

DEIRS Ltr#	Cmt#	Comment	Response
1400	1	<p>As a native Californian, I cannot stress strongly enough how much I am opposed to this project.</p> <p>The oil companies continue to get richer and richer on the backs of the California taxpayers. If they want this tunnel, they should be made to pay for it.</p> <p>Just how much profit is enough? Our water rates continue to increase without diverting the river. I cannot even imagine how much of an increase southern Californians will have to pay in the future if this project goes forward.</p> <p>Please! Do not do this!</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Please note that the BDCP is no longer the preferred alternative. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives.</p> <p>The Lead Agencies respectfully disagree with the implication that the project is being driven by oil companies. Rather, the primary movers are the California Department of Water Resources and various state and federal water contractors that receive water from the State Water Project (SWP) and the federal Central Valley Project (CVP). These contractors would finance the physical conveyance facilities proposed as part of the proposed project, along with the costs of mitigating the effects of those facilities. Although some of these contractors' service areas include lands on which oil is produced, so that, indeed, some oil companies would likely benefit, such land is a very small percentage of the overall service areas of these contractors. Other benefitting industries would include those found in Silicon Valley, much of which is served by the Santa Clara Valley Water District, which receives both SWP and CVP water.</p> <p>Please see Master Response 5 for a discussion of how the proposed project would be funded. As discussed there, two-thirds of the cost of BDCP (water facilities and portions of habitat restoration) would be funded by state and federal water contractors whose ratepayers receive water from the Delta.</p>
1401	1	<p>I am saving water in plastic containers and glass containers. One for washing and one for drinking. But if there is no more water, none will be saved, and all Californians will be migrating to somewhere there is water.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>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. The plan does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts.</p>
1402	1	<p>Water for drinking, not for corporations!</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The action alternatives could only change the amount of water diverted under the existing SWP and CVP water rights and the existing and future related regulatory requirements based upon river water levels and flow, water available in the system, the presence of threatened and endangered fish species, and water quality standards. More information on the ranges of project water diversions, based on water year types and specific flow criteria, can be found in Chapter 3, Section 3.6.4.2, North Delta and South Delta Water Conveyance Operational Criteria, EIR/EIS.</p> <p>Please refer to Master Response 5. The EIR/EIS indicates that additional water contractors may become project proponents in the future (see Chapter 1, Introduction).</p>
1403	1	<p>Big agribusiness with their pesticide-laced food must pay for their water.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The project has been initiated and carried forward by two Governors acting on a mandate from the voters of the State as a whole and not as a result of large corporations (i.e., agribusinesses). In fact, this issue is beyond the scope of the project as the Lead Agencies do not have local land use/zoning authority. The commenter is referred to Master Response 3 (Purpose and Need).</p>
1404	1	Another sell out to global corporations.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The Lead Agencies acknowledge your opposition to the proposed project. Since 2006, the proposed has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings.</p> <p>The fundamental purpose of the proposed project is to make physical and operational improvements to the SWP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. Existing water diversions, including the existing State Water Project/Central Valley Project diversions in the southern Delta, can impact water flows and quality. By establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water volume, timing, and salinity, the proposed project is designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. Please see Master Response 3 for additional information regarding the purpose and need behind the proposed project.</p> <p>Socioeconomic effects of the various alternatives are described and assessed in Chapter 16, Socioeconomics, EIR/EIS. A Draft BDCP Statewide Economic Impact Report has also been published, which indicates that the BDCP would result in a substantial economic net benefit to the State of California. Please see Master Response 5 for more information on costs and funding.</p>
1405	1	<p>Let us not forget that there is a drought, so this project has the potential to risk one of our most valuable resources. Why not spend this money for making more sustainable energy sources? Our modern times have the technology to produce an eco-friendly energy system. We as a human race have already recognized the threat of climate change but we are slow to making the necessary changes to protect future generations.</p> <p>This new tunnel project will only aid in the current climate change project. I urge you to be considerate of your fellow earthlings and make a decision that does not harm our air or water.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>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.</p> <p>It is projected that, taking climate change into account, water deliveries from the federal and state water projects under a fully-implemented project would be about the same as the average annual amount diverted in the last 20 years.</p>

DEIRS Ltr#	Cmt#	Comment	Response
			Sustainable energy is beyond the scope of the proposed project. Please see Master Response 3 regarding the project purpose and need.
1406	1	Until all Conservation Measures are implemented and the price of water reflects its scarcity, we should not dump billions of dollars into perpetuating a broken system.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The action alternatives could only change the amount of water diverted under the existing SWP and CVP water rights and the existing and future related regulatory requirements based upon river water levels and flow, water available in the system, the presence of threatened and endangered fish species, and water quality standards. More information on the ranges of project water diversions, based on water year types and specific flow criteria, can be found in Chapter 3, Section 3.6.4.2, North Delta and South Delta Water Conveyance Operational Criteria, EIR/EIS.</p> <p>It is important to note that the project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in agricultural and municipal/industrial water conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures).</p> <p>Please refer to Master Response 5. The EIR/EIS indicates that additional water contractors may become project proponents in the future (see Chapter 1, Introduction).</p>
1407	1	I spend time in the Sacramento River, the Central Valley and Los Angeles. I do not support this proposed change that would radically alter the cultural geography of the state. We cannot sacrifice one part of the state to benefit another.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>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. 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. No further response is necessary.</p>
1408	1	Perhaps the issue is about how much public input decision makers need from their constituents in order to hold the line against the money interests that threaten not only the environment, but the health and well-being of human beings.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. No further response is required.</p>
1409	1	The water has always been rerouted south. The water left alone will flow west. Let the water flow as it always has. For you to continue to be short sighted and play pay-up quid pro quo, is to hanker after the same anonymous private interests that are always selfishly motivated around a dire game of cat and mouse with the American public's best interests.	This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.

DEIRS Ltr#	Cmt#	Comment	Response
			<p>The action alternatives could only change the amount of water diverted under the existing SWP and CVP water rights and the existing and future related regulatory requirements based upon river water levels and flow, water available in the system, the presence of threatened and endangered fish species, and water quality standards. More information on the ranges of project water diversions, based on water year types and specific flow criteria, can be found in Chapter 3, Section 3.6.4.2, North Delta and South Delta Water Conveyance Operational Criteria, EIR/EIS.</p>
1410	1	<p>This is the Peripheral Canal all over again, only worse. We need to stop tampering with our water supply, for the sake of the salmon, etc.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The proposed project was developed to meet the rigorous standards of the federal and state Endangered Species Acts, as such the proposed project is intended to be environmentally beneficial. 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. Refer to Master Response 3 (Purpose and Need) and Master Response 36 (Peripheral Canal)&gt; No further response is required.</p>
1411	1	<p>Dear Governor Brown, I am astonished that you would consider this. I have always felt that you are a champion for the well being of all Californians. After all we collectively put our faith in you, and elected you to speak for all of us, I realize that California has major financial problems, but accepting the money of huge and wealthy interests, ahead of the needs of the best interests of our communities and environment is the absolute antithesis of what I have believed of you. Have you spoken to the communities in other states where fracking has literally destroyed the ground water, and of course the wells of its residents? I have. Do you really think that giving big agriculture large scale unmetered water, will in some way help the rest of the people of California? We are in such a drought now, in some parts of the state, that we are watering our plants with gray water. Not flushing the toilets every time we go to the bath room. What about all of the organic growers in the state, who are actually contributing much more to our health and welfare and environment than the big, wealthy, giant agriculture you want us to subsidize? Please, please just say no to this project.</p> <p>Somehow I feel you are intuitive enough to realize this is truly not the answer that will benefit more than a few very wealth special interests, at the expense of the rest of us.</p> <p>We, each and every one of us should be able to share our water. After all we cannot live without it. What happens when we can no longer pay the price?</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The action alternatives could only change the amount of water diverted under the existing SWP and CVP water rights and the existing and future related regulatory requirements based upon river water levels and flow, water available in the system, the presence of threatened and endangered fish species, and water quality standards. More information on the ranges of project water diversions, based on water year types and specific flow criteria, can be found in Chapter 3, Section 3.6.4.2, North Delta and South Delta Water Conveyance Operational Criteria, EIR/EIS.</p> <p>It is important to note that the project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in agricultural and municipal/industrial water conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures).</p>
1412	1	<p>The salt water intrusion caused by the diversions is horrendous with salt water intrusion in Rio Vista and up to the Antioch bridge right now. The tunnels will only exacerbate this problem.</p> <p>There is no earthly reason why water-intensive crops such as almonds and cotton are grown in the Central Valley. There is no reason for fracking in California - the Monterey Formation, because it is folded and faulted is not amenable to fracking. Just another waste of Delta water.</p> <p>Do you want to be put in the same category as Schwarzenegger? He oversaw the collapse of</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Salinity in the Delta is a function of the amount and timing of freshwater input from the major tributaries, tidal action from San Francisco Bay, and exports from the Delta. During the late winter and spring months of seasonally elevated flows, and in wet years, seawater intrusion is limited and the Delta has mostly low salinity. During low-flow summer and fall months, and during dry years, lower freshwater flows result in greater amounts of seawater intrusion. Staff from DWR and USBR constantly monitor Delta water quality</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the entire salmon fishery! This is a self-sustaining resource - let us protect it, not destroy it.</p> <p>We cannot eat cotton or oil! Why can you and Diane Feinstein not understand this!</p>	<p>conditions and adjust operations of the SWP and CVP in real time as necessary to meet water quality objectives set by the State Water Resource Control Board protection of agricultural water supply, municipal and industrial drinking water supply, and fish and wildlife beneficial uses. See Chapter 8 of the FEIR/EIS for a discussion on the proposed projects effects on water quality, salinity and electrical conductivity.</p> <p>Effects of the alternatives on salinity levels are described in Chapter 8, Water Quality, and Appendix 8H, Electrical Conductivity, EIR/EIS and Appendix A of the RDEIR/SDEIS. Modeling results indicate that the implementation of the water conveyance facilities may positively or adversely affect in-Delta water quality, depending on a number of factors including location, time of year, and hydrologic conditions. See tables in Appendices 8E through 8N for specific results related to various water quality constituents (including EC, bromide, and chloride).</p> <p>In addition to potential effects associated with the project and alternatives, modeling results for the No Action Alternative indicate that, with or without the proposed project, rising sea levels will bring saline tidal water further into the Delta than occurs at present.</p> <p>For more information regarding beneficial use of water please see Master Response 34.</p>
1413	1	<p>As a native Southern Californian, I have been very conscious since childhood that the lower half of our state is desert land that has been made to produce agricultural products artificially, by bringing water from the north. As fewer and fewer industrial growers have taken control of our land and water, we see our precious water used heedlessly, for water-needy crops like cotton, rice, and almonds. And we see those Central Valley growers like billionaire Stuart Resnick making increasing efforts to gain more control over water distribution in California. It was not surprising that Arnold Schwarzenegger would come up with a plan to assist their efforts but it was a shock to see Governor Brown support the outrageous twin tunnels plan to divert vast amounts of water directly to the Central Valley and Southern California while pretending to be a plan to restore the health of our essential Delta. With the gas and oil companies' plans to use hydrofracture to suck up every drop of gas and oil, poisoning more than one million gallons of water for each well, much of our scarce water will be destroyed for further use to increase corporate profits for the oil and gas companies.</p> <p>This is unacceptable and intolerable.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Regulatory oversight of agribusinesses and oil corporations is outside the scope of the proposed project. Also, the Lead Agencies do not have land use planning authority or have the mandate to modify local zoning. The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. 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) and Master Response 18. Also, 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. Master Response 6 and Appendix 1C discuss demand management measures, including increasing agricultural water use efficiency and conservation. With respect to fracking, State constitutional restrictions require the reasonable and beneficial use of water, and state laws require that water pumped from the Delta be put to stipulated beneficial uses. Beneficial uses include agricultural, municipal, and industrial consumptive uses; power production; and in-stream uses including fish protection flows. Fracking presumably could be an "industrial" use of water. As of the present, hydraulic fracturing is a lawful use of water, as state law generally permits. (California Public Resources Code, § 3106[b].)</p>
1414	1	<p>We are in a drought Mr. Brown.</p> <p>No big-oil, big-agriculture free water!</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The project has been initiated and carried forward by two Governors acting on a mandate from the voters of the State as a whole and not as a result of oil corporations or large agribusinesses. 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. No further response is necessary.</p>
1415	1	<p>Taking water from one area of scarcity to another is inequitable and destructive to northern</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of</p>

DEIRS Ltr#	Cmt#	Comment	Response
		agriculture and riparian ecosystems.	<p>Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The main 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. Refer to Master Responses 26 (Changes in Delta Export) and 35 (Southern California Water Supply) for clarification on the conveyance of water from Northern California to Southern California. Water deliveries from the federal and state water projects under a fully implemented project would be about the same as the average annual amount diverted in the last 20 years. Although the 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. Refer to Chapter 14 (Agricultural Resources) in the Draft EIR/EIS, along with Appendix A (Chapter 14) and Section 4 in the RDEIR/SDEIS, with respect to agricultural impacts and proposed mitigations.</p>
1415	2	Put the same money into wave-powered desalination along the coast and provide abundant water to all.	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</p> <p>See Master Response 7 for a more detailed discussion of various desalination projects under consideration and in development at this time.</p> <p>No further response is necessary.</p>
1416	1	The agricultural community is much like the Pentagon. They use resources (money) when they have more than they need and buy things they do not need to keep the money flowing. If they do not use it they do not get as much the next time around. Big agriculture does much the same thing. I have seen many times the wasteful irrigation practices in the heat of summer, in drought conditions, and crying for more. All of the homeowners are putting in rock gardens, not flushing toilets, forgoing bathing, so as to save and see the cost of our water use skyrocket.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>More than two-thirds of the residents of the state and more than two million acres of highly productive farm land receive water exported from the Delta watershed. The proposed project aims to provide a more reliable water supply, in a way more protective of fish. However, the project proponents have no authority to designate what water is used for.</p> <p>One of the State Water Resources Control Board's (State Water Board's) charges is to ensure that the State's water is put to the best possible use and that this use is in the best interest of the California public. This charge is reflected in part by the designation of beneficial uses established through the State Water Board's planning process. These beneficial uses are identified in each Water Quality Control Plan (Basin Plan) issued by the State Water Board.</p> <p>The proposed project Lead Agencies have no power to impose penalties on individual water users. DWR and Reclamation have contracts with various entities, some of which sell water to water retailers, who have individual policies and programs to motivate ratepayers to conserve water. Different districts have the right to take different approaches depending on their individual circumstances.</p>
1416	2	<p>The reality is we are using the same water the dinosaurs used and there will never be any more of it. If we pollute and waste we become the dinosaurs. Better spending the money on helping the farmers irrigate wisely, and the oil industry needs to do what it can to put themselves into a more environmentally friendly way of doing business.</p> <p>They should be investing in solar, wind, and tidal power. We know it is always about money. They should figure this out like they figured out how to get the ancient sun out of the ground. Now they need to find how to use current sun.</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. No further response is required.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1417	1	Water is one of the reason many in Northern California are considering forming another state. Steal our water and more will join the movement.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Please see Master Response 32 for information on upstream water rights.</p>
