delta." (Ibid. http://www.friendsoftheriver.org/site/PageServer?pagename=DeltaCanal)	water transfers and other non-project voluntary water market transactions, project level analysis of impacts upstream of the Delta is highly speculative and this EIR/EIS does not constitute the CEQA/NEPA coverage required for any specific transaction. Rather, it provides an analysis of how transfers relate to the proposed water conveyance facilities. Any future water transfers will require separate approvals. The analysis of any potential upstream impacts due to water transfers are not a part of this EIR/EIS and must be covered pursuant to separate laws and regulations once the specific transfer has been proposed.
1748	29	California does not need to build these massive twin tunnels, [new or expanded dams] and diversions to meet its water supply needs. A truly sustainable water plan for the state would focus on increased water conservation and efficiency, treating and recycling waste water, cleaning up polluted groundwater, capturing and treating storm water, and reducing irrigation of drainage-impaired lands in the southern Central Valley. The environmental, social, and monetary cost of these sustainable solutions is much less than what is proposed by the BDCP. Water conservation, recycling and reclamation, and environmentally beneficial groundwater management can easily meet our needs at a fraction of the cost [http://www.friendsoftheriver.org/site/PageServer?pagename=3EasySteps]. The Delta ecosystem has been damaged by the construction and operation of upstream dams and by the pumping of fresh water from the Delta for export south. It is a fundamental reality that we cannot restore the Delta by building more dams upstream, as well as a canal that will facilitate continued or expanded exports. Most of the state is not as dependent on Delta water exports as claimed by the Governor and other elected officials. Statewide, Delta exports via the state and federal water projects make up less than 12% of the state's developed water supply. Even southern California cities receive only about 20% of their water from the Delta. [The same 20% wedge Los Angeles City failed to conserve by not heeding the Governor's voluntary measures.]Local surface storage projects, groundwater, and reuse/recycling provide most of the consumptive water supplies in California. No one is	See Master Response 3 for a discussion of the purpose and need, and see Master Response 4 for discussion of the scope of the proposed project and alternatives (such as water storage) that were not carried forward for analysis in this document due to the fact that required actions beyond the scope of the proposed project. Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the proposed project. The lead agencies cannot impose obligations on third parties that are not applicants under proposed project. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage. Also, refer to Master Response 6 and Final EIR/EIS Appendix 1C for further information on demand management measures, including increasing agricultural water use efficiency and water conservation.

DEIRS Ltr#	Cmt#	Comment	Response
		demanding that all Delta exports end. (Ibid. http://www.friendsoftheriver.org/site/PageServer?pagename=DeltaCanal)	
1748	30	Here's more reason to adopt much less expensive local watershed management rather than a more expensive centralized solution the Plan presents: Echoing the sustainable alternate Plan of local watershed management, UC Davis scientists Richard Howitt and Jay Lund, who co-authored a report outlining California's drought expected to cost the state an estimated $2.2 billion of total economic losses in 2014, losing more than 17,000 jobs, from valuable crops fallowed. "Without replenishing groundwater in wet years, water tables fall and both reduce regional pumping capacity and increase pumping energy costs," it said. "It's critical that Californians develop an ethic of water preservation," said Karen Ross, secretary of the California Department of Food and Agriculture, stressing the need for more water storage and for capturing water run off during storms. (Op. Cit. http://www.scientificamerican.com/article/california-drought-expected-to-cost-state-2-2-billion-in-losses/)	See Response to Comment 1748-6. The California Water Action Plan recognizes that all Californians have a stake in the future of our state's water resources, and that a series of actions are needed to comprehensively address the water issues before us. The five-year agenda spells out a suite of actions in California to improve the reliability and resiliency of water resources and to restore habitat and species — all amid the uncertainty of drought and climate change. For more information regarding future developments of the California Action Water Plan please follow: http://resources.ca.gov/california_water_action_plan/. Future committees for the proposed project implementation may provide future opportunities for innovative input as well. The California Water Plan evaluates different combinations of regional and statewide resources management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. Follow the California Water Plan here: http://www.waterplan.water.ca.gov/. 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 1B, Water Storage, Final EIR/EIS, describes the potential for additional water storage and Appendix 1C, Water Demand Management, 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. Please see Master Response 4 regarding the selection of alternatives analyzed, Master Response 6 regarding demand management, Master Response 7 regarding desalination, and Master Response 37 regarding water storage.