1418	1	Farms and other businesses should pay the same per gallon of water as do citizens. No discounts because you have clout.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The BDCP/California WaterFix 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 water rate structures.</p>
1419	1	In particular, I am concerned that you have not taken time to review the recent Gravity Recovery and Climate Experiment satellite measurements of what is happening to groundwater in the San Joaquin Valley. 10 cubic kilometers (10 billion tons) of water overdraft each year. Worse still, diverted surface water as contemplated under the plan is being pumped underground, polluted with toxic chemicals and then recovered as contaminated production water on the surface (see e.g. Starrh v. Aera Oil). Given the damage to existing geological structure, the idea of adding to the problem seems almost insane. You have subsidence over 12 meters in some places! Since resource theft as usual approach is no longer working like it used to, you might want to consider measures that would actually help California in the long run such as land retirement in the southern San Joaquin.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The SWP and CVP water deliveries in the Central Valley change as compared to the Existing Conditions and No Action Alternative with each alternatives, as described in Chapter 7, Groundwater. For example, SWP and CVP water deliveries into the San Joaquin Valley would be greater under Alternative 4H1 as compared to the No Action Alternative (see Figure 7-28); and groundwater elevations would rise under Alternative 4H1. However, water deliveries would decline under Alternative 4H4; and groundwater elevations would decline as compared to the No Action Alternative conditions (see Figure 7-29).</p>
1420	1	<p>Spend the money on preventing saltwater incursion into the Delta and protect the Delta fisheries.</p> <p>Live within your water and monetary means.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Effects of the alternatives on salinity levels are described in Chapter 8, Water Quality, and Appendix 8H, Electrical Conductivity, of the FEIR/EIS. Modeling results indicate that the implementation of the water conveyance facilities may positively or adversely affect in-Delta water quality, depending on a number of factors including location, time of year, and hydrologic conditions. See tables in Appendices 8E through 8N for specific results related to various water quality constituents (including bromide and chloride).</p> <p>In addition to potential effects associated with the project and alternatives, modeling results for the No Action Alternative indicate that, with or without the proposed project, rising sea levels will bring saline tidal water further into the Delta than occurs at present.</p> <p>The Proposed Project would enable DWR to construct and operate new conveyance facilities that improve conditions for endangered and threatened aquatic species in the Delta while at the same time improving water supply reliability, consistent with California law (see, e.g., Cal.Wat. Code, § 85001[c]). Implementing the conveyance facilities would help resolve many of the concerns with the current south Delta conveyance</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>system, and would help reduce threats to endangered and threatened species in the Delta, including entrainment at the south Delta export facilities. For instance, implementing a dual conveyance system would align water operations, and their location, to better reflect natural seasonal flow patterns by creating new water diversions in the north Delta equipped with State-of-the-art fish screens, thus reducing reliance on south Delta exports during times of the year when listed aquatic species are present and most vulnerable. For more information on mitigation measures to minimize contraction and operational-related impacts to fish species, including Delta and longfin smelt, please see Chapter 11, RDEIR/SDEIS.</p>
1420	2	Subject any plan to citizen review by vote!	<p>Prior to construction of the proposed project, the EIR/EIS must be certified and adopted by the implementing agencies, and permits must be obtained. However, a public vote is not required to move forward. California Water Code section 12934, subdivision (d)(3), of the Burns-Porter Act and Water Code section 11260 of the Central Valley Project Act authorize DWR to build water facilities in the Delta, as part of the State Water Project, and give DWR broad discretion as to what those facilities may involve. Thus, DWR has the authority to build the proposed project without a public vote.</p> <p>Even so, the proposed project is the result of more than seven years' collaboration and consultation with numerous stakeholders, agencies, public water agencies and environmental organizations. The organizations that have participated in the Steering Committee, public meetings or written letters to provide input on the Plan include: American Rivers, Bay Institute, Defenders of Wildlife, The Endangered Species Coalition, Environmental Defense Fund, The Golden Gate Salmon Association, National Audubon Society, Natural Resources Defense Council, the Nature Conservancy, and Planning and Conservation League. The feedback was used to guide the development and subsequent revisions of the Proposed Project and its associated EIR/EIS to reflect concerns addressed from the various groups. All of the documents, studies, administrative drafts, and meeting materials have been posted online since 2010 in an unprecedented commitment to provide public access and government transparency.</p> <p>Although the RDEIR/SDEIS, EIR/EIS and much of the proposed project has been drafted by scientists working for a private consulting firm (ICF) working for the Lead Agencies, the Agencies' scientists have been intimately involved, and their judgments are reflected throughout the EIR/EIS and the proposed project itself. The State is most interested in putting forth the best project that meets the goals of ecosystem improvement and water supply reliability. To the degree that the current Plan is endorsed by some environmental organizations serves as confirmation that the proposed plan protects species, habitats and the Delta ecosystem in a way that is compatible with their goals. The website includes correspondence from agencies and NGOs received prior to the start of the formal comment period. Comments received during the comment period are to be included in the Final EIR/EIS.</p> <p>Please see Master Response 40 for additional detail on public outreach efforts that have been made on this project.</p>
1421	1	<p>Why should we support these water tunnels for oil and nut companies' profit? We the people are supposed to have a say and I think the people have spoken out against this and they know best. There has got to be better ways to get water for Southern California than stripping Northern California of its water. Building those tunnels would make more problems than it would solve. We do not need them! Do not even consider them. What is our Delta without water? You would prefer nuts over all the things that are grown on the Delta islands? Many people make their living off the Delta islands.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Regulatory oversight of agribusinesses (e.g., almonds) and oil corporations is outside the scope of the proposed project. Also, the Lead Agencies do not have land use planning authority or have the mandate to modify local zoning. The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. For the project's agricultural impacts and proposed mitigation, refer to Chapter 14 of the Draft EIR/EIS and of the RDEIR/SDEIS Appendix A (Agricultural Resources) and Master Response 18. Also, refer to the updated draft 2013 California Water Plan's strategy for agricultural water use</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>efficiency, which describes the use and application of scientific processes to control agricultural water delivery and use. Master Response 6 and Appendix 1C discuss demand management measures, including increasing agricultural water use efficiency and conservation. The commenter is also referred to Master Response 3 (Purpose and Need), and Master Response 35 (Beneficial Use of Water). The Lead Agencies acknowledge the discussion of community character in Chapter 16 of the Draft EIR/EIS and RDEIR/SDEIS Appendix A (Socioeconomics) identifies the unique features of the Delta and describes the potential effects on Delta communities. 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 final environmental documentation for both CEQA and NEPA.</p>
1422	1	<p>You will alter the salinity of the Delta!</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>As noted by the comment, because 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. Mitigation was introduced if the project alternative would result in a significant impact.</p>
1423	1	<p>Southern California is already sucking up water from the whole southwestern US. No, do not take the last of Northern California's water. You want water, desalinate!</p> <p>The environment cannot take this kind of abuse.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</p> <p>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.</p> <p>See Master Response 7 for a more detailed discussion of various desalination projects under consideration and in development at this time.</p> <p>No further response is necessary.</p>
1424	1	<p>Not only do I not want any re-direct of a major public water source, but I certainly do not want to pay any more for the water I do use!</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS were raised. No further response is necessary.</p>
1424	2	<p>I would like to see agri-business, big oil and fracking companies charged with the responsibility of cleaning up the toxins that they release into our environment -- at their</p>	<p>No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. The construction of the water delivery facilities is estimated to cost \$14.9 billion, an amount that would be paid</p>

DEIRS Ltr#	Cmt#	Comment	Response
		cost, and pay their share of the water and resources that they use up!	for by the state and federal water contractors who rely on Delta exports. No further response is necessary.
1425	1	<p>Unmetered agriculture and unmetered use of water for the oil companies must be stopped. We must take care of the only planet Earth that I live on, and I hope many more generations can live on. Think about it. Let us go green now so California can show other states how to do it.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>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. By establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water volume, timing, and salinity, the project is designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. It is not the result of “favoring” large corporations (e.g., large agribusinesses and oil companies). In fact, this issue is beyond the scope of the project as the Lead Agencies do not have local land use/zoning authority. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. See Master Response 3 (Purpose and Need) and Master Response 34 (Beneficial Use of Water).</p>
1426	1	<p>Significant, and I mean new paradigm in, farming needs to occur before anything as radical, destructive, and expensive should be undertaken. It has been clearly documented and publicized that most farming still wastes huge amounts of water. This is our first priority -- to make more water available to families. Water conservation is our responsibility first. This could also impact our ground water supplies, which are being drained at a very scary rate.</p> <p>Then we need to consider what crops are grown in this desert state. Water intensive crops, which need irrigation because they are grown where rainfall is always poor, need to be curtailed and replaced with crops that match their environment. An example is cotton. I also question the need for such huge acreage of wine grapes. Really, how essential is wine to human health and the economy? Not anywhere close to clean free water.</p> <p>The tunnel project is a bad idea for many reasons, and should be a last resort if even considered at all.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The commenter’s opposition to the project is acknowledged. The BDCP/California WaterFix 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.</p> <p>Through the Legislature and through executive agencies, California has embraced water conservation on numerous fronts, as have many California water agencies. Many of these efforts are highlighted in Appendix 1C, Demand Management Measures, EIR/EIS, which describes conservation, water use efficiency, and other sources of water supply, including recycled water. While these elements are not proposed as part of the BDCP, the Lead Agencies recognize that they are important tools in managing California’s water resources.</p> <p>State constitutional restrictions require the reasonable and beneficial use of water and state law requires that water supplied from the Delta be put to beneficial uses. The Lead Agencies do not have the authority to designate what water deliveries are used for. Please refer to Master Response 34 regarding the potential uses of water delivered via BDCP proposed conveyance facilities.</p>
1427	1	<p>I strongly oppose the proposed new water facilities project within the Bay Delta Conservation Plan. I believe that the huge corporate farms have bought any politicians involved in recommending this plan. No matter what anyone says the only people that win if these tunnels are built are these corporate farms that have planted crops in a desert.</p>	<p>Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. The issue of “corporate farms” is beyond the scope of the proposed project. In addition, the Lead Agencies do not have local land use planning/zoning authority over the large agribusinesses as stated by the commenter. For more information on agricultural water management, 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. Chapter 14, Agricultural Resources, Draft EIR/EIS, discloses the effects of the proposed BDCP on farmland and proposes mitigation measures to reduce these effects to the extent feasible. Additional analyses on the modified BDCP and the California WaterFix Project can be found in the RDEIR/SDEIS: Sections 3, 4, and 5; and Appendix A (Chapter</p>

DEIRS Ltr#	Cmt#	Comment	Response
			14).
1428	1	I formally oppose the Delta tunnels that Governor Brown believes is the solution to California's water issues.  It truly is simple; stop growing alfalfa, cotton and rice in the desert.	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 documentation. Mandating Southern California farmers to grow certain types of crops is beyond the scope of the project as the Lead Agencies do not have local land use/zoning authority. The commenter is referred to Master Response 3 (Purpose and Need).
1429	1	I am very much opposed to your tunnel plan/water grab. Enough already with shipping water South. The Delta needs that freshwater flow in order to stay halfway healthy. No on Delta tunnel plan.	The issue raised by the commenter addresses the merits of the project and does not raise any issues with the environmental impact analysis provided in the EIR/EIS documentation. No further response is necessary.
1431	1	This is a stupid plan, waste of taxpayer dollars and it will have a severe detrimental impact on the Sacramento Delta environment. Brown should get over it; stop dreaming that he needs to do this for the folks in LA. This is just a bad idea that should not survive even the weakest environmental impact study.  Can anyone be dumb enough to think that diverting water from the upper Sacramento River will not impact the water flow to the rest of the river?  I urge you to kill this project; do not lend one bit of support to it.	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 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. No further response is necessary.
1432	1	The Western States Petroleum Association (WSPA) represents companies that account for the majority of exploration and production, refining, marketing and transportation of crude oil and refined petroleum products in California and in five other western states.  WSPA members in the San Francisco Bay region will be directly affected by any actions taken pursuant to the BDCP. Thus, WSPA and its members are "interested parties" for purposes of the California Environmental Quality Act (CEQA), the National Environmental Protection Act (NEPA) and the respective state and federal Endangered Species Acts (ESAs).	Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A is also the NEPA Preferred Alternative, a designation that was not attached to any of the alternatives presented in the 2013 Public Draft EIR/EIS. Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.  The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. No further response is required.
1432	2	Western States Petroleum Association and its Bay Area members are specifically concerned about the expected increase in selenium concentrations that will result from the BDCP preferred alternative, and its subsequent impacts to San Francisco Bay. Our comments address both the BDCP and the EIR/EIS. Our primary concerns are summarized here, and are more fully described below in the Detailed Comments section:  1. The EIR/EIS fails to consider the effects of BDCP Conservation Measures on San Francisco Bay.  2. The BDCP and the EIR/EIS significantly underestimate additional selenium loads to the Delta associated with Preferred Alternative 4.  3. The EIR/EIS relies on inappropriate regulatory standards for concluding "No Substantial Effects" associated with selenium load increases.  4. The BDCP fails to provide adequate assurances for mitigation of known or reasonably	BDCP is no longer the preferred project alternative. However, please refer to Master Response 14 for information regarding the assessment of selenium in San Francisco and San Pablo Bays.

DEIRS Ltr#	Cmt#	Comment	Response
		foreseeable impacts to San Francisco and San Pablo Bays related to increased selenium loads.	
1432	3	<p>The BDCP is an elaborate and complex plan which purports to restore and protect the Sacramento-San Joaquin Delta ecosystem as part of an effort to secure future water deliveries from the Delta to state and federal water contractors via the Central Valley Project and State Water Project. The overall plan includes three new riverine water intakes located on the Sacramento River, in the northern Delta. A total of nine alternatives (with some sub-alternatives for a total of fifteen action alternatives) and the "no action" alternative were evaluated in the BDCP and the EIR/EIS. "Alternative 4" is the CEQA/NEPA preferred alternative, which would consist of a dual conveyance system of pipeline/tunnel and the new riverine water intakes that collectively provide export capacity of 9,000 cubic feet per second -- or more than 6.5 million acre feet per year. Under Alternative 4, water would be conveyed from the north Delta to the south Delta through pipelines/tunnels and through surface channels. [Footnote 1: See generally, BDCP Plan, Executive Summary; see also, BDCP EIR/EIS, Ch. 2. (ICF, November 2013.)]</p> <p>BDCP implementation project(s) would result in a substantial amount of Sacramento River water being removed from the Delta, resulting in a significant increase in flow from the San Joaquin River. As water flows from the San Joaquin River increase, so will a corresponding amount of increased selenium at elevated concentration levels flow into the Delta and thereafter into San Pablo and San Francisco Bays. As a result, due to known selenium behavior both as a required nutrient and as a toxicant at higher levels, there could be significant impacts on fish and other wildlife in San Francisco Bay. This phenomenon was recently explored by scientists studying the sources and fate of selenium loads affecting San Francisco Bay, wherein it was concluded that, "Manipulations to the Delta system, especially those that increase San Joaquin [River] flow into the bay, will also have selenium impacts to the bay that must be evaluated." [Footnote 2: "Modeling Fate, Transport, and Biological Uptake of Selenium in North San Francisco Bay", L. Chen, Meseck, Roy, Grieb, and Baginska; Estuaries &amp; Coasts, November 2012. (Copy provided as Attachment 1.)]</p>	BDCP is no longer the preferred project alternative. However, please refer to Master Response 14 for information regarding the assessment of selenium in San Francisco and San Pablo Bays.
1432	4	<p>Western States Petroleum Association takes no position on the desirability of the BDCP and/or the underlying "alternative water conveyance facilities" the BDCP is being developed to support. WSPA's members simply desire to ensure that the final BDCP is both technically accurate and adequately ensures that known or reasonably foreseeable impacts that are likely to accrue as a result of BDCP will be formally recognized and fully mitigated under CEQA, NEPA and the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Act).</p> <p>In particular, WSPA is concerned that the BDCP understates the potential additional selenium loading impacts to the Delta, and completely ignores the potential impacts these additional selenium loads will have to San Francisco Bay.</p>	BDCP is no longer the preferred project alternative. However, please refer to Master Response 14 for information regarding the assessment of selenium in San Francisco and San Pablo Bays.
1432	5	<p>The EIR/EIS fails to consider the effects of BDCP Conservation Measures on San Francisco Bay.</p> <p>Chapter 8 of the EIR/EIS purports to analyze known and reasonably foreseeable environmental impacts associated with the BDCP and each of the Conservation Measures to be taken thereunder, all with a view toward supporting the "preferred" Alternative 4. By its very terms, and as specifically set forth in Chapter 8, the EIR/EIS cannot meet the legal adequacy requirements of CEQA and NEPA because the effects analysis is artificially restricted, and the EIR/EIS fails to provide a "reasonable explanation for the geographic</p>	<p>Please note that the BDCP is no longer the preferred alternative.. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives.</p> <p>Impacts on Delta outflows (fresh water flowing to the Bay) are not significant. Model simulation results for the proposed project alternative (4A) indicate that long-term average and wet year peak outflows would increase in winter months with a corresponding decrease in spring months because of the shift in system inflows caused by climate change and increased Delta exports as compared to Existing Conditions. In other year types, Alternative 4A would result in higher or similar outflow because of the spring outflow requirements. In summer and fall months, Alternative 4A would result in similar or higher outflow because</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>limitation used." [Footnote 3: See, CEQA Guidelines [Section]15130(b)(1)(B)(3), which provides that, "Lead agencies should define the geographic scope of the area affected by the cumulative effect and provide a reasonable explanation for the geographic limitation used." Further, when considering potentially significant impacts on the affected "environment," it is worth noting that CEQA defines "environment" to mean, "the physical conditions that exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, or objects of historic or aesthetic significance." (California Public Resources Code [Section]21060.5.)] Indeed, for purposes of analyzing water quality [Footnote 4: BDCP EIR/EIS, Chapter 8.] and water supply [Footnote 5: BDCP EIR/EIS, Chapter 6.] impacts of the BDCP, the EIR/EIS preparers chose to include "upstream of the Delta (including the Sacramento and San Joaquin River watersheds)" [Footnote 6: BDCP EIR/EIS, Section 8.1.5 at page 8-3.] or -- alternatively -- the "Sacramento hydrologic region," [Footnote 7: BDCP EIR/EIS, Section 6.1 at page 6-1. Under the Delta Reform Act, the Sacramento Hydrologic Region is defined by reference to the Department of Water Resources' "Bulletin 160-05," commonly known as the "California Water Plan." In turn, the California Water Plan describes the Sacramento Hydrologic Region as: "The entire drainage area of the state's largest river and its tributaries, extending from the Oregon border downstream to the Sacramento-San Joaquin Delta. The region covers 27,246 square miles including all or a portion of 20 predominately rural Northern California counties, and extends from the crest of the Sierra Nevada in the east to the summit of the Coast Range in the west." According to the Water Plan, "The population of the Sacramento River Hydrologic Region was 2,593,000 in 2000, which represents about 8 percent of California's total population." (California Water Plan, (Bulletin 160-05), Ch. 6 pages 6.1-6.2.)] yet somehow concluded that the water quality and water supply impacts downstream of the BDCP project were unimportant. [Footnote 8: For comparison, the surface area of the entire San Francisco Bay is approximately 1,100 square miles, or roughly 4% of the 27,246 square miles that comprise the Sacramento Hydrologic Region. (See, Water Quality Control Plan for the San Francisco Bay Basin, Ch. 1 (2013).)]</p> <p>According to the EIR/EIS, "[f]or the purposes of characterizing the existing water quality conditions and evaluating the consequences of implementing the BDCP alternatives on surface water quality, the affected environment is defined as anywhere an effect could occur, which includes but is not necessarily limited to the statutory Delta, Suisun Bay and Marsh, and areas to the north and south of the Delta, which are defined in various parts of this chapter as Upstream of the Delta and the State Water Project/Central Valley Project Export Service Areas, as shown in Figure 1-4. When compared to the watershed boundaries, it is noted that the affected environment falls primarily within the Sacramento and San Joaquin River watersheds." [Footnote 9: BDCP EIR/EIS, Sec. 8.2.1 at page 8-6. (Emphasis added.)]</p> <p>Yet aside from the statement that the EIR/EIS considered water quality impacts "anywhere an effect could occur," it is clear from the EIR/EIS itself that the affected area where water quality impacts were analyzed was artificially constricted.</p> <p>An extracted copy of the map contained in the referenced Figure 1-4, showing the affected area wherein environmental impacts were analyzed under the EIR/EIS, is included herein as Attachment 2. This map demonstrates that the preparers of the BDCP and supporting EIR/EIS excluded San Francisco and San Pablo Bays from their effects analyses, which violates CEQA and NEPA. [Footnote 10: CEQA requires a state lead agency to provide specific reasons why certain environmental effects "have not been discussed in detail in the</p>	<p>of changes in export patterns and OMR flow requirements and export reductions in fall months, and also because of the Fall X2 requirements in wet and above normal years. The incremental changes in Delta outflow between Alternative 4A and Existing Conditions would be a function of both the facility and operations assumptions (including north Delta intakes capacity of 9,000 cfs, less negative OMR flow requirements, enhanced spring outflow and/or Fall X2 requirements) and the reduction in water supply availability due to increased north of Delta urban demands, sea level rise and climate change. Results for the range of changes in Delta Outflow under Alternative 4A are presented in more detail in Appendix 5A, BDCP/California WaterFix FEIR/FEIS Modeling Technical Appendix.</p> <p>For a more detailed response regarding impacts to beneficial uses of water, please see Master Response 34. An assessment of the water quality effects of all project alternatives as well as the No Action Alternative on San Francisco Bay was added to Chapter 8, Water Quality, in Impact WQ-34, of the RDEIR/SDEIS and Final EIR/EIS.</p> <p>Please see Master Response 14 for further discussion of water quality setting data and modeling information.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>environmental impact report." (California Public Resources Code [Section]21100(c).)]</p> <p>In its critical assessment of the BDCP and the EIR/EIS, the Delta Independent Science Board (DISB) noted one of its major concerns was that, "The analyses largely neglect the influences of downstream effects on San Francisco Bay ..." [Footnote 11: Delta Independent Science Board, "Review of the Draft EIR/EIS for the Bay Delta Conservation Plan," May 15, 2014, page 3. (hereafter, "DISB Review").] Further on the topic of the restricted geographic scope of the EIR/EIS analyses, the DISB cautioned that, "the geographic scope of the DEIR/DEIS was defined to exclude San Pablo Bay and San Francisco Bay. The consequences of BDCP actions undertaken within the Plan Area, however, will extend downstream to affect these bays.</p> <p>Changes in sedimentation in the Delta associated with BDCP actions, for example, will not be confined to the Delta." [Footnote 12: DISB Review, page 7. (Emphasis added.)] As noted by the DISB, San Pablo and San Francisco Bays were excluded from consideration in the EIR/EIS simply because they fall outside of the legal boundaries of the Delta. [Footnote 13: DISB Review, page 8.] The artificial determination of the BDCP "affected area" is neither legally supportable nor, according to the DISB, "scientifically justified." [Footnote 14: DISB Review, page 8.]</p>	
1432	6	<p>The BDCP and the EIR/EIS significantly underestimate additional selenium loads to the Delta associated with Preferred Alternative 4.</p> <p>Chapter 8 of the EIR/EIS analyzes various "factors affecting water quality" in the Delta and essentially ignores the well-known and well-documented selenium loading that comes from the San Joaquin and Sacramento Rivers. Concurrently, the authors of the EIR/EIS suggest that the Bay Area refineries are responsible for considerable selenium loading to Suisun Bay and the Delta without any empirical data or evidence to support this claim. [Footnote 15: See, e.g., BDCP EIR/EIS, Sec. 8.4.3 at pages 8-286, 8-347, 8-401, 8-477, 8-535, 8-587, 8-642, 8-694, 8-747.] These multiple references to the Bay Area refineries and the quality of their respective effluents to North San Francisco Bay should be removed, unless they are supported in both a factually and contextually accurate manner, the BDCP flow impacts are appropriately modeled, and the BDCP modelling is shown to have no impact on the selenium loading in the San Francisco and San Pablo Bays.</p> <p>Indeed, the most current understanding of selenium loading to San Francisco Bay has been compiled by the San Francisco Regional Board in developing its North San Francisco Bay TMDL for Selenium. That data shows the overwhelming percentage of selenium load to the Bay comes from the Delta. [Footnote 16: See, Technical Memorandum 2: North San Francisco Bay Selenium Data Summary and Source Analysis, July 2008, TetraTech, Inc.]</p> <p>The underlying conclusions of the EIR/EIS -- that development of the BDCP preferred Alternative 4 conveyance facilities "would result in essentially no change in selenium concentrations throughout the Delta" [Footnote 17: BDCP EIR/EIS, Sec. 8.4.3.9 at page 8-474.] -- is inaccurate.</p> <p>According to a recent Tetra Tech analysis (attached) of the EIR/EIS assessment of selenium loading and impacts related to the BDCP project, "[s]elenium concentrations used in the Sacramento River for the BDCP EIR/EIS study are biased high." [Footnote 18: "Review of Selenium Bioaccumulation Assessment in the Bay Delta Conservation Program Draft EIR/EIS," TetraTech, May 30, 2014. (Hereafter, "TetraTech Selenium Review.") (Copy provided in Attachment 3.)] This analysis determined that the EIR/EIS preparers excluded</p>	<p>BDCP is no longer the preferred project alternative. However, please refer to Master Response 14 for information regarding the assessment of selenium in San Francisco and San Pablo Bays.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>recent selenium water concentration data from the Freeport and Vernalis gauge stations maintained by USGS, and used older data based on high "non-detect" values, which artificially inflated the current calculated values of water column selenium by more than a factor of two. [Footnote 19: TetraTech Selenium Review at page 5-1.]</p>	
1432	7	<p>When valid boundary values for the Sacramento and San Joaquin Rivers are input into the same modeling framework used by the BDCP preparers, Tetra Tech found the following:</p> <p>"The model analysis shows that the BDCP-preferred Alternative 4 will result in higher percent changes in water column concentrations than that calculated in the EIR/EIS. Using the bioaccumulation model in the EIR/EIS, we find a similar projected increase in fish tissue concentrations between Alternative 4 and existing conditions (i.e., no BDCP project). Importantly, the new calculations suggest that there is an effect of the BDCP changes to the water column and white sturgeon selenium concentrations at the Mallard Island station for CEQA Alternative 4, representing conditions in Suisun Bay (8-20% increase, depending on the hydrology). This is higher than currently estimated for Alternative 4 at this station (2-5% increase, calculated by Tetra Tech) ..." [Footnote 20: TetraTech Selenium Review, page 1-2.]</p> <p>The BDCP reviewers underestimated the anticipated increase in selenium loading that will be caused by construction and operation of the preferred Alternative 4 conveyance facilities by an average of approximately 15% for any given hydrology year.</p> <p>Not only must the BDCP proponents re-evaluate the selenium-related water quality effects based on the results of the Tetra Tech analysis, but adequate resources must be allocated for future water column and fish tissue monitoring throughout the term of the BDCP permits.</p> <p>In addition, mitigation for these impacts must be provided by the BDCP beneficiaries as part of their CEQA and NEPA obligations, [Footnote 21: An adequate EIR must respond to specific suggestions for mitigating a significant environmental impacts unless the suggested mitigation is facially infeasible. See, San Francisco Ecology Center v. City and County of San Francisco (1975) 48 Cal.App.3d 584, 596.] as well as under the Delta Reform Act of 2009. (See discussion in Section 4, below.)</p>	<p>Please note that the BDCP is no longer the preferred alternative. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives.</p> <p>Please see Master Response 14 for a discussion of assessment methodologies and data sources, as well as a discussion of the salinity effects analysis.</p>
1432	8	<p>The EIR/EIS relies on inappropriate regulatory standards for concluding "No Substantial Effects" associated with selenium load increases.</p> <p>Under the "Effects Determinations" analysis contained in Section 8.4.3, the BDCP preparers concluded that there would be "no substantial effects" related to selenium associated with the BDCP project. In part, this conclusion is based on a water quality criteria established under the California Toxics Rule for San Francisco and Suisun Bays in 2000. [Footnote 22: BDCP EIR/EIS, Sec. 8.4.2.3, page 8-96 - 8-97. See, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California. 65 Fed.Reg. 31682.]</p> <p>Yet, the EIR/EIS acknowledges that US EPA Region IX is currently developing a new water quality criterion for selenium in San Francisco and San Pablo Bays, and further concedes that the anticipated new selenium criterion is likely to be far lower than current fresh and marine waters criteria. [Footnote 23: BDCP EIR/EIS, Sec. 8.4.2.3, page 8-99 - 8-100.] Nevertheless, because the BDCP preparers concluded that only the existing selenium water quality criteria applies for purposes of determining substantial effects related to the BDCP project, the anticipated US EPA criteria is ignored.</p>	<p>As stated in the above responses, BDCP is no longer the preferred project alternative. Please see Master Response 14 regarding revisions to the selenium assessment in Chapter 8 for the RDEIR/SDEIS to address EPA draft criteria.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>CEQA requires a lead agency to analyze all reasonably foreseeable, significant effects on the environment. [Footnote 24: California Public Resources Code [Section]21065. A "project" subject to CEQA review means "an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment." (Ibid.)] "Significant effect on the environment" is defined under CEQA to mean, "a substantial, or potentially substantial, adverse change in the environment." [Footnote25: California Public Resources Code [Section]21068. See also, CEQA Guidelines [Section]15382.] As discussed above, the BDCP preferred Alternative 4 is reasonably likely to result in increased selenium loads to San Francisco and San Pablo Bays at a range of between 8-20% every year, depending on hydrological conditions. [Footnote 26: See, Section 2 above, at pages 4-5.] These anticipated increases in selenium load to San Francisco and San Pablo Bays are significant, and the BDCP must both consider these effects on the downstream environment, as well as provide adequate mitigation for them.</p> <p>Furthermore, the EIR/EIS must analyze these expected selenium load increases in the context of US EPA's anticipated new selenium criteria for San Francisco Bay which, as the EIR/EIS preparers are well aware, is likely to be substantially lower than the current criteria used by the preparers.</p>	
1432	9	<p>The BDCP fails to provide adequate assurances for mitigation of known or reasonably foreseeable impacts to San Francisco and San Pablo Bays related to increased selenium loads.</p>	<p>As stated in the above responses, BDCP is no longer the preferred project alternative. Please refer to Master Response 14 for information regarding the assessment of selenium in San Francisco and San Pablo Bays. Please note the RDEIR/SDEIS and Final EIR/EIS was updated to address issues related to selenium loads.</p>
1432	10	<p>The federal and state Endangered Species Acts require that a Habitat Conservation Plan (HCP) contain specific information to ensure adequate funding to carry out all aspects of the HCP. [Footnote 27: See, 16 U.S.C. [Sections]1539(a)(2)(A)(ii) and 1539(a)(2)(B)(iii); California Fish &amp; Game Code [Section]2820(a)(10). See also, Nat'l Wildlife Federation v. Babbitt, 128 F.Supp.2d 1274 (E.D. Cal., 2000); Southwest Center for Biological Diversity v. Bartel, 470 F.Supp.2d 1118 (S.D. Cal., 2006).] Case law interpreting the Federal Endangered Species Act on the need for ensuring adequate HCP funding has further held that the permit "applicant cannot rely on speculative future actions of others." [Footnote 28: Southwest Center for Biological Diversity v. Bartel, supra, 470 F.Supp.2d 1118, 1155, citing, Nat'l Wildlife Federation v. Babbitt, supra, 128 F.Supp. 2d 1274, 1294-95.]</p> <p>Yet, the BDCP specifically refers to and relies upon putative funding derived from a Water Bond that has yet to be placed before the voters, let alone actually passed. This clearly cannot satisfy the requirements of the federal and state Endangered Species Acts, as interpreted by case law applicable to California.</p>	<p>Please see Master Response 5 for a discussion of project funding and for additional detail on the BDCP and the alternatives involving an HCP component. Please note that the BDCP is no longer the preferred alternative. Alternative 4A has been developed in response to public and agency input. The Final EIR/EIS analyzes all alternatives.</p>
1432	11	<p>The Delta Reform Act of 2009 specifically provides that proponents of a new Delta water conveyance facility must pay to mitigate all impacts associated with the construction, operation, and maintenance of such facility. [Footnote 29: California Water Code [Section]85089(a).]</p> <p>There is nothing in the BDCP which accounts for mitigation related to increased selenium loads that will occur with the construction and operation of the preferred Alternative 4 water conveyance facilities. We believe this is due to the EIR/EIS preparers specifically excluding an analysis of selenium loading to San Francisco and San Pablo Bays.</p>	<p>As stated in the above responses, BDCP is no longer the preferred project 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. Please refer to Master Response 14 for information regarding the assessment of selenium in San Francisco and San Pablo Bays.</p> <p>Please see Master Response 5 for a discussion of project funding and for additional detail on the BDCP and the alternatives involving an HCP component.</p> <p>Please note that the BDCP is no longer the preferred alternative.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1432	12	<p>According to Section 8.3, the BDCP will rely on three, primary, sources of funding for all aspects of the Plan: (1) federal government funding; (2) state government funding (including putative funding provided by future water bonds to be placed before the California voters); and (3) the State and Federal Water Contractors (including, for purposes of municipal water supply districts, individual ratepayers).</p> <p>Yet, the BDCP contains no financing plan and no legal assurances that any of the "expected" funds will actually materialize. An analysis of the sources of funds from reveals that it cannot meet the "speculative future actions" test of ensuring HCP funding.</p> <p>According to Table 8-37 in Chapter 8, [Footnote 30: BDCP, Ch. 8, page 8-65 - 8-66.] the BDCP expects to receive \$3.5 billion from the federal government, derived from various appropriations. However, the BDCP acknowledges that "additional federal legislation will be required to authorize the continued use of certain federal funds and to extend or broaden fund availability." [Footnote 31: BDCP, Sec. 8.3.1, page 8-64, lines 16-18.] In terms of securing funding for BDCP implementation, it is difficult to imagine anything more speculative than relying on future acts of Congress to make-up what is expected to be approximately 14% of the entire BDCP budget.</p> <p>Regarding the sources of state government funds for BDCP implementation, Table 8-37 indicates that BDCP proponents expect approximately \$4.1 billion to come from the State of California, which accounts for approximately 17% of the entire BDCP budget. Section 8.3.5 of the BDCP provides that, "Funds derived from the issuance of [the 2009 Water Bond] would be used, in part, to satisfy the State's financial commitments to the BDCP." [Footnote 32: BDCP, Sec. 8.3.5.1, page 8-84, lines 9-11.]</p> <p>According to the capital cost estimates for the entire BDCP project, the Authorized Entities are relying on the not-yet passed Water Bond for approximately 10% of the entire BDCP budget. [Footnote 33: See, Table 8-35 (Ch. 8, page 8-63) and Table 8-46 (Ch. 8, page 8-85).] Furthermore, Table 8-37 indicates that BDCP proponents assume the passage of a "Second Water Bond" at some unstated time in the future that will provide an additional \$2.2 billion dollars to fund BDCP actions. [Footnote 34: BDCP proponents expect this "Second Water Bond" to be passed by the voters of California approximately 15 years into the permit term. (BDCP, Sec. 8.3.5.1, page 8-85, lines 3-6.)] All totaled, the BDCP proponents expect the voters of California to pass future water bonds in the amount of \$3.75 billion to fund BDCP actions -- an amount approximately equal to 25% of the entire BDCP budget.</p>	<p>Please see Master Response 5 for a discussion of project funding and for additional detail on the BDCP and the alternatives involving an HCP component. Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.</p>