1748	31	Reducing flows from the Sacramento River will also allow saltwater from San Francisco Bay to intrude eastward through the Delta. Increased salinity in Delta water will have profound and negative impacts on Delta agriculture and further degrade critical habitat for such imperiled species as salmon, steelhead and delta smelt. Twin Tunnels advocates claim adverse impacts on fish will be mitigated by restoring 100,000 acres of habitat in the Delta. These projects, they maintain, would result in seasonally inundated floodplains, subtidal and intertidal freshwater and brackish wetlands, and shallow-water channel margin habitat. They are intended to increase food production for native food webs and fish. But in the absence of additional fresh water, scientists are skeptical that these habitat projects will work as advertised by the BDCP. The State Water Resources Control Board has already stated that habitat restoration and increased flows are both necessary to the recovery of the Delta's fish populations. (Op. cit. https://www.c-win.org/c-wins-campaign-against-peripheral-tunnels.html) (Reference: http://bigstory.ap.org/article/calif-water-politics-complicate-browns-decisions)	The preferred alternative, Alternative 4A, no longer includes an HCP. 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.
1748	32	Survivability through seismic events is touted as a benefit in tunneling subterranean peripheral canals with design performance. (Reference: http://mavensnotebook.com/2014/06/30/seismic-design-performance-considerations-for-t	Although the proposed project does not purport to provide seismic upgrades to protect water supplies as a result of seismic ground shaking and levee failure, it nevertheless does intend to reduce the vulnerability of the water delivery system by making it less reliant upon the Delta levee system (and associated risks thereto). Please see Master Response 16 for information regarding seismic impacts.

DEIRS Ltr#	Cmt#	Comment	Response
		he-bay-delta-conservation-plans-twin-tunnels/) But the very geoengineering Plan that diverts wet season river flow from wetlands causing ground subsidence, already at a furious rate from groundwater pumping from the loss of snowmelt reliance otherwise producing streamflow water, acts to increase earthquake frequency and magnitude. Cui bono? It's poor risk management adding to higher cost of, and loss of: infrastructure, property and life. Investors win. Main Street loses. (http://sfpublicpress.org/news/2014-05/groundwater-depletion-is-destabilizing-the-san-andreas-fault-an d-increasing-earthquake-risk) But, again, fracking does not stop at contaminating aquifers with carcinogens, increasing ground subsidence and removing 200 billion gallons of potable water from millions of thirsty people, fracking causes earthquake swarms. (http://sfist.com/2012/03/01/is_fracking_in_california_going_to.php) So, the tax and water rate payer gets slammed by the present form of BDCP in its reckless abandon ignoring prudent risk management, no, not mitigating risk, but increasing the risk of earthquakes two different ways.	
1748	33	[ATT 2: Map from California Natural Resources Agency showing location of proposed water tunnels of the BDCP Alternative #4.]	This comment describes a map attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in comment referencing the attachment or the Final EIR/EIS.
1748	34	[Two years ago, on July 25, 2012, prior to the declaration early in 2014 of a 500-year drought,] Governor Jerry Brown and Secretary of the Interior Ken Salazar [] announced details of an expensive plan to ensure the future of Southern California's water supply (specifically, the supply shipped from Northern California). The most expensive part of the new plan would build the long-debated "peripheral canal," described by the San Jose Mercury News: "two huge, side-by-side underground tunnels, each 33 feet in diameter." The tunnels would "carry fresh water 37 miles from the state's largest river, the Sacramento, under the Delta to giant federal and state pumps at Tracy ... There it would flow into canals run by the State Water Project and the Central Valley Project, which deliver Delta water to 25 million Californians, from the Bay Area to San Diego, and to irrigate 3 million acres of farmland." The price for the plan? A whopping $23.7 billion. If you're an Angeleno and you're wondering why a tunnel built in Northern California is such a big deal, here's what you need to know: the Los Angeles Department of Water and Power buys more than half of its water from the Metropolitan Water District. The Bay Delta, where the canal will be built, is where MWD gets its water (in addition to the Colorado River). The peripheral canal has been a hot button political item since a 1982 ballot initiative that would have allowed the concept failed to win the approval of voters. More recent efforts to solve the ongoing ecological and health crisis that is the Bay Delta produced the 2010 Bay Delta Conservation Plan. [] The announcement essentially makes way for the state to revise the BDCP. (http://la.curbed.com/archives/2012/07/gov_proposes_huge_underground_tunnels_to_water_north_to_south_in_california.php)	A number of important improvements have been made to set the current proposal (Alternative 4A) apart from the Peripheral Canal. For instance, tunnels are proposed to reduce surface impacts associated with canals. The capacity of the proposed project is more than 10,000 cfs smaller than the Peripheral Canal. The project as proposed allows for dual conveyance allowing through-Delta operations to continue in order to maintain in-Delta water quality. The proposed project would require operation of the proposed new in-Delta portions of the CVP and SWP pursuant to environmentally stringent rules under the Federal Endangered Species Act and California Endangered Species Act. Refer to Master Response 36 for more information on the differences between the proposed project and the Peripheral Canal.