1432	13	<p>The remaining BDCP budget (\$17 billion) is expected to be funded by the State and Federal Water Contractors, according to Table 8-37. Yet a review of Section 8.3.4.4 reveals that even this source of funds is speculative. According to that section, "[t]he most credible assurances of funding from the participating state and federal water contractors result from an economic benefits analysis ..." and two primary conclusions derived from the economic analysis that: (1) the costs are affordable by the ratepayers, and (2) the benefits to be gained from the BDCP exceed the total cost. [Footnote 35: BDCP, Sec. 8.3.4.4, page 8-81, lines 5-22.]</p> <p>What is missing from these "assurances" is any discussion of whether the State and Federal Water Contractors and their ratepayers would be willing to pay additional billions of dollars in the event that state water bond funding and/or federal appropriations do not materialize. Moreover, the analysis fails to assess the potential impacts of one (or more) State or Federal Water Contractors, or their member agencies, withdraw or refuse to continue to participate</p>	<p>Please see Master Response 5 for a discussion of project funding and for additional detail on the BDCP and the alternatives involving an HCP component. Please note that the BDCP is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>in the Plan.</p> <p>Lastly, the BDCP analysis fails to account for the possibility of reduced Delta water exports as a result of the State Water Board's future Delta flow standards, and mistakenly assumes benefits based on expected water deliveries from the newly- constructed conveyance facilities will not be impacted by these flow standards. This major regulatory action that will not likely be taken until after the BDCP is approved under the current time-schedule. [Footnote 36: See, "The High Price of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment," S&amp;P Capital IQ, McGraw-Hill Financial, February 13, 2014.]]</p>	
1432	14	<p>Western States Petroleum Association believes the BDCP and the supporting EIR/EIS are seriously flawed with respect to potential long-term impacts related to selenium loading to San Francisco and San Pablo Bays.</p> <p>Our members respectfully request that these flaws be corrected, and that adequate financial commitments are made by the BDCP proponents to carry out adequate long- term monitoring of future selenium loading to San Francisco and San Pablo Bays that are directly or indirectly attributable to BDCP actions.</p> <p>Further, we request that the BDCP proponents provide adequate financial assurances that future "adaptive management" actions will be taken to address the impacts of expected selenium loading of San Francisco and San Pablo Bays which, we believe, a robust Bay-Delta selenium monitoring program will confirm.</p>	<p>Please refer to Master Response 14 for information regarding the assessment of selenium in San Francisco and San Pablo Bays. Please note the RDEIR/SDEIS and Final EIR/EIS was updated to address issues related to selenium loads.</p>
1432	15	<p>[ATT 1: Article on Selenium attached to BDCP 1432 - "Modeling Fate, Transport, and Biological Uptake of Selenium in North San Francisco Bay."]</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>
1432	16	<p>[ATT 2: Map from BDCP EIR/EIS showing affected area of environmental impacts.]</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>
1432	17	<p>[ATT 3: Report on Selenium Assessment attached to BDCP 1432 - "Review of Selenium Bioaccumulation Assessment in the Bay Delta Conservation Program Draft EIR/EIS"]</p>	<p>Please refer to comment letter 1432, responses 18 through 37.</p>
1432	18	<p>The Bay Delta Conservation Plan (BDCP) proposes a comprehensive water conservation strategy to restore and protect the ecosystem health and protect the water supply and water quality of the Delta (ICF, 2013). The plan includes new intakes in the northern Delta through a tunnel system to improve reliability and water quality. A total of 9 alternatives (with some sub-alternatives for a total of 15 action alternatives) and the No Action Alternative were evaluated in the plan EIR/EIS. Alternative 4 is the CEQA preferred alternative. Alternative 4 is the dual conveyance with pipeline/tunnel and intakes with an export capacity of 9,000 cubic feet per second (cfs). Under Alternative 4, water would be conveyed from the north Delta to the south Delta through pipelines/tunnels and through surface channels.</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. No further response is required.</p>
1432	19	<p>Selenium in the San Francisco Bay/Sacramento-San Joaquin River Delta is of concern due to its adverse ecological impacts at high concentrations, primarily through bioaccumulation in the food web. The Bay Delta Conservation Plan (BDCP) Environmental Impact Report/Environmental Impact Statement (EIR/EIS) presents an analysis of selenium impacts that is the subject of this review. The implementation of various construction and</p>	<p>Please refer to Master Response 14 for more information about the assessment of selenium.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		restoration alternatives through the BDCP do not, by themselves, introduce new selenium into the system. However, by altering the flow patterns, and the relative mixing of different water sources entering the Bay and Delta, the different alternatives have the potential of altering the selenium water column concentrations in the Bay.	
1432	20	Selenium concentrations used in the Sacramento River for the BDCP EIR/EIS study are biased high, likely due to the inclusion of older analytical values reported at detection limits of 1 µg/L. Detection limits for dissolved selenium using the selective hydride generation/atomic absorption method are normally at 0.0016 µg/L and have been used for studies in San Francisco Bay (Cutter and Cutter, 2004; Tetra Tech, 2012). Long-term detection limits for using ICP-MS (inductively coupled plasma mass spectrometry) method are 0.05 µg/L (USGS, 2014). The Sacramento River selenium values are critical to the calculation because this is the dominant flow into the Bay. In the current version of the public review documents, the calculated values of water column selenium in San Francisco Bay (0.21-0.31 µg/L at Mallard Island) are much higher than the observed (from 0.08 to 0.12 µg/L across multiple sampling events in Suisun Bay). Using the calculated water column concentration in the EIR/EIS, the calculated values of white sturgeon tissue selenium (9.9 µg/g mean and 15 µg/g drought year value) are higher than observed in the last decade across multiple samples.	Please refer to Master Response 14 for more information about the assessment of selenium.
1432	21	Using valid boundary values for the Sacramento and San Joaquin Rivers (Freeport: 0.095 µg/l and Vernalis: 0.57 µg/l, both based on observed data from the US Geological Survey), we have updated the San Francisco Bay water column and white sturgeon calculations. Using the same modeling framework as in the original BDCP analysis, but with the corrected boundary values, we are able to get a reasonable match with the observed data for current conditions. The model analysis shows that the BDCP-preferred Alternative 4 will result in higher percent changes in water column concentrations than that calculated in the EIR/EIS. Using the bioaccumulation model in the EIR/EIS, we find a similar projected increase in fish tissue concentrations between Alternative 4 and existing conditions (i.e., no BDCP project). Importantly, the new calculations suggest that there is an effect of the BDCP changes to the water column and white sturgeon selenium concentrations at the Mallard Island station for CEQA Alternative 4, representing conditions in Suisun Bay (8-20% increase, depending on the hydrology). This is higher than currently estimated for Alternative 4 at this station (2-5% increase, calculated by Tetra Tech), and may be evaluated in the context of the CEQA conclusion: "Relative to Existing Conditions, modeling estimates indicate that all scenarios under Alternative 4 would result in essentially no change in selenium concentrations throughout the Delta." (page 8-476, Draft EIR/EIS).	The analysis of selenium was modified in a manner similar to the discussion in this comment in the Partially Recirculated Draft EIR/Supplemental Draft EIS.  Please note that the BDCP is no longer the preferred alternative. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component. Please refer to Master Response 14 for more information about the assessment of selenium.
1432	22	From the standpoint of water column selenium concentrations, the worst case conditions are not the drought years of 1987-1991, but years where the San Joaquin flow contributions to the bay are greater. Periods with high San Joaquin River flow to the Bay occur in the wet months of wet years, and should also be considered for the selenium effects. Should alternatives besides the CEQA preferred Alternative 4 be considered in future phases, selenium impacts could be more significant. The change in selenium concentration (existing conditions versus the alternatives) needs to be addressed through the EIR/EIS.  Besides correction of the boundary values in the EIR/EIS, other considerations follow. The calculated white sturgeon concentrations with the new boundary conditions are lower under existing conditions than that calculated in EIR/EIS, below the 8.1 µg/g whole-body values now proposed by the US Environmental Protection Agency as a fish tissue target (USEPA, 2014). The North San Francisco Bay is considered impaired due to a Se (303d) listing	Please refer to Master Response 14 for more information about the assessment of selenium.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>and a total maximum daily load analysis (TMDL) is being prepared. The potential BDCP EIR/EIS Modeling Approach of impairment under existing conditions and current loads from various point- and non- point sources will be addressed by the San Francisco Bay Regional Water Quality Control Board through this TMDL, but it is important to note that this modeling suggests that future BDCP changes may well increase water column and fish concentrations by a greater percentage than what is calculated in the current EIR/EIS. Given this finding, there is a need to monitor the changes in water and fish over the coming years and to consider if any and what mitigation might be needed if the BDCP plan is implemented.</p>	
1432	23	<p>The Bay Delta Conservation Plan (BDCP) proposes a comprehensive water conservation strategy to restore and protect the ecosystem health and also protect the water supply and water quality of the Delta (ICF, 2013). The plan includes new intakes in the northern Delta through a tunnel system to improve reliability and water quality. A total of 9 alternatives (with some sub-alternatives for a total of 15 action alternatives) and the no Action alternative were evaluated in the plan EIR/EIS. Alternative 4 is the CEQA preferred alternative. Alternative 4 is a dual conveyance with pipeline/tunnel and intakes with an export capacity of 9,000 cfs. Under Alternative 4, water would be conveyed from the north Delta to the south Delta through pipelines/tunnels, and through surface channels.</p>	<p>As stated in the above responses, please note that the BDCP is no longer the preferred alternative. Alternative 4A has been developed in response to public and agency input. The Final EIR/EIS analyzes all alternatives.. Please see Master Response 5 for additional detail on the BDCP and the alternatives involving an HCP component.</p>
1432	24	<p>The Bay Delta Conservation Plan (BDCP) environmental assessment, notably the Environmental Impact Report/Environmental Impact Statement (EIR/EIS), presents in some detail the impacts of the plan on various water quality constituents in the San Francisco Bay and Delta region under the no-action alternative as well as various project alternatives (Chapter 8 of the Draft EIR/EIS, November 2013). Of the constituents addressed, selenium in the San Francisco Bay/Sacramento-San Joaquin River Delta is of concern due to its adverse ecological impacts at high concentrations, primarily through bioaccumulation in the food web. This review is focused on the analysis of selenium impacts that are presented in the BDCP EIR/EIS.</p> <p>Selenium concentrations in the water column originate from a variety of point sources and non-point sources in the watershed of San Francisco Bay and the Delta. Upstream of the Delta, high selenium concentrations in the San Joaquin River watershed have been a long-standing concern. The San Joaquin River watershed is naturally enriched in selenium and agricultural practices in the watershed have mobilized selenium from the soils to groundwater and surface water that drains into the Delta. The watershed and specifically a sub-area, the Grasslands area, has been identified as an important source of selenium to the Bay Delta (Central Valley Regional Water Board, 2001). In contrast, selenium concentrations in the other major riverine flow into the Delta, the Sacramento River, are relatively low. Because the combined flows of the Sacramento and San Joaquin Rivers are the primary freshwater inflows into the Bay, the proportional mix of these inflows has a strong influence on selenium concentrations in the western Delta and the Bay.</p>	<p>As stated in the above responses, please note that the BDCP is no longer the preferred alternative. The Final EIR/EIS analyzes all alternatives.. The Lead Agencies acknowledge the commenter’s summary of issues addressed regarding the selenium impact analysis. Please refer to Master Response 14 for more information about the assessment of selenium.</p>
1432	25	<p>The implementation of various construction and restoration alternatives through the BDCP do not, by themselves, introduce new selenium into the system. However, by altering the flow patterns, and the relative mixing of different water sources entering the Bay and Delta, the different alternatives have the potential of altering the selenium water column concentrations in the Bay. In the EIR/EIS, changes in the water column selenium concentrations for the different alternatives considered were developed using the Delta Simulation Model (DSM2), a tool that is widely used for evaluating water quality changes in</p>	<p>As described in the 2013 Public Draft BDCP EIR/EIS Chapter 8, Section 8.2.3.15, selenium criteria were promulgated by the State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board for all of San Francisco Bay and the portions of the Delta waters in North San Francisco Bay, including portions of the Delta, and Suisun Bay, Carquinez Strait, San Pablo Bay, and the Central San Francisco Bay. The U.S. Environmental Protection Agency Action Plan for Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Estuary requires development of a new site-specific numeric selenium criteria to protect aquatic and terrestrial species dependent on the aquatic habitats of the Bay Delta Estuary. The new criteria being developed by the State Water Resources Control Board and San</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the Delta under current and future conditions.</p> <p>In the bioaccumulation model used in the BDCP EIR/EIS, the water column concentrations are related to various biological endpoints, such as concentrations in largemouth bass and in white sturgeon. In the BDCP EIR/EIS, the analysis is performed using a trophic transfer model that relates water column concentrations to tissue concentrations (fish tissue or bird egg), and is presented in Appendices 8M and an Addendum M.A). Appendix 8M performed the analysis for largemouth bass, and Addendum M.A performed the analysis for white sturgeon. This was done because of the potentially greater bioaccumulation of selenium in sturgeon because of their preference for clams that bioaccumulate selenium to a greater extent (Chapter 8, page 8- 138).</p> <p>In this review, we use the same tools and assumptions as used in the November 2013 EIR/EIS, but modify the boundary selenium concentrations in the Sacramento and San Joaquin Rivers to be more representative of observed values. We then compare the modeled water column and sturgeon concentrations for key locations in the system across different alternatives. Observed data on the boundary selenium concentrations and in white sturgeon are also presented to substantiate the modeling changes that are proposed in this review.</p>	<p>Francisco Bay Regional Water Quality Control Board could be more stringent than the existing selenium water quality criteria and require actions that would decrease allowable concentrations of selenium in surface waters of the Bay Delta Estuary and may set allowable levels of selenium in the tissue of fish and wildlife.</p> <p>Applicable selenium objectives for water in the affected environment are summarized in Table 8-54, and selected benchmarks for assessment of selenium in whole-body fish, bird eggs, and fish fillets are presented in Table 8-55 in Appendix A Chapter 8 Water Quality of the RDEIR/SDEIS</p> <p>For more information regarding updated selenium analysis please see Section 8.3.1.7 Constituent-Specific Considerations Use in the Assessment in Appendix A Chapter 8 of the RDEIR/SDEIS</p> <p>RDEIR/SDESIS 4.3.4 (4A) describes whether concentrations of various water quality constituents are expected to increase or decrease with the project, relative to existing conditions and the No Action Alternative. To the extent that concentrations of various water quality constituents are expected to increase, 4.3.4 describes whether these increases are expected to result in impacts to beneficial uses of water in the Delta. For constituents for which adverse impacts were expected, mitigation and other commitments, such as additional evaluation and modeling and consultation with water purveyors to identify additional measures to avoid and minimize or offset these impacts, were introduced to address those impacts.</p> <p>Additionally, adding intakes in the North Delta will allow for operational flexibility that can improve natural flow in the Delta and avoid impacts to migratory fish based on real time data and operations.</p>
1432	26	<p>The Bay Delta Conservation Plan (BDCP) proposes a comprehensive water conservation strategy to restore and protect the ecosystem health and also protect the water supply and water quality of the Delta (ICF, 2013). The plan includes new intakes in the northern Delta through a tunnel system to improve reliability and water quality. A total of 9 alternatives (with some sub-alternatives for a total of 15 action alternatives) and the no Action alternative were evaluated in the plan EIR/EIS. Alternative 4 is the CEQA preferred alternative.</p>	<p>Please note that the BDCP is no longer the preferred alternative.. Alternative 4A has been developed in response to public and agency input.</p> <p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. No further response is required.</p>
1432	27	<p>Because the San Joaquin River was historically identified as a major source of selenium to the Delta, there are concerns with respect to increased inputs of selenium from the San Joaquin River relative to the Sacramento River as a result of the proposed water operations (Evaluated Starting Operations, ESO).</p> <p>The impacts of ESO water operations on selenium in water of the Bay Delta and in fish species were evaluated through a modeling study using the Delta Simulation Model II (DSM2) in the EIR/EIS. DSM2 is a one-dimensional mathematical model for simulation of one-dimensional hydrodynamics and water quality in the channels of the Delta and the eastern part of San Francisco Bay. The western boundary of the model is located in Martinez along the western portion of Suisun Bay. The DSM2 model was run to estimate changes in water flows under the proposed action alternatives. The outputs from the DSM2 model, along with the available measured waterborne selenium concentrations in the boundary sources, were used to calculate concentrations of selenium at locations throughout the Delta. Modeled selenium concentrations in the water column were used to calculate selenium concentrations in whole-body fish and bird eggs using ecosystem- scale models developed by Presser and Luoma (2013).</p> <p>The DSM2 model was run to estimate the volumetric contribution from six major inputs to the Delta: the Sacramento River, San Joaquin River, Martinez (representing the San Francisco Bay boundary), east side tributaries, agricultural return flows, and Yolo Bypass</p>	<p>As stated in the above responses, please note that the BDCP is no longer the preferred alternative. The Final EIR/EIS analyzes all alternatives, including Alternative 4A. The Lead Agencies acknowledge the commenter's summary of issues addressed regarding the selenium impact analysis. Please refer to Master Response 14 for more information about the assessment of selenium.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>(Figure 2-1). Observed selenium concentrations in the six major sources were used to predict the resultant selenium concentrations at given locations in the Delta (Table 2-1). Predicted selenium concentrations in water column are listed in Table 2-2.</p> <p>The DSM2 model was run for a scenario without BDCP (EBC2_LLT) and under three BDCP scenarios: 1) evaluated starting operations late long term (ESO_LLT), 2) a low- outflow scenario (LOS_LLT), and 3) a high-outflow scenario (HOS_LLT). The hydrologic conditions considered include: 1) all water years (1975-1991) representing the 16-year period modeled using DSM2 (termed "All" in the scenarios below); and 2) a drought period of five consecutive years (water years 1987-1991) consisting of dry and critical water-year types (termed "Drought").</p>	
1432	28	<p>The predicted selenium concentrations in the water column were translated to concentrations in fish using the ecosystem -- scale model developed by Presser and Luoma (2013). The ecosystem models were developed using data from laboratory and field studies. Selenium concentrations in water column were translated to concentrations in particulate matter using fixed ratios (termed Kd). Further bioaccumulation from particles to lower trophic level prey items and then to fish was accomplished through Trophic Transfer Factors (TTF). TTF values are based on ecosystem-wide measurements, and were based on data from San Francisco Bay. Presser and Luoma (2013) determined Kd values for the San Francisco Bay (including Carquinez Strait-Suisun Bay) during "low flow" conditions (5,986 l/mg) and "average" conditions (3,317 l/mg). These values were used to model selenium concentrations in particulates for "Drought" and "All" conditions at locations in the western Delta. TTF values for particulates to clams/amphipods were determined to be 9.2 (dimensionless). TTF values for prey to fish (white sturgeon) was determined to be 1.3 (dimensionless).</p>	Please see Master Response 14 for updates to the selenium assessment in Chapter 8, Water Quality.
1432	29	<p>Under the low flow condition (after modifying Kd units) (based on the EIR/EIR, Appendix 8M),</p> <p>Sturgeon Se = <math>C_w * 6.0 * 9.2 * 1.3</math> mg/g or</p> <p>= <math>C_w * 71.8</math> mg/g,</p> <p>where <math>C_w</math> is the water column concentration in <math>\mu\text{g/L}</math> (typically the dissolved water column concentration)</p> <p>Under the average flow condition,</p> <p>Sturgeon Se = <math>C_w * 3.3 * 9.2 * 1.3</math> mg/g or</p> <p>= <math>C_w * 39.5</math> mg/g,</p> <p>where <math>C_w</math> is the water column concentration in <math>\mu\text{g/L}</math> (typically the dissolved water column concentration)</p> <p>In the EIR/EIS, fish Se values are compared to a low benchmark of 5 <math>\mu\text{g/g}</math> and a high benchmark of 8 <math>\mu\text{g/g}</math> (<math>\mu\text{g/g} = \text{mg/kg}</math>). At this time, fish targets are being developed by the US Environmental Protection Agency, and these fish tissue benchmarks are a reasonable representation of the range.</p>	Please refer to Master Response 14 for information regarding the assessment of selenium.
1432	30	Selenium concentrations associated with source waters particularly in the Sacramento River	Please refer to Master Response 14 for information regarding the assessment of selenium.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>(0.32 µg/L) that are used in the BDCP EIR/EIS modeling were notably higher than concentrations reported for this river (0.07 µg/L) by Cutter and Cutter (2004). A possible reason for these high concentrations was the high detection limit (1 µg/L) that was in the early period of the data record. For the concentration level of concern in the Bay-Delta region (0.1 - 0.2 µg/L), a high detection limit of 1 µg/L will significantly bias the results of selenium concentrations in the water. Modeled selenium concentrations at Mallard Island and Antioch were also significantly higher than values observed in the Bay water.</p> <p>In this study, we conducted an independent evaluation of selenium concentrations associated with the rivers to be considered as inputs to the Delta, using the same data source used in the BDCP EIR/EIS study.</p> <p>Copies of the DSM2 model inputs and outputs for the scenarios were made available by the California Department of Water Resources (DWR) to Tetra Tech, and were employed for the subsequent analysis (Brian Heiland, personal communication, June 2013). We confirmed that the runs were identical to those used in the November 2013 draft of the EIR/EIS (Brian Heiland, personal communication, January, 2014).</p> <p>We then conducted DSM2 runs to replicate results from the BDCP EIR/EIS study. Selenium concentrations from our independent evaluation were then used in calculating concentrations in the Delta. We recomputed fish selenium concentrations (white sturgeon) based on selenium concentrations in the water.</p>	
1432	31	<p>Independent Review of Selenium Data from USGS On Rivers:</p> <p>In our evaluation, we downloaded data from US Geological Survey National Water Information System (NWIS) database for the Freeport Station on Sacramento River (station code 11447650) and Vernalis on the San Joaquin River (station code 11303500), given the importance of these stations in the inflows to the Delta and then to the Bay.</p> <p>For Freeport, a total of 411 values from 1973 to present were found for dissolved or total selenium. From the beginning of record to 9/15/98, values are classified as "historical" and reported using a hydride analytical method. For these dates, values were reported as &lt; 1 µg/L and noted to be less than the method detection limit (MDL) of 1 µg/L. No data were found from 9/15/1998 to 11/26/2007. From 11/27/2007 to present, there are 75 values, all reported as using the ICP-MS (inductively coupled plasma mass spectrometry) method, with an MDL of 0.03 to 0.04 µg/L. From 11/2007, dissolved selenium concentrations range from 0.04 to 0.23 µg/L, with a median concentration of 0.09 µg/L, and a mean concentration of 0.095 µg/L.</p> <p>Similar to the Sacramento River, an independent review of the selenium data from USGS for the San Joaquin River at Vernalis was conducted. From 11/28/2007 to present, there are 78 values, all reported using an ICP-MS method, with an MDL of 0.03 to 0.06 µg/L. From 11/2007, dissolved selenium values range from 0.12 to 1.5 µg/L, with a median of 0.47 µg/L, and a mean of 0.57 µg/L.</p> <p>As shown in Figure 3-1 and Figure 3-2, dissolved selenium concentrations in the Sacramento River were generally below 0.2 µg/L and were approximately 0.5 µg/L for the San Joaquin River.</p> <p>Another independent study of selenium concentrations in the rivers by the Western States Petroleum Association (WSPA) is available for comparison for the period 2010-2012 (Table</p>	<p>Please see Master Response 14 regarding updates to the selenium assessment conducted to include more relevant data.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		3-1) (Tetra Tech, 2012). Average selenium concentrations sampled by WSPA for this time period are 0.07 µg/L for the Sacramento River at Freeport and 0.34 µg/L for the San Joaquin River.	
1432	32	<p>The Suisun Bay location, as the boundary of the DSM2 model domain and the Carquinez Strait, was also evaluated for selenium concentrations (Table 3-2 and Table 3-3). Average selenium concentrations in Suisun Bay from several sources suggested relatively low concentrations of around 0.10 µg/L, as opposed to higher concentrations in the Bay predicted by BDCP EIR/EIS in Table 2-2.</p> <p>Selenium concentrations from six sources that are used in our calculation of concentrations in the Bay are shown in Table 3-4. For the Freeport and Vernalis stations only, these were updated from the original data ranges reported in Table 2-1. The largest changes occurred at the Freeport station from 0.32 µg/L in the EIR/EIS to the corrected value of 0.095 µg/L in the update. This change is critical to the analysis because the Freeport flows are the dominant freshwater flows in the Delta system.</p> <p>For context, the observed white sturgeon concentrations from San Francisco Bay are also shown in Figure 3-3. These data were obtained from the CEDEN database, and are based on data reported by the Regional Monitoring Program. Sturgeon are sampled every 3-5 years, and the current data available in CEDEN for North San Francisco Bay covers Suisun Bay and San Pablo Bay. The dry weight of selenium in fish tissue range from 1.75 to 10.8 µg/g, with a single value in San Pablo Bay at 18.5 µg/g. Suisun Bay values range from 3.1 to 10.8 µg/g.</p>	Please refer to Master Response 14 for information regarding the assessment of selenium.
1432	33	<p>BDCP Calculations Replicated by Tetra Tech:</p> <p>The DSM2 model scenarios obtained from DWR were first run for existing conditions, using the same boundary concentrations as used in the November 2013 EIR/EIS.</p> <p>The model was used to predict the volumetric contribution from six source boundaries to volumes at Mallard Island. The predicted volumetric contribution from the San Joaquin River showed elevated contributions during the wet years (Figure 4-1). Predicted volumetric contributions in conjunction with selenium concentrations in the six source waters listed in Table 2-1 (average concentrations) were used to predict selenium concentrations at Mallard Island. Modeled selenium concentrations for the drought period were lower due to lower contributions from the San Joaquin River. For the wet years of 1981-1985, predicted selenium concentrations at Mallard Island were higher due to higher contributions from the San Joaquin River during this period (Table 4-1).</p> <p>The model was also run for the Alternative 4 scenario. Alternative 4 is the CEQA preferred scenario identified in the EIR/EIS report and includes a tunnel for a portion of the diversions from the Sacramento River. The model was used to predict the volumetric contribution from six source boundaries to Mallard Island, under the altered hydrological conditions of Alternative 4. The volumetric contributions from San Joaquin River showed elevated contributions during the wet years (Figure 4-2). As in the existing conditions analysis, the volumetric contributions and selenium concentrations in the six source waters listed in Table 2-1 were used to predict selenium concentrations at Mallard Island. Modeled selenium concentrations for the drought period were lower due to decreased contributions from the San Joaquin River. For the wet years of 1981-1985, predicted selenium concentrations at Mallard Island were higher due to higher contributions from the San Joaquin River during that period (Table 4-2).</p>	<p>As described in the 2013 Public Draft BDCP EIR/EIS Chapter 8, Section 8.2.3.15, selenium criteria were promulgated by the State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board for all of San Francisco Bay and the portions of the Delta waters in North San Francisco Bay, including portions of the Delta, and Suisun Bay, Carquinez Strait, San Pablo Bay, and the Central San Francisco Bay. The U.S. Environmental Protection Agency Action Plan for Water Quality Challenges in the San Francisco Bay/Sacramento-San Joaquin Estuary requires development of a new site-specific numeric selenium criteria to protect aquatic and terrestrial species dependent on the aquatic habitats of the Bay Delta Estuary. The new criteria being developed by the State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board could be more stringent than the existing selenium water quality criteria and require actions that would decrease allowable concentrations of selenium in surface waters of the Bay Delta Estuary and may set allowable levels of selenium in the tissue of fish and wildlife.</p> <p>Applicable selenium objectives for water in the affected environment are summarized in Table 8-54, and selected benchmarks for assessment of selenium in whole-body fish, bird eggs, and fish fillets are presented in Table 8-55 in Appendix A Chapter 8 Water Quality of the RDEIR/SDEIS</p> <p>For more information regarding updated selenium analysis please see Section 8.3.1.7 Constituent-Specific Considerations Use in the Assessment in Appendix A Chapter 8 of the RDEIR/SDEIS</p> <p>RDEIR/SDESIS 4.3.4 (4A) describes whether concentrations of various water quality constituents are expected to increase or decrease with the project, relative to existing conditions and the No Action Alternative. To the extent that concentrations of various water quality constituents are expected to increase, 4.3.4 describes whether these increases are expected to result in impacts to beneficial uses of water in the Delta. For constituents for which adverse impacts were expected, mitigation and other commitments, such as additional evaluation and modeling and consultation with water purveyors to identify additional measures to avoid and minimize or offset these impacts, were introduced to address those impacts.</p>

DEIRS Ltr#	Cmt#	Comment	Response
			Additionally, adding intakes in the North Delta will allow for operational flexibility that can improve natural flow in the Delta and avoid impacts to migratory fish based on real time data and operations
1432	34	<p>The results show small changes in selenium concentrations from existing conditions to the preferred alternative (Alternative 4; Table 4-3). For the entire period, the change in total selenium from existing condition is 4.3%. The change in total selenium from the existing condition for the high San Joaquin contribution years (1981-1985) is slightly higher at 5.3%.</p> <p>The predicted selenium concentrations in water column were used to predict selenium concentrations in whole-body of white sturgeon, using the reported Kd and TTF values from Luoma and Presser (2013). The Kd values for transferring dissolved selenium to particulate selenium are 3,317 l/g for all conditions and 5,986 l/g for the drought period. The TTF for transferring selenium in particulates to invertebrate is 9.2. The TTF for invertebrate to whole-body white sturgeon is 1.3. Calculated results of selenium concentrations in whole body white sturgeon are shown in Table 4-4 and Table 4-5. Mean concentrations for the 16-year simulation period increase from 10.21 µg/g under existing conditions to 10.65 µg/g under Alternative 4.</p> <p>Because only the mean concentrations from source boundaries were used to predict concentrations at Mallard, as opposed to time series data used in the original study, very slight differences may be seen from the results compared to the original study. Despite these differences, the replicated selenium concentrations in the water column and in white sturgeon for the existing conditions and Alternative 4 are similar to the BDCP EIR/EIS report (Table 8M1 and 8M2 of the Draft EIR/EIS, November 2013).</p> <p>Comparison of BDCP and Tetra Tech replicated concentrations in the water column and white sturgeon for the existing conditions and other alternatives is shown in Table 4-6 and Table 4-7. The table shows that we are able to independently reproduce with minimal differences the values for water column and sturgeon across a wide range of alternatives.</p>	Please refer to Master Response 14 for information regarding the assessment of selenium. Also see response to Comment 1432-33 above.