1748	35	At the core of the project is a pair of water tunnels, 35 miles long and 40 feet in diameter. They would divert a portion of the Sacramento River's flow at three new intakes, proposed	See Response to Comments 1748-6 and 1748-34.

DEIRS Ltr#	Cmt#	Comment	Response
		in Sacramento County between Freeport and Courtland. The tunnels alone are projected to cost $15 billion, which would be funded by the water agencies that benefit. Another $10 billion would go into habitat-restoration projects, funded largely by taxpayers, including 100,000 acres of habitat restoration to benefit 57 imperiled species, including delta smelt, Chinook salmon, sandhill cranes and Swainson's hawks. Water agencies that stand to benefit from the plan have already allocated $240 million to get the project to this point, most of which has been spent. The Bee reported Saturday that another $1.2 billion will be needed to complete the planning before construction can start. This money has already been accounted for in the $15 billion cost of the tunnels. (Ibid. http://www.sacbee.com/2013/12/09/5986905/delta-water-tunnel-plan-presents.html)	
1748	36	It is the most ambitious and expensive water-development and habitat project ever proposed in California. And it's clear from the documents released Monday that many details of how it will work still have to be resolved. For instance, one vital question -- how much water the new tunnels will divert -- is being deferred for a much later decision. The state proposes a "decision tree" process that postpones the decision to an uncertain date before construction of the tunnels is complete, after additional scientific analysis and regulatory review. Instead, it offers two options that illustrate likely extremes: a high-outflow scenario and a low-outflow scenario. The former assumes wildlife officials order more unrestricted flow through the Delta to benefit wildlife, and allow less water to be diverted into the new tunnels. The latter assumes less natural flow and more diversions. At issue in that choice is the still-disputed question of how much free water flow is needed to sustain endangered species like delta smelt and juvenile salmon, which evolved in a Delta very different from today's highly altered environment. State and federal wildlife agencies have indicated they will approve only the plan with the high-outflow scenario. But the plan calls for that decision to be reviewed before the tunnels become operational -- in 2027, at the earliest -- if research demonstrates outflow can be reduced without harming the estuary. To some extent, this outcome depends upon whether the initial phases of habitat restoration are successful in breeding more fish. Environmental and fishing groups maintain more natural outflow is necessary to sustain and improve the Delta's fish species, and they've been critical of the proposal to delay a decision. "I say twin 40-foot tunnels, big enough to dry up the Sacramento River at most times of the year, can't be good for salmon no matter what," said John McManus, executive director of the Golden Gate Salmon Association. The project does not propose diverting the entire flow of the river. It will be capable of diverting water at 9,000 cubic feet per second, a maximum capacity that would be reached only during wet seasons, according to the plan. There are other conditions in which the project would divert less but still a sizable share of the Sacramento River's flow. Some of the most significant changes would occur in sections of the river near Walnut	See Response to Comment 1748-34. Please see Master Response 2 regarding project-level versus program-level analyses. 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. See Master Response 44 regarding the decisions tree.