1432	35	<p>Updated Calculations Replicated by Tetra Tech:</p> <p>The DSM2 models obtained from DWR were run with modified boundary conditions, especially the selenium concentrations at Freeport on the Sacramento River (0.095 µg/l) and Vernalis on the San Joaquin River (0.57 µg/l), and used to compute concentrations at Mallard Island (Figure 4-3). Model simulated selenium concentrations at Mallard Island for the three periods: 1) entire 16-year period, 2) 1987-1991 drought period; and 3) a period with high San Joaquin contribution (1981-1985) are listed in Table 4-8. Simulated selenium concentrations at Mallard Island were higher during the high San Joaquin contribution period (1981-1985). Simulated mean selenium concentrations at Mallard Island over the entire 16-year simulation period were 0.12 µg/L and were notably lower than the BDCP study (Table 4-1, 0.257 µg/L).</p> <p>The model was also run for the Alternative 4 scenario (CEQA preferred alternative). The model was used to predict volumetric contributions from six source boundaries to Mallard Island, under the altered hydrological conditions in Alternative 4. Mean concentrations were higher than in the existing conditions case: 0.139 µg/L (Table 4-9). For the wet years of 1981-1985, predicted selenium concentrations at Mallard Island were higher (0.168 µg/L) due to higher contributions from the San Joaquin River during that period. The results show greater change in selenium concentrations from existing conditions to preferred alternative (Alternative 4; Table 4-10). For the entire period, the change in total selenium from existing conditions is 15.3%. The change in total selenium from the existing condition for the high</p>	Please refer to Master Response 14 for information regarding the assessment of selenium. Also see response to Comment 1432-33 above.

DEIRS Ltr#	Cmt#	Comment	Response
		San Joaquin contribution years (1981-1985) is also higher at 20.9%. Simulation results for other alternatives considered in the CEQA analysis are included in Appendix A.	
1432	36	<p>Model-simulated selenium concentrations in the water column at Mallard Island were used to predict selenium concentrations in white sturgeon under the existing conditions and Alternative 4. The predicted white sturgeon selenium concentrations and the changes are listed in Table 4-11, Table 4-12 and Table 4-13. Because the function relating water column and white sturgeon concentrations is linear, there is a similar predicted increase in the white sturgeon concentrations from existing conditions to Alternative 4. Importantly, however, the sturgeon values in this calculation are considerably lower than in the original BDCP analysis: mean value of 4.78 mg/g for the entire 16-year simulation, with higher values during drought periods (6.93 µg/g) and periods with high San Joaquin River contribution (5.52 µg/g). For comparison, the 1990 sampling of white sturgeon in Suisun Bay (a dry year) reported a mean value of 5.86 µg/g. Also, the 2006 sampling of sturgeon in San Pablo Bay reported a mean of 7.34 µg/g. If one high value of 18.1 µg/g was excluded, the 2006 average was 6.3 µg/g. Although the fish data are limited, and the concept of using fixed TTFs and Kds for bioaccumulation a great simplification, it appears that for these boundary values, the existing condition fish values are in the range of observations, whereas the EIR/EIS values are clearly higher (16-year mean of 10.21 µg/g, and drought value of 15.27 µg/g; Table 4-4).</p>	Please refer to Master Response 14 for information regarding the assessment of selenium. Also see response to Comment 1432-33 above.
1432	37	<p>Summary:</p> <p>Selenium concentrations used in the Sacramento River for the BDCP EIR/EIS study (November 2013 public review draft) are biased high, likely due to the inclusion of older analytical values at 1 µg/L. The Sacramento River selenium values are critical to the calculation because this is the dominant flow into the Bay. In the current version of the public review documents, the calculated values of water column selenium in San Francisco Bay (0.21-0.31 µg/L at Mallard Island) are more than a factor of two higher than the observed values (from 0.08 to 0.12 µg/L across multiple sampling events in Suisun Bay). Using this water column concentration, the calculated mean values of white sturgeon tissue selenium (9.9 µg/g mean and 15 µg/g drought year value) are higher than observed in the last decade across multiple samples. Although the data are limited, the range of individual observations in composite whole-body fish samples from Suisun Bay is 3.1-10.8 µg/g.</p> <p>Using valid boundary values for the Sacramento and San Joaquin Rivers (Freeport: 0.095 µg/l and Vernalis: 0.57 µg/l, both based on USGS data), we have updated the water column and white sturgeon calculations. Using the same modeling framework as used in the EIR/EIS, but with the corrected boundary values, we are able to get a reasonable match with the observed data for existing conditions. The model analysis shows that the BDCP preferred Alternative 4 will result in higher water column concentrations than that estimated in the EIR/EIS. Using the bioaccumulation model in the EIR/EIS, we find a similar projected increase in fish tissue concentrations from existing conditions. Some alternatives (besides the CEQA preferred alternative) result in much higher water column selenium concentrations in the Bay.</p> <p>Recommendations:</p> <p>The corrections we made to the riverine boundary selenium concentrations are important to consider in any revision to the EIR. Because the Sacramento River is the dominant flow to the Bay-Delta, correct representation of selenium concentrations in this river is important in</p>	Please refer to Master Response 14 for information regarding the assessment of selenium. Also see response to Comment 1432-33 above.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>determining concentrations in the Bay water. The changes to the selenium concentrations in the Sacramento River proposed here improve the match between predicted and observed data for concentrations in the water and in fish species under existing conditions. Predicted selenium concentrations in white sturgeon with updated boundary concentrations were lower in the range of 4.8-6.9 µg/g, which is more in line with recent observations.</p> <p>Importantly, the new calculations suggest that there is an effect of the BDCP changes to the water column and white sturgeon selenium concentrations at the Mallard Island station for CEQA Alternative 4, representing conditions in Suisun Bay (8-20% increase, depending on the hydrology). This is higher than currently estimated for Alternative 4 at this station (2-5% increase, calculated by Tetra Tech), and may be evaluated in the context of the CEQA conclusion "Relative to Existing Conditions, modeling estimates indicate that all scenarios under Alternative 4 would result in essentially no change in selenium concentrations throughout the Delta." (page 8-476, Draft EIR/EIS). Note that in the bioaccumulation model used in the BDCP analysis the water column and fish tissue concentrations are proportionally related; thus, a change of a given percent in water column concentrations corresponds to the same percent change in fish tissue concentrations. The worst case conditions are not the drought years of 1987-1991, but years where the San Joaquin flow contributions to the Bay are larger, and should also be considered for selenium effects. Should alternatives besides the CEQA preferred Alternative 4 be considered in future phases, Se impacts could be more significant. This potential change needs to be addressed though the EIR/EIS.</p> <p>Besides correction of the boundary values in the EIR/EIS, other considerations follow. The calculated white sturgeon concentrations with the new boundary conditions are lower under existing conditions, and in the range of the 8.1 µg/g target now proposed by the USEPA as a whole-body fish tissue target (USEPA, 2014). The potential of impairment under existing conditions and current loads from various point- and non-point sources will be addressed by the Regional Board through the total maximum daily load analysis (TMDL) under way, but it is important to note that this modeling suggests that future BDCP changes may well increase water column and fish concentrations greater than what is calculated in the current EIR/EIS. Given this finding, there is a need to monitor the changes in water and fish over the coming years and to consider if any mitigation might be needed.</p>	
1433	1	<p>These comments are submitted on behalf of the Partnership for Sound Science in Environmental Policy (PSSEP) on the November 2013 Draft Bay Delta Conservation Plan (BDCP) and the supporting Environmental Impact Report/Statement (EIR/EIS) required under state and federal law. PSSEP is an association of municipal, industrial, and trade association entities in California whose members are regulated by the State and Regional Water Boards under their joint, Federal Clean Water Act and Porter-Cologne Water Quality Control Act authorities. Some of PSSEP's members and/or affiliates are located in the San Francisco Bay Area and will be directly affected by any actions taken pursuant to the BDCP. As such, PSSEP and its members are "interested parties" for purposes of the California Environmental Quality Act ("CEQA"), the National Environmental Protection Act (NEPA) and the respective state and federal Endangered Species Acts (ESAs).</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. No further response is required.</p>
1433	2	<p>We note at the outset that the Partnership for Sound Science in Environmental Policy takes no position on the desirability of the BDCP and/or the underlying "alternative water conveyance facilities" the BDCP is being developed to support. PSSEP's members simply desire to ensure that the final BDCP is both technically accurate and adequately ensures that known or reasonably foreseeable impacts that are likely to accrue as a result of BDCP</p>	<p>As described in the 2013 Public Draft BDCP EIR/EIS Chapter 8, Section 8.2.3.15, selenium criteria were promulgated by the State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board for all of San Francisco Bay and the portions of the Delta waters in North San Francisco Bay, including portions of the Delta, and Suisun Bay, Carquinez Strait, San Pablo Bay, and the Central San Francisco Bay. The U.S. Environmental Protection Agency Action Plan for Water Quality Challenges in the</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>will be formally recognized and fully mitigated under CEQA, NEPA and the Sacramento-San Joaquin Delta Reform Act of 2009 ("Delta Act"). In particular, PSSEP is concerned that the BDCP understates the potential additional selenium loading impacts to the Delta, and completely ignores the potential impacts these additional selenium loads will have to San Francisco Bay.</p>	<p>San Francisco Bay/Sacramento-San Joaquin Estuary requires development of a new site-specific numeric selenium criteria to protect aquatic and terrestrial species dependent on the aquatic habitats of the Bay Delta Estuary. The new criteria being developed by the State Water Resources Control Board and San Francisco Bay Regional Water Quality Control Board could be more stringent than the existing selenium water quality criteria and require actions that would decrease allowable concentrations of selenium in surface waters of the Bay Delta Estuary and may set allowable levels of selenium in the tissue of fish and wildlife.</p> <p>Applicable selenium objectives for water in the affected environment are summarized in Table 8-54, and selected benchmarks for assessment of selenium in whole-body fish, bird eggs, and fish filets are presented in Table 8-55 in Appendix A Chapter 8 Water Quality of the RDEIR/SDEIS</p> <p>For more information regarding updated selenium analysis please see Section 8.3.1.7 Constituent-Specific Considerations Use in the Assessment in Appendix A Chapter 8 of the RDEIR/SDEIS. Please also refer to Master Response 14, which provides additional information on selenium.</p>
1433	3	<p>The BDCP is an elaborate and complex plan which purports to restore and protect the Sacramento-San Joaquin Delta ecosystem as part of an effort to secure future water deliveries from the Delta to state and federal water contractors via the Central Valley Project and State Water Project. The overall plan includes three new riverine water intakes located on the Sacramento River, in the northern Delta. A total of nine alternatives (with some sub-alternatives for a total of fifteen action alternatives) and the "no action" alternative were evaluated in the BDCP and the EIR/EIS. "Alternative 4" is the CEQA/NEPA preferred alternative, which would consist of a dual conveyance system of pipeline/tunnel and the new riverine water intakes that collectively provide export capacity of 9,000 cubic feet per second -- or more than 6.5 million acre feet per year. Under Alternative 4, water would be conveyed from the north Delta to the south Delta through pipelines/tunnels and through surface channels. [Footnote 1: See generally, BDCP Plan, Executive Summary; see also, BDCP EIR/EIS, Ch. 2. (ICF, November 2013.)]</p> <p>BDCP implementation project(s) would result in a massive amount of Sacramento River water being removed from the Delta, resulting in a substantial increase in flow from the San Joaquin River. As water flows from the San Joaquin River increase, so will a corresponding amount of increased selenium at elevated concentration levels flow into the Delta and thereafter into San Pablo and San Francisco Bays. As a result, due to known selenium behavior both as a required nutrient and as a toxicant at higher levels, there could be significant impacts on fish and other wildlife in San Pablo and San Francisco Bays. This phenomenon was recently explored by scientists studying the sources and fate of selenium loads affecting San Francisco Bay, wherein it was concluded that, "Manipulations to the Delta system, especially those that increase San Joaquin [River] flow into the bay, will also have selenium impacts to the bay that must be evaluated." [Footnote 2: "Modeling Fate, Transport, and Biological Uptake of Selenium in North San Francisco Bay", L. Chen, Meseck, Roy, Grieb, and Baginska; Estuaries &amp; Coasts, November 2012. (Copy provided as Attachment 1.)]</p>	<p>Please see Response to Comment 1433-2.</p>
1433	4	<p>The Partnership for Sound Science in Environmental Policy's comments will address both the BDCP and the EIR/EIS, as specifically indicated. A summary of our primary concerns, which are more fully described below, include:</p> <p>* The EIR/EIS fails to consider the effects of BDCP Conservation Measures on San Francisco Bay.</p>	<p>Please see Master Response 26, which provides additional discussion about the affect on existing upstream water rights.</p> <p>Please also see Response to Comment 1433-2.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<ul style="list-style-type: none"> <li>* The BDCP and the EIR/EIS significantly underestimate additional selenium loads to the Delta associated with Preferred Alternative 4.</li> <li>* The EIR/EIS relies on inappropriate regulatory standards for concluding "No Substantial Effects" associated with selenium load increases.</li> <li>* The BDCP fails to provide adequate assurances for mitigation of known or reasonably foreseeable impacts to San Francisco and San Pablo Bays related to increased selenium loads.</li> </ul>	
1433	5	<p>The BDCP implementation structure and process is inadequate and inappropriately devolves excessive authority to the Water Contractors in making decisions that will impact San Francisco Bay.</p> <p>The BDCP must include the State Water Resources Control Board and the Delta Watermaster within the governing and implementing agency hierarchy.</p>	<p>The BDCP 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 BDCP proponents – DWR and six SWP and CVP water contractors – the BDCP is being prepared with the participation of Reclamation, USFWS, NMFS, USACE, the California Natural Resources Agency, CDFW, the State Water Board, and various stakeholders. The regulatory agencies – USFWS, NMFS, CDFW, USACE, and the State Water Board – are participating to provide technical input and guidance in support of planning efforts to complete the BDCP. The BDCP proponents have developed a plan that will be submitted to USFWS and NMFS as an HCP and to CDFW as an NCCP.</p> <p>DWR operates and maintains the SWP and would continue to do so as part of the implementation of BDCP related to the SWP. DWR's actions in the process will be to certify the EIR, adopt findings of fact, decide whether to approve the BDCP and its implementation, and carry out obligations under the BDCP. Reclamation operates the CVP in coordination with the SWP through the Coordinated Operation Agreement. Operation of new conveyance facilities and/or flow patterns proposed under the BDCP would result in changes to existing CVP operations specific to the Delta that provide for diversion, storage, and conveyance of CVP water consistent with applicable law and contractual obligations. Reclamation's action in relation to the BDCP would be to adjust CVP operations specific to the Delta to accommodate new conveyance facility operations and/or flow requirements under the BDCP, in coordination with SWP operation.</p> <p>CDFW will consider whether to approve the BDCP as an NCCP and issue 1570 permits under Section 2835 of the California Fish and Game Code. USFWS and NMFS will make a decision regarding the issuance of Incidental Take Permits for the incidental take of federally listed species under ESA Section 10(a)(1)(B).</p> <p>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. Instead, a modified proposed project, Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A is also the NEPA Preferred Alternative, a designation that was not attached to any of the alternatives presented in the 2013 Public Draft EIR/EIS. Alternative 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p>
1433	6	The BDCP fails to comply with Delta Reform Act.	In its efforts to achieve the co-equal goals of water supply reliability and ecosystem restoration, the project seeks to protect dozens of species of fish and wildlife in the Delta while also securing reliable water deliveries for two-thirds of Californians. Please see Master Response 31 regarding the project's compliance with the Delta Reform Act.