DEIRS Ltr#	Cmt#	Comment	Response
		Grove, an area downstream of the proposed tunnel intakes. Computer modeling estimations buried deep in Appendix 5 of the draft plan show the effect. River flows would be reduced at least 10 percent in nearly every month of the year compared to flows that would occur without the tunnels in place. In summer months, river flows would drop between 20 and 25 percent. The estimates are made based upon assumptions for the year 2060. To water diverters, convincing regulators to set aside the high-outflow scenario may be crucial to the project's financial success. At a recent meeting of the Westlands Water District, a major Delta water consumer in the San Joaquin Valley, officials were told there are slim benefits under the high-outflow option, which commits more water to outflows for habitat purposes, and less for diverters like Westlands. In short, the cost of the tunnels may not justify the limited water benefits. (Ibid. http://www.sacbee.com/2013/12/09/5986905/delta-water-tunnel-plan-presents.html)	
1748	37	All 58 California counties have now been designated by the federal government as primary natural disaster areas due to the drought. A state-level Drought Emergency [http://gov.ca.gov/news.php?id=18368] has been declared, and state authorities have recently taken unprecedented measures [http://time.com/2990069/california-drought-regulations/] to cope with dwindling water supplies. National and international media attention has become increasingly focused on this ongoing extreme climate event in California [http://mavensnotebook.com/] as economic damages to date surpass $2 billion [https://watershed.ucdavis.edu/files/biblio/Economic_Impact_of_the_2014_California_Water_Drought_1.pdf], and continues to rise rapidly. Increasingly broad swathes of farmland are being fallowed in the Central Valley (especially the San Joaquin Valley), and entities with access to remaining water are auctioning off their rights for over ten times the long-term average rate [http://bigstory.ap.org/article/dry-california-water-fetching-record-prices]. Groundwater pumping has increased exponentially [http://mavensnotebook.com/2014/07/10/this-just-in-new-report-highlights-urgent-need-to-address-groundwater-problems-throughout-california/] over the past 12 months, and there are growing concerns that this virtually unregulated draining of California's underground aquifers could have major major consequences within the next couple of years. (http://www.weatherwest.com/archives/1658) Over the longer term, climate projections suggest that this risk will continue or increase. According to the draft National Climate Assessment [http://ncadac.globalchange.gov/download/NCAJan11-2013-publicreviewdraft-fulldraft.pdf], the US Southwest—which includes California and five other states—can expect less precipitation, hotter temperatures, and drier soils in the future, meaning that by 2060, there could be as much as a 35-percent increase in water demand. Along with that comes a 25- to 50-percent increased risk of water shortages. (http://www.motherjones.com/blue-marble/2014/01/california-drought-scary-facts-snowpack)	The comment related to the current drought is acknowledged. The comment related to climate change projections is consistent with information presented in the EIR/EIS. See Master Response 19 regarding climate change.
1748	38	Goes to the axiom: Garbage in: garbage out. Continuing with our high level policy driven Public Comment, BDCP regulation-driven responses justifying the exorbitant costs refers to	The climate change analyses have been determined to be adequate for the purposes of CEQA and NEPA and provide for a fair comparison of the action alternatives. See Master Response 19 regarding climate

DEIRS Ltr#	Cmt#	Comment	Response
		non-applicable and outdated policy, in our state of 500-year drought where clean slate approach is called for, one of locally based adaptation to ever worsening but no longer scientifically predictable as to severity of consequences, as we are all on the exponential curve divorcing ourselves of linear predictedness of conditions which might otherwise linger for habitation in California and the world. Dr. Alex Hall downloaded IPCC world climatic algorithms for Los Angeles County to allow a glimpse of our climate out to 2060 and his expertise was not tapped for the BDCP. His work needs to be expanded for California as it pertains to this Plan. Dr. Hall, of the UCLA Department of Atmospheric and Oceanic Sciences [http://www.environment.ucla.edu/cccs/people/person.asp?Facultystaff_ID=121], and his team projected temperature profiles for the period 2041-2060 (30 to 50 years from now) for two greenhouse gas emissions scenarios: first, GHG concentration of approximately 1200 ppm CO2 equivalent (which is projected to be the highest estimate among current policy options); and second, GHG concentration of approximately 460 ppm CO2 equivalent (framed in the study as at the lowest estimate within the current range of policy options). (http://legal-planet.org/2012/06/22/ucla-and-city-of-los-angeles-publish-first-ever-detailed-long-term-climate-forecast-for-a-citys-neighborhoods/) Unforgiving, ever worsening conditions and outside formerly certain predictedness.	change and greenhouse gas emissions.
1748	39	Ethiopia's resourcefulness to become water-sustainably resilient for habitation in today's Extreme Climate Emergency shows California's water wars to be on the wrong path. Water out of thin air works in Ethiopia but in relatively water-rich California, water appears to be politically cut out of whole cloth. A new development by VittoriLab [http://www.vittori-lab.com/] might offer a solution -- The Warka Water Towers were inspired by the Warka tree, native to Ethiopia and commonly used as a central community gathering space. The tower, developed by architecture and vision is a vertical system that harvests portable, clean water right from the air through condensation. When examining the Warka Water Towers project drawings, the foundations of sacred geometry as the golden ratio, spiral and flower life can be seen. (Op. cit. http://www.utaot.com/2014/04/07/ethiopia-a-new-development-of-towers-that-harvest-clean-water-from-thin-air/)	No issues related to the adequacy of the environmental impact analysis in the EIR/EIS were raised in the comment. See Master Response 4 for discussion of the scope of the proposed project and alternatives that were not carried forward for analysis in this document due to the fact that required actions beyond the scope of the proposed project. The alternatives included in the EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals that were considered but ultimately rejected by the Lead Agencies are discussed in Final EIR/EIS Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS, including the NRDC Portfolio-Based Proposal, Congressman Garamendi's Water Plan, and other similar concepts that would require actions that are beyond the scope of the proposed project. See Master Response 6 regarding demand management.
1748	40	[ATT 3: Photo of Warka Water Tower in Ethiopia, a suggested method of water harvesting. Source: vittori-lab.com]	This comment describes an attachment to the comment letter. See Response to Comment 1748-39.
1748	41	[ATT 4: Drawings of Ethiopian Warka Water Towers, alternative method of water harvesting. Source: http://www.architectureandvision.com]	This comment describes an attachment to the comment letter. See Response to Comment 1748-39.
1748	42	More Alternatives to the present BDCP Plan: locally-based Permaculture, Edible forests (see Seattle's citation [http://www.trueactivist.com/growing-change-seattles-food-forest-is-open/]), aquaculture, hydroponics (see NBC recent report citations on groundwater pumping shrinking aquifers and profound land subsidence, severe 2014 drought in California and its effect on	The issue of crops and water use is beyond the scope of the proposed project. For more information please refer to the updated draft 2013 California Water Plan's strategy for agricultural water use efficiency, which describes the use and application of scientific processes to control agricultural water delivery and use. Also, refer to Master Response 6 and Final EIR/EIS Appendix 1C for further information on demand management measures, including increasing agricultural water use efficiency and conservation, and Master Response 34

DEIRS Ltr#	Cmt#	Comment	Response
		agriculture, food prices and water supply [http://www.nbcnews.com/storyline/california-drought]), to lower water demand: replacing water-intensive crops like almonds, pistachios and cotton with hemp. You know when mainstream media sounds alarms on this fad called Big Agriculture, it's already a lost cause. (California's cities have new policy tool to support "urban agriculture", at http://lindbladpolicyinitiatives.wordpress.com/2013/11/10/californias-cities-will-have-a-new-policy-tool-to-support-urban-agriculture-thanks-to-state-legislation-that-governor-jerry-brown-signed-into-law-on-september-28/)	for information on the beneficial use of water.
1748	43	Cost accountability, full disclosure, and transparency of a behemoth 25 to 69 billion dollar project is not attainable, but thoroughly achievable by holding the mission of the Bay Delta Conservation Plan to maintain the largest estuary in North America, as a state-wide performance standard [http://baydeltaconservationplan.com/AboutBDCP/YourQuestionsAnswered.aspx#Facility] and vision [http://baydeltaconservationplan.com/AboutBDCP/YourQuestionsAnswered.aspx#Eco] to meet by breaking down the behemoth Plan to 58 local county-wide, watershed based action plans for water treatment, recycling, conversation, remediation, aquifer recharge, groundwater management, desalination of brackish not sea water. Local economic-based ecological-based job growth results. * Aquaculture and Soilless Farming / Alternative Farming ... [http://afsic.nal.usda.gov/aquaculture-and-soilless-farming] * afsic.nal.usda.gov/aquaculture ... * United States National Agricultural Library * Aquaculture, hydroponics, aquaponics, aeroponics, and even vertical farming are emerging production technologies that do not use soil as a medium. The main difference between aquaponics and hydroponics, besides the absence of fish, is that in hydroponics, the water eventually becomes toxic and must be disposed of properly. During the growing phase, while the hydroponic system has relatively clean water, both technologies (aquaponics and hydroponics) cycle water very efficiently. In fact, both technologies have been shown to utilize vastly less water than the amount required in traditional in-ground agriculture; estimates range from 5-10% of the water required to grow an equivalent amount of produce in soil, outdoors. In hydroponics, however, the nutrient solutions eventually become so out of balance that they become unusable and the growers must discard them. (http://portablefarms.com/2011/aquaponics-vs-aquaculture/)	See Response to Comment 1748-39, Master Response 2 regarding project-level versus program-level analyses, Master Response 5 regarding costs, and Master Response 41 regarding transparency of the process.