DEIRS Ltr#	Cmt#	Comment	Response
1433	7	<p>The EIR/EIS fails to consider the effects of BDCP Conservation Measures on San Francisco Bay.</p> <p>Chapter 8 of the EIR/EIS purports to analyze known and reasonably foreseeable environmental impacts associated with the BDCP and each of the Conservation Measures to be taken thereunder, all with a view toward supporting the "preferred" Alternative 4. According to the EIR/EIS, "[f]or the purposes of characterizing the existing water quality conditions and evaluating the consequences of implementing the BDCP alternatives on surface water quality, the affected environment is defined as anywhere an effect could occur, which includes but is not necessarily limited to the statutory Delta, Suisun Bay and Marsh, and areas to the north and south of the Delta, which are defined in various parts of this chapter as Upstream of the Delta and the State Water Project/Central Valley Project Export Service Areas, as shown in Figure 1-4. When compared to the watershed boundaries, it is noted that the affected environment falls primarily within the Sacramento and San Joaquin River watersheds." [Footnote 3: BDCP EIR/EIS, Sec. 8.2.1 at page 8-6.] Yet aside from the statement that the EIR/EIS considered water quality impacts "anywhere an effect could occur," it is clear from the EIR/EIS itself that the affected area where water quality impacts were analyzed was artificially constricted.</p> <p>An extracted copy of the map contained in the referenced Figure 1-4, showing the affected area wherein environmental impacts were analyzed under the EIR/EIS, is included herein as Attachment 2. This map very clearly demonstrates that the preparers of the BDCP and supporting EIR/EIS excluded San Francisco and San Pablo Bays from their effects analyses, which clearly violates CEQA and NEPA. [Footnote 4: CEQA requires a state lead agency to provide specific reasons why certain environmental effects "have not been discussed in detail in the environmental impact report." (California Public Resources Code [Section]21100(c).)]</p>	<p>An assessment of the water quality effects of all project alternatives as well as the No Action Alternative on San Francisco Bay was added to Chapter 8, Water Quality, in Impact WQ-34, of the RDEIR/SDEIS and Final EIR/S.</p>
1433	8	<p>In its highly critical assessment of the BDCP and the EIR/EIS, the Delta Independent Science Board ("DISB") noted one of its "major concerns" was that, "The analyses largely neglect the influences of downstream effects on San Francisco Bay ..." [Footnote 5: Delta Independent Science Board, "Review of the Draft EIR/EIS for the Bay Delta Conservation Plan," May 15, 2014, page 3. (hereafter, "DISB Review").] Further on the topic of the artificially restricted geographic scope of the EIR/EIS analyses, the DISB cautioned that, "the geographic scope of the DEIR/DEIS was defined to exclude San Pablo Bay and San Francisco Bay. The consequences of BDCP actions undertaken within the Plan Area, however, will extend downstream to affect these bays. Changes in sedimentation in the Delta associated with BDCP actions, for example, will not be confined to the Delta." [Footnote 6: DISB Review, page 7. (Emphasis added.)] As noted by the DISB, San Pablo and San Francisco Bays were excluded from consideration in the EIR/EIS simply because they fall outside of the legal boundaries of the Delta. [Footnote 7: DISB Review, page 8.] The artificial determination of the BDCP "affected area" is neither legally supportable nor, according to the DISB, "scientifically justified." [Footnote 8: DISB Review, page 8.]</p> <p>By its very terms, and as specifically set forth in Chapter 8, the EIR/EIS cannot meet the legal adequacy requirements of CEQA and NEPA because the effects analysis is artificially restricted, and the EIR/EIS fails to provide a "reasonable explanation for the geographic limitation used." [Footnote 9: See, CEQA Guidelines [Section]15130(b)(1)(B)(3), which provides that: "Lead Agencies should define the geographic scope of the area affected by the cumulative effects and provide a reasonable explanation for the geographic limitation used." Further, when considering potentially significant impacts on the affected</p>	<p>All comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.</p> <p>The Environmental Setting/Affected Environment section of Chapter 8, Water Quality, defines the affected environment as anywhere an effect could occur, which includes but is not necessarily limited to the statutory Delta, Suisun Bay and Marsh, and areas to the north and south of the Delta, which are defined in various parts of this chapter as Upstream of the Delta and the SWP/CVP Export Service Areas, as shown in Figure 1-4. Figure 1-4 illustrates that the geographic scope of the analysis is rather expansive. The Plan Area is defined by the boundaries of the legal Delta with the addition of the Suisun Marsh area. The EIR/EIS project area includes the Plan Area, upstream of the Delta region and the SWP and CVP export Service Areas because some of the effects of implementing the action alternatives would extend beyond the Plan Area. The analysis in the EIR/EIS includes impacts to Delta outflows, which ultimately reach the San Francisco Bay as well as impacts to Southern California and the San Joaquin Valley. The analysis of impacts of the proposed project in the study area can be found in the EIR/EIS chapters 5-30. An assessment of the water quality effects of all project alternatives as well as the No Action Alternative on San Francisco Bay was added to Chapter 8, Water Quality, in Impact WQ-34, of the RDEIR/SDEIS and Final EIR/S.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>"environment," it is worth noting that CEQA defines "environment" to mean, "the physical conditions that exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise or objects of historic or aesthetic significance." (California Public Resources Code [Section]21060.5.)] Indeed, the EIR/EIS preparers chose to include "upstream of the Delta (including the Sacramento and San Joaquin River watersheds)" [Footnote 10: BDCP EIR/EIS, Section 8.1.5 at page 8-3.] or -- alternatively -- the "Sacramento hydrologic region," [Footnote 11: BDCP EIR/EIS, Section 6.1 at page 6-1. Under the Delta Reform Act, the Sacramento Hydrologic Region is defined by reference to the Department of Water Resources' "Bulletin 160-05," commonly known as the "California Water Plan." In turn, the California Water Plan describes the Sacramento Hydrologic Region as: "The entire drainage area of the state's largest river and its tributaries, extending from the Oregon border downstream to the Sacramento-San Joaquin Delta. The region covers 27,246 square miles including all or a portion of 20 predominately rural Northern California counties, and extends from the crest of the Sierra Nevada in the east to the summit of the Coast Range in the west." According to the Water Plan, "The population of the Sacramento River Hydrologic Region was 2,593,000 in 2000, which represents about 8 percent of California's total population." (California Water Plan, (Bulletin 160-05), Ch. 6 pages 6.1-6.2.)) yet somehow concluded that the water quality and water supply impacts downstream of the BDCP project were unimportant. [Footnote 12: For comparison, the surface area of the entire San Francisco Bay is approximately 1,100 square miles, or roughly 4% of the 27,246 square miles that comprise the Sacramento Hydrologic Region. (See, Water Quality Control Plan for the San Francisco Bay Basin, Ch. 1 (2013).)]</p>	
1433	9	<p>The BDCP and the EIR/EIS significantly underestimate additional selenium loads to the Delta associated with Preferred Alternative 4.</p> <p>Chapter 8 of the EIR/EIS analyzes various "factors affecting water quality" in the Delta and essentially brushes aside the well-known and well-documented selenium loading that comes from the San Joaquin and Sacramento Rivers. Concurrently, the authors of the EIR/EIS suggest that the Bay Area refineries are responsible for considerable selenium loading to Suisun Bay and the Delta -- without any empirical data or evidence to support this claim. [Footnote 13: See, e.g., BDCP EIR/EIS, Sec. 8.4.3 at pages 8-286, 8-347, 8-401, 8-477, 8-535, 8-587, 8-642, 8-694, 8-747.] These multiple references to the Bay Area refineries and the quality of their respective effluents to North San Francisco Bay should be completely eliminated, unless they are re-cast to be both factually and contextually accurate and the BDCP flow impacts are appropriately modeled. Indeed, the most current understanding of selenium loading to San Francisco Bay has been compiled by the San Francisco Regional Board in developing its North San Francisco Bay TMDL for Selenium. That data shows the overwhelming percentage of selenium load to the Bay comes from the Delta. [Footnote 14: See, Technical Memorandum 2: North San Francisco Bay Selenium Data Summary and Source Analysis, July 2008, TetraTech, Inc.]</p>	Please refer to Master Response 14, which provides additional discussion of selenium.
1433	10	<p>The underlying conclusions of the EIR/EIS -- that development of the BDCP preferred Alternative 4 conveyance facilities "would result in essentially no change in selenium concentrations throughout the Delta" [Footnote 15: BDCP EIR/EIS, Sec. 8.4.3.9 at page 8-474.] -- is false. According to a recent TetraTech analysis of the EIR/EIS assessment of selenium loading and impacts related to the BDCP project, "[s]elenium concentrations used in the Sacramento River for the BDCP EIR/EIS study are biased high." [Footnote 16: "Review of Selenium Bioaccumulation Assessment in the Bay Delta Conservation Program Draft EIR/EIS," TetraTech, May 30, 2014. (Hereafter, "TetraTech Selenium Review.") (Copy provided in Attachment 3.)] This analysis determined that the EIR/EIS preparers excluded</p>	Please refer to Master Response 14, which provides additional discussion of selenium.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>recent selenium water concentration data from the Freeport and Vernalis gauge stations maintained by USGS, and used older data based on high "non-detect" values, which artificially inflated the current calculated values of water column selenium by more than a factor of two. [Footnote 17: TetraTech Selenium Review, page 5-1.] When valid boundary values for the Sacramento and San Joaquin Rivers are input into the same modeling framework used by the BDCP preparers, TetraTech found the following:</p> <p>"The model analysis shows that the BDCP-preferred Alternative 4 will result in higher percent changes in water column concentrations than that calculated in the EIR/EIS. Using the bioaccumulation model in the EIR/EIS, we find a similar projected increase in fish tissue concentrations between Alternative 4 and existing conditions (i.e., no BDCP project). Importantly, the new calculations suggest that there is an effect of the BDCP changes to the water column and white sturgeon selenium concentrations at the Mallard Island station for CEQA Alternative 4, representing conditions in Suisun Bay (8-20% increase, depending on the hydrology). This is higher than currently estimated for Alternative 4 at this station (2-5% increase, calculated by Tetra Tech)..." [Footnote 18: TetraTech Selenium Review, page 1-2. (Emphasis added.)]</p>	
1433	11	<p>In essence, the BDCP reviewers underestimated the anticipated increase in selenium loading that will be caused by construction and operation of the preferred Alternative 4 conveyance facilities by an average of approximately 15% for any given hydrology year. Not only must the BDCP Lead Agencies re-evaluate the selenium-related water quality effects based on the results of the TetraTech Selenium Review, but adequate resources must be allocated for future water column and fish tissue monitoring throughout the term of the BDCP permits. In addition, mitigation for these impacts must be provided by the BDCP beneficiaries as part of their CEQA and NEPA obligations, [Footnote 19: An adequate EIR must respond to specific suggestions for mitigating significant environmental impacts unless the suggested mitigation is facially infeasible. See, San Francisco Ecology Center v. City and County of San Francisco (1975) 48 Cal.App.3d 584, 596.] as well as under the Delta Reform Act of 2009. (See discussion in Section 4, below.)</p>	<p>Please refer to Master Response 14, which provides additional discussion of selenium.</p> <p>Please also refer to Master Response 22 for a discussion on the adequacy of mitigation measures.</p>
1433	12	<p>The EIR/EIS relies on inappropriate regulatory standards for concluding "No Substantial Effects" associated with selenium load increases.</p> <p>Under the "Effects Determinations" analysis contained in Section 8.4.3, the BDCP preparers concluded that there would be "no substantial effects" related to selenium associated with the BDCP project. In part, this conclusion is based on a water quality criteria established under the California Toxics Rule for San Francisco and Suisun Bays in 2000. [Footnote 20: BDCP EIR/EIS, Sec. 8.4.2.3, page 8-96 - 8-97. See, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California. 65 Fed.Reg. 31682.] Yet, the EIR/EIS acknowledges that US EPA Region IX is currently developing a new water quality criterion for selenium in San Francisco and San Pablo Bays, and further concedes that the anticipated new selenium criterion is likely to be far lower than current fresh and marine waters criteria. [Footnote 21: BDCP EIR/EIS, Sec. 8.4.2.3, page 8-99 - 8-100.] Nevertheless, because the BDCP preparers concluded that only the existing selenium water quality criteria applies for purposes of determining substantial effects related to the BDCP project, the anticipated US EPA criteria is ignored.</p>	<p>Please refer to Master Response 14, which provides additional discussion of selenium.</p>
1433	13	<p>CEQA requires a lead agency to analyze all reasonably foreseeable, significant effects on the environment. [Footnote 22: California Public Resources Code [Section]21065. A "project" subject to CEQA review means "an activity which may cause either a direct physical change</p>	<p>Please refer to Master Response 14, which provides additional discussion of selenium and Master Response 22 for a discussion on the adequacy of mitigation measures.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>in the environment, or a reasonably foreseeable indirect physical change in the environment." (Ibid.) "Significant effect on the environment" is defined under CEQA to mean, "a substantial, or potentially substantial, adverse change in the environment." [Footnote 23: California Public Resources Code [Section]21068. See also, CEQA Guidelines [Section]15382.] As discussed above, the BDCP preferred Alternative 4 is reasonably likely to result in increased selenium loads to San Francisco and San Pablo Bays at a range of between 8-20% every year, depending on hydrological conditions. [Footnote 24: See, Section 2 above, at pages 4-5.] These anticipated increases in selenium load to San Francisco and San Pablo Bays are clearly significant, and the BDCP must both consider these effects on the downstream environment, as well as provide adequate mitigation for them. Furthermore, the EIR/EIS must analyze these expected selenium load increases in the context of US EPA's anticipated new selenium criteria for San Francisco Bay which, as the EIR/EIS preparers are well aware, is likely to be substantially lower than the current criteria used by the preparers.</p>	<p>An assessment of the water quality effects of all project alternatives as well as the No Action Alternative on San Francisco Bay was added to Chapter 8, Water Quality, in Impact WQ-34, of the RDEIR/SDEIS and Final EIR/S.</p>
1433	14	<p>The BDCP fails to provide adequate assurances for mitigation of known or reasonably foreseeable impacts to San Francisco and San Pablo Bays related to increased selenium loads.</p>	<p>Please refer to Master Response 14, which provides additional discussion of selenium and Master Response 22 for a discussion on the adequacy of mitigation measures.</p> <p>An assessment of the water quality effects of all project alternatives as well as the No Action Alternative on San Francisco Bay was added to Chapter 8, Water Quality, in Impact WQ-34, of the RDEIR/SDEIS and Final EIR/S.</p>
1433	15	<p>The federal and state Endangered Species Acts require that a Habitat Conservation Plan (HCP) contain specific information to ensure adequate funding to carry out all aspects of the HCP. [Footnote 25: See, 16 U.S.C. [Sections]1539(a)(2)(A)(ii) and 1539(a)(2)(B)(iii); California Fish &amp; Game Code [Section]2820(a)(10). See also, Nat'l Wildlife Federation v. Babbitt, 128 F.Supp.2d 1274 (E.D. Cal., 2000); Southwest Center for Biological Diversity v. Bartel, 470 F.Supp.2d 1118 (S.D. Cal., 2006).] Case law interpreting the Federal Endangered Species Act on the need for ensuring adequate HCP funding has further held that the permit "applicant cannot rely on speculative future actions of others." [Footnote 26: Southwest Center for Biological Diversity v. Bartel, supra, 470 F.Supp.2d 1118, 1155, citing, Nat'l Wildlife Federation v. Babbitt, supra, 128 F.Supp. 2d 1274, 1294-95.] Yet, the BDCP specifically refers to and relies upon putative funding derived from a Water Bond that has yet to be placed before the voters, let alone actually passed. This clearly cannot satisfy the requirements of the federal and state Endangered Species Acts, as interpreted by case law applicable to California.</p>	<p>Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A no longer includes the BDCP HCP. 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 also see Master Response 5, which provides additional information on the BDCP.</p>
1433	16	<p>The Delta Reform Act of 2009 specifically provides that proponents of a new Delta water conveyance facility must pay to mitigate all impacts associated with the construction, operation, and maintenance of such facility. [Footnote 27: California Water Code [Section]85089(a).] There is nothing in the BDCP which accounts for mitigation related to increased selenium loads that will occur with the construction and operation of the preferred Alternative 4 water conveyance facilities. This is because, as discussed above, the EIR/EIS preparers specifically excluded analysis of selenium loading to San Francisco and San Pablo Bays. [Footnote 28: It bears noting that the mitigation obligations of the BDCP proponents under Water Code [Section]85089(a) is not limited to those identified and included under CEQA, but are in fact in addition to any CEQA mitigation obligations. Under that section, the State and Federal Water Contractors must pay for "[t]he costs of the environmental review, planning, design, construction, and mitigation, including mitigation required pursuant to [CEQA], required for the construction, operation, and maintenance of</p>	<p>Please refer to Master Response 14, which provides additional discussion of selenium and Master Response 22 for a discussion on the adequacy of mitigation measures.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		any new Delta water conveyance facility." (Emphasis added.)]	