1748	44	For any hope of continuing habitation in California, we need a resilient state-wide Plan to adapt to the inexorable 500 year drought, a Plan with locally based accountability, transparency and full disclosure of means and methods to reach ecological remediation of our estuary at a small fraction of the behemoth Plan to be affordable by water rate payers and taxpayers.	The opinions of the commenter are acknowledged. See Response to Comment 1748-39, Master Response 2 regarding project-level versus program-level analyses, Master Response 5 regarding costs, and Master Response 41 regarding transparency of the process.

DEIRS Ltr#	Cmt#	Comment	Response
1749	1	-The goal of the plan for Covered Plant Species should be for the recovery of the target species, not just for the "conservation and management" of the species. -The plan should prioritize conservation of edge populations that can contribute to the recovery of species not entirely within the Plan Area -Some plants require disturbance to persist (e.g., spear scale - Atriplex joaquiniana); success criteria need to incorporate disturbance as a natural ecosystem process for these types of plants.	The comment recommends additional goals and criteria for target plant species success and recovery covered by conservation measures in the BDCP refers to the. Although a viable alternative, please note that the BDCP (EIR/EIS Alternative 4) is no longer the preferred alternative. 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. Unlike the BDCP, Alternative 4A would not serve as a HCP/NCCP under ESA Section 10 and the NCCPA, but rather would achieve incidental take authorization under ESA Section 7 and CESA Section 2081(b). See RDEIR/SDEIS, Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information.
1749	2	Incomplete Consideration of Growth Inducing Impacts of Plan East Bay Chapter Native Plant Society is concerned that the preferred alternative will have unstudied and unmitigated growth inducing impacts. The construction of new pipelines carrying water from the Delta to the southern California will facilitate the construction of thousands of new homes - especially in the southern San Joaquin Valley, resulting in the destruction of intact native habitat for urban development. In Alameda and Contra Costa Counties, the SR239 roadway that has been proposed to connect Byron and Antioch with Tracy and the Highway 580 corridor would already have substantial growth inducing impacts in the region. The increased water conveyance planned as part of the BDCP will exacerbate these effects and these impacts should be considered.	Potential secondary effects of induced growth are discussed in Chapter 30, Growth Inducement and Other Indirect Effects of the Final EIR/EIS and RDEIR/SDEIS Appendix A. Chapter 30, Section 30.1.3, Urban Land Use and Water Use by Hydrologic Region in the Final EIR/EIS describes long-term water demand in the hydrologic regions based on projections from the California Water Plan. The chapter goes on to compare the modeled changes in deliveries associated with alternatives to the projected changes in future demand in order to evaluate the potential for the proposed project implementation to remove obstacles to growth. The proposed project does not propose any change to storage or conveyance capacity of facilities outside of the Plan Area. Thus, water diverted from new north Delta facilities would find its way into existing facilities. See Master Response 9 for more information on cumulative impact analysis.
1749	3	The large economic benefits of this project stated in the economic analysis rely upon models which forecast high levels of urban development in the areas served by the pipeline. This development and the resulting economic benefits would not be possible without the increased water supply that this project will provide. If this project hopes to consider this economic gain as a benefit, it must also accept responsibility for the resulting harm to the areas of native habitat that will be destroyed. This cause-effect relationship needs to be explicitly mentioned and considered in the final BDCP and EIR.	See response to comments 1749-1 and 1749-2. Please see the BDCP Statewide Economic Impact Report (http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx), which indicates that the BDCP would result in a substantial net economic benefit to the State of California. For information regarding costs and funding of the proposed project please refer to Master Response 5.. See also Master Response 9 regarding cumulative impact analysis.
1749	4	The potential for the preferred alternative to reduce incentives for water conservation in the agricultural and urban areas of Southern California also needs to be considered as part of this report.	See response to comments 1749-1 and 1749-2. See also Master Response 6 regarding demand management and Appendix 1C, Demand Management Measures of the Final EIR/EIS.
1749	5	Classification and Mitigation for Alkali Seasonal Wetlands Objective ASWNC1.2 of the Conservation Strategy reads: Restore or create alkali seasonal wetlands in Conservation Zones 1, 8, and/or 11 to achieve no net loss of wetted acres (up to 72 acres of alkali seasonal wetland complex restoration, assuming all anticipated impacts occur).	As noted in Response to Comment 1749-1, the preferred alternative is Alternative 4a; however, Alternative 4 remains a viable alternative and is being carried forward in this RDEIR/SDEIS. Please see Chapter 12, Terrestrial Biological Resources of the Final EIR/EIS for information regarding impacts to special status plant special under all of the alternatives, including Alternatives 4 and 4A. See also Master Response 22 regarding efficacy of mitigation measures and environmental commitments.

DEIRS Ltr#	Cmt#	Comment	Response
		East Bay Chapter Native Plant Society first notes the importance of differentiating between alkali seasonal wetlands and alkali sink scrub plant community types. The alkali sink scrub that occurs near the Byron Airport and Clifton Court Forebay is a unique plant community at the northernmost limit of its range (Allenrolfea occidentalis Shrubland Alliance in MCV2) that should be mitigated for with conservation/restoration of the same community type if any impacts to it are unavoidable. Alkali wetlands and alkali sink scrub are both plant communities that cannot be successfully created. The plan should therefore prioritize the conservation and avoidance of what remains today rather than considering creation as a viable mitigation option. While EBCNPS agrees that Conservation Zone 8 does have potential as an area to work to conserve alkali wetlands and alkali sink scrub, we disagree that Conservation Zone 1 is a feasible option. There is no alkali sink scrub habitat (Allenrolfea dominated) currently existing in Yolo County, and creation of this habitat type in an area that does not currently contain the requisite salty soils, climate, groundwater, and drainage would undoubtedly fail. Any attempt to mitigate for alkali sink scrub and alkali seasonal wetland beyond the regions where the impacts will take place would constitute as out of kind mitigation and would not be valid. EBNCPS notes that Alkali communities in general have naturally low cover. It is therefore important that success criteria for these areas not include high cover for the areas being restored or enhanced.	
1749	6	Potential Conflict with East Contra Costa County Habitat Conservation Plan The conservation goals of the East Contra Costa County Habitat Conservation Plan (ECCCHCP) for alkaline wetlands and grassland were based on what was available at the time the plan was developed. If the BDCP impacts some of this habitat, it may make it difficult for ECCCHCP to reach its conservation goals. BDCP should have to mitigate for those impacts in Contra Costa by acquiring 2:1 the amount of alkaline acreage they impact in the County. Minimizing any conflict between ECCCHCP should be a priority issue, especially since the area in question may be one of the only places where the ECCCHCP can secure occupied habitat for Delphinium recurvatum.	As noted in Response to Comment 1749-1, the preferred alternative is Alternative 4a; however, Alternative 4 remains a viable alternative and is being carried forward in this RDEIR/SDEIS. Please see Impact BIO-170 in Chapter 12, Terrestrial Biological Resources of the Final EIR/EIS for information regarding impacts to special status plant special under all of the alternatives, including Alternatives 4 and 4A. None of the 4 occurrences of recurved larkspur in the project area would be affected. In addition, Mitigation Measure BIO-170 specifies that unsurveyed potential habitat for recurved larkspur shall be surveyed prior to project implementation, and unavoidable impacts on any affected new occurrences shall be mitigated through acquisition, protection, and subsequent management in perpetuity of other existing occurrences at a 2:1 ratio. See also Master Response 22 regarding efficacy of mitigation measures and environmental commitments.