1433	17	<p>According to Section 8.3, the BDCP will rely on three, primary, sources of funding for all aspects of the Plan: (1) federal government funding; (2) state government funding (including putative funding provided by future water bonds to be placed before the California voters); and (3) the State and Federal Water Contractors (including, for purposes of municipal water supply districts, individual ratepayers). Yet, the BDCP contains no financing plan and no legal assurances that any of the funds "expected" will actually materialize. An analysis of the sources of funds from reveals that it cannot meet the "speculative future actions" test of ensuring HCP funding.</p> <p>According to Table 8-37 in Chapter 8, [Footnote 29: BDCP, Ch. 8, page 8-65 - 8-66.] the BDCP expects to receive \$3.5 billion from the federal government, derived from various appropriations. However, the BDCP acknowledges that "additional federal legislation will be required to authorize the continued use of certain federal funds and to extend or broaden fund availability." [Footnote 30: BDCP, Sec. 8.3.1, page 8-64, lines 16-18.] In terms of securing funding for BDCP implementation, it is hard to imagine anything more speculative than relying on future acts of Congress to make-up what is expected to be approximately 14% of the entire BDCP budget.</p> <p>Regarding the sources of state government funds for BDCP implementation, Table 8-37 indicates that BDCP proponents expect approximately \$4.1 billion to come from the State of California, which accounts for approximately 17% of the entire BDCP budget. Section 8.3.5 of the BDCP provides that, "Funds derived from the issuance of [the 2009 Water Bond] would be used, in part, to satisfy the State's financial commitments to the BDCP." [Footnote 31: BDCP, Sec. 8.3.5.1, page 8-84, lines 9-11.]</p> <p>According to the capital cost estimates for the entire BDCP project, the Authorized Entities are relying on the not-yet passed Water Bond for approximately 10% of the entire BDCP budget. [Footnote 32: See, Table 8-35 (Ch. 8, page 8-63) and Table 8-46 (Ch. 8, page 8-85).] Furthermore, Table 8-37 indicates that BDCP proponents assume the passage of a "Second Water Bond" at some unstated time in the future that will provide an additional \$2.2 billion dollars to fund BDCP actions. [Footnote 33: BDCP proponents expect this "Second Water Bond" to be passed by the voters of California approximately 15 years into the permit term. (BDCP, Sec. 8.3.5.1, page 8-85, lines 3-6.)] All totaled, the BDCP proponents expect the voters of California to pass future water bonds in the amount of \$3.75 billion to fund BDCP actions -- an amount approximately equal to 25% of the entire BDCP budget.</p>	Please see response to Comment 1433-15.
1433	18	<p>The remaining BDCP budget (\$17 billion) is expected to be funded by the State and Federal Water Contractors, according to Table 8-37. Yet a review of Section 8.3.4.4 reveals that even this source of funds is speculative. According to that section, "[t]he most credible assurances of funding from the participating state and federal water contractors result from an economic benefits analysis ..." and two primary conclusions derived from the economic analysis that: (1) the costs are affordable by the ratepayers, and (2) the benefits to be gained from the BDCP exceed the total cost. [Footnote 34: BDCP, Sec. 8.3.4.4, page 8-81, lines 5-22.] What is missing from these "assurances" is any discussion of whether the State and Federal Water Contractors and their ratepayers would be willing to pay additional billions of dollars in the event that state water bond funding and/or federal appropriations do not materialize. Moreover, the analysis fails to assess the potential impacts of one (or more) State or Federal Water Contractors, or their member agencies, withdraw or refuse to continue to participate in the Plan. Finally, the BDCP analysis mistakenly assumes benefits</p>	Please see response to Comment 1433-15.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>based on expected water deliveries from the newly-constructed conveyance facilities that fails to account for the possibility of reduced Delta water exports as a result of the State Water Board's future Delta flow standards; a major regulatory action that will likely not be taken until after the BDCP is approved under the current time-schedule. [Footnote 35: See, "The High Price of Water Supply Reliability: California's Bay Delta Conservation Plan Would Require Significant Investment," S&amp;P Capital IQ, McGraw-Hill Financial, February 13, 2014.]</p> <p>All of these issues, whether taken together or individually, raise serious questions about the long-term financial assurances required under federal and state law for an approvable HCP/NCCP.</p>	
1433	19	<p>The BDCP implementation structure and process is inadequate and inappropriately devolves excessive authority to the Water Contractors in making decisions that will impact San Francisco Bay.</p>	<p>Please see response to Comment 1433-15.</p>
1433	20	<p>The very nature of the permits to be granted under the BDCP underscores the importance of long-term, substantive input of "downstream" stakeholders into the future implementation of the BDCP itself. Indeed, the permits to be issued by the federal and state agencies to those in the Authorized Entity Group will last for 50 years. Further, under the "No Surprises Rule," the permittees cannot be held responsible for continued species decline. According to the No Surprises Rule:</p> <p>"Once an HCP permit has been issued and its terms and conditions are being fully complied with, the permittee may remain secure regarding the agreed upon cost of conservation and mitigation. If the status of a species addressed under an HCP unexpectedly worsens because of unforeseen circumstances, the primary obligation for implementing additional conservation measures would be the responsibility of the Federal government, other government agencies, and other non-Federal landowners who have not yet developed an HCP." [Footnote 36: See, 50 C.F.R. Part 222; see also, 63 Federal Register 8867 (February 23, 1998).]</p> <p>As a result, the process of "who" and "how" changed circumstances are identified, as well as what future "adaptive management" actions should be taken to address them, is vitally important to interests located, living, or working in or downstream of the Delta region. Further, what is deemed to be "unforeseen circumstances" is equally important to downstream stakeholders because, under the "No Surprises Rule," responsibility for addressing future Delta decline due to "unforeseen circumstances" will likely fall on those Delta or downstream stakeholders, or on the People of the State of California.</p> <p>The Partnership of Sound Science Environmental Policy requests the Lead Agencies to address the following examples of the BDCP's inadequate implementation structure:</p> <p>Section 6.4.2.1: Process to Identify Changed Circumstances. Under the BDCP, the Implementation Office or the Permit Oversight Group "may identify the onset of a changed circumstance, using information obtained from system-wide or effectiveness monitoring, scientific study, or information provided by other sources." [Footnote 37: BDCP, Ch. 6, page 6-31, lines 24-25.] Glaringly absent from this process of identifying "changed circumstances" (which, in turn, requires the Authorized Entities Group to make changes to applicable Conservation Measures identified in the BDCP) is any substantive role for the State Water Resources Control Board and the Delta Watermaster. Each of these independent state agency/offices have very important and discreet roles with regard to policies, regulations, permits, and other actions affecting the Delta, and they should both be given more</p>	<p>Please see response to Comment 1433-15.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		substantive roles during the 50-year, "No Surprises" permit that the Authorized Entity Group will receive.	
1433	21	<p>Section 6.4.2.2: Changed Circumstances Related to the BDCP. This section summarizes nine identified categories of "changed circumstances related to the BDCP," including: levee failures, flooding, new species listing, drought, wildfire, toxic or hazardous spills, nonnative invasive species or disease, climate change, and vandalism. [Footnote 38: BDCP, Sec. 6.4.2.2, pages 6-32 through 6-45.] Specifically absent from these nine "anticipated" changed circumstances are non-ESA and CESA regulatory changes, changes to the "Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary" (Bay-Delta Plan), and even water availability decline, except as superficially treated in the "Drought" section.</p> <p>It is unfathomable to think that changes to the Bay-Delta Plan by the State Water Board are not "reasonably anticipated" by the Authorized Entity Group and the Permit Oversight Group. Indeed, the State Water Board has been working on planned amendments to the Bay-Delta Plan for at least the past eight years to address various issues and known stressors to the Delta ecosystem. According to the State Water Board website:</p> <p>"The State Water Board is in the process of developing and implementing updates to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) and flow objectives for priority tributaries to the Delta to protect beneficial uses in the Bay-Delta watershed. Phase 1 of this work involves updating San Joaquin River flow and southern Delta water quality requirements included in the Bay-Delta Plan. Phase 2 involves other comprehensive changes to the Bay-Delta Plan to protect beneficial uses not addressed in Phase 1. Phase 3 involves changes to water rights and other measures to implement changes to the Bay-Delta Plan from Phases 1 and 2. Phase 4 involves developing and implementing flow objectives for priority Delta tributaries outside of the Bay-Delta Plan updates." [Footnote 39: <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/</a>]</p> <p>Many dozens of entities that are members of the State Water Contractors or the Federal Water Contractors (and thus part of the Authorized Entities under BDCP) have participated in or been represented at public workshops, hearings, and State Water Board meetings regarding various elements of the Bay-Delta Plan revisions. They, more than most, are intimately aware of the work that the State Water Board is doing on the Bay-Delta Plan revisions, and they should be able to "reasonably anticipate" changes that will likely affect salinity limits, flow standards, and potential water rights changes.</p>	Please see response to Comment 1433-15.
1433	22	<p>Section 6.4.3. Unforeseen Circumstances: "Unforeseen circumstances" are defined in the BDCP as "those changes in circumstances that affect a species or geographic area covered by an HCP that could not reasonably have been anticipated by the plan participants during the development of the conservation plan, and that result in a substantial and adverse change in the status of a covered species." [Footnote 40: BDCP, Sec. 6.4.3, page 6-45, lines 15-22.] The significance of whether changed circumstances affecting Delta species or the geographic area covered by the BDCP are deemed to be "unforeseen" is that the Permit Oversight Group "may not require the commitment of additional land or financial compensation, or additional restrictions on the use of land, water, or other natural resources other than those agreed to in the plan, unless the Authorized Entities consent." [Footnote 41: BDCP, Ch. 6.4.3, page 6-45, lines 20-22.] Stated alternatively, if any "unforeseen circumstances" arise and require additional commitments of land or water to enhance species survival, none of the Authorized Entities would be required to pay for it. As</p>	Please see responses to Comment 1433-15 and 1433-23.

DEIRS Ltr#	Cmt#	Comment	Response
		such, individuals and entities located, living or working in, or downstream of the Delta will likely be left holding the bag.	
1433	23	Section 6.4.4. BDCP Relationship to Significant Future Projects or Government Regulations: Section 6.4.4 acknowledges that the State Water Board is developing new Delta flow standards which will likely affect the Delta, but then oddly concludes that such action "may affect the conservation strategy [of the BDCP] in ways that cannot be predicted." [Footnote 42: BDCP, Sec. 6.4.4, page 6-46, lines 21-25.] Given all of the various models run on expected salinity levels, mercury loading, temperature variation, selenium loading and expected climate change impacts to BDCP Conservation Measures, it seems dubious--at best--to conclude that impacts associated with anticipated Delta flow standards cannot be predicted. Indeed, the Authorized Entities are certainly aware of the State Water Board's August 3, 2010 report, "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," wherein various potential reductions in allowable water exports from the Delta were analyzed and recommended. Certainly, the BDCP could easily (and thus, should) include various modeling scenarios to account for reduced water exports equal to 20, 30, 40 or 50 percent, and develop appropriate Conservation Measures to account for these potentialities.	<p>Please see response to Comment 1433-15.</p> <p>The impacts associated with Delta flow standards cannot be predicted because the flow standards themselves have not been set. Draft recommendations have no force in regulation, and moreover are "draft" for various reasons, most notably, because they have not yet been shown to be appropriate or achievable. As commenter notes, proposed project modeling of flow effects has been extensive, but without a flow standard to evaluate, conclusions are not possible.</p> <p>Neither the proposed project nor its EIR/EIS propose water export reductions at various stepped scenarios and there is no reason to expect this to occur. Analysis of such scenarios would accordingly be inconsistent with the alternatives proposed and would serve no useful purpose.</p> <p>For updated modeling of the new preferred alternative please see Appendix B.</p>
1433	24	Section 6.5. Changes to the Plan or Permits: Section 6.5 describes the processes that are to be followed to change the BDCP or permits issued thereunder. These changes are referred to as "administrative changes," "minor modifications or revisions," and "formal amendments" to the BDCP. "Minor modifications or revisions" are further defined to include, without limitation, "Adaptive management changes to conservation measures or biological objectives, including actions to avoid, minimize, and mitigate impacts, or modifications to habitat management strategies developed through and consistent with the adaptive management and monitoring program described in Chapter 3, Conservation Strategy." [Footnote 43: BDCP, Sec. 6.5.2, page 6-49, lines 8-11.] Read in conjunction with Section 3.6, relative to changing Conservation Measures or biological objectives under the adaptive management process, it is clear that the Authorized Entities have no intention of re-submitting substantive BDCP changes to the Delta Stewardship Council for Delta Plan concurrence.	<p>Commenter correctly notes the text of Section 6.5, but nothing in Section 6.5 has bearing on the Delta Stewardship Council or their authority. As noted in BDCP Section 1.5.1 The Delta Plan, the Delta Stewardship Council "is vested with the authority to review actions of state and local agencies and advise on their consistency with the Delta Plan." Nothing in the BDCP alters that authority.</p> <p>Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A no longer includes the BDCP HCP. 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 also see Master Response 5, which provides additional information on the BDCP.</p>
1433	25	Under the Sacramento-San Joaquin Delta Reform Act of 2009, the Legislature created the Delta Stewardship Council, an independent agency of the State charged with developing an over-arching "Delta Plan" to implement the "co-equal goals" of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. There is little question that the 2009 Delta Legislation envisioned a significant role for the Delta Stewardship Council as the BDCP was being developed and during its implementation. In fact, the 2009 Delta Legislation provides that the BDCP can be considered for inclusion within the Delta Plan, but specifically prohibits inclusion of the BDCP into the Delta Plan unless the Council finds that the BDCP meets nine, legislatively-established conditions. Some of these conditions relate to obligations under the Natural Community Conservation Planning Act, which in turn, include the development and implementation of Conservation Measures intended to restore the imperiled Delta ecosystem. However, there is no provision within BDCP that requires any substantive changes to the Plan to be re-submitted to the Delta Stewardship Council for confirmation that it is consistent with the Delta Plan,	<p>Please see response to Comment 1433-15.</p> <p>Please also see Master Response 31, which provides additional information on the Delta Reform Act.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		and thereafter re-incorporated within the Delta Plan.	
1433	26	<p>The BDCP should include the State Water Resources Control Board and the Delta Watermaster within the governing and implementing agency hierarchy.</p> <p>As currently contemplated, the BDCP provides no formal role for either the State Water Board or the Delta Watermaster in any substantive governance or oversight entity. Yet, as previously noted, the State Water Board will be setting new Delta flow standards in the coming few years, and will be responsible for ongoing regulatory actions (e.g., revised flow standards in the future, water quality plan for the Delta, water rights permitting and enforcement) which are likely to affect BDCP actions over the course of the 50-year permit expected to be issued for the Project. Similarly, the Delta Watermaster -- created by the Delta Reform Act -- has important authority to enforce the State Water Board's regulatory decisions affecting the Delta, and should also be part of any BDCP oversight entity.</p> <p>In essence, the governance structure of BDCP is being created by water exporter interests, gives decision making authority to water exporter interests, and grants dispute resolution authority to water exporter interests. There must be a more balanced approach to governance that does not exclude local authorities. Furthermore, for governance actions that could affect interests of stakeholders in San Francisco and San Pablo Bays, there needs to be a mechanism to allow these stakeholders' interests to be more substantively represented in the BDCP decision-making process. [Footnote 44: Indeed, a review of the various NCCPs adopted and in the planning stages throughout California reveal that the vast majority of these plans are either lead by or include affected county and local governments or special districts within their governance structure. (See, <a href="https://www.dfg.ca.gov/habcon/nccp/status/index.html">https://www.dfg.ca.gov/habcon/nccp/status/index.html</a>.) If adopted, the BDCP would be unusual in California in that it would enable parties not located within the affected geographical area of the NCCP to literally control most (if not all) of the day-to-day operations and decision-making relative to the NCCP.]</p>	Please see response to Comment 1433-15.
1433	27	<p>The BDCP fails to comply with the Delta Reform Act of 2009.</p> <p>The Delta Reform Act provides that the BDCP will not be incorporated into the Delta Stewardship Council's "Delta Plan" if it does not meet specific minimum requirements. [Footnote 45: California Water Code Section 85320(b).] The EIR/EIS fails to adequately address specific requirements of the Delta Reform Act in the following major areas:</p> <ul style="list-style-type: none"> <li>* The EIR/EIS is to provide a comprehensive analysis of a reasonable range of flow criteria, rates of diversion, and other operational criteria. This range is to include flows necessary for recovering the Delta and restoring fisheries under a reasonable range of hydrologic conditions. This range is to include the flow criteria developed by the State Water Resources Control Board in August 2010 which identified flow conditions and operational requirements to provide fishery protection under the existing Delta configuration.</li> <li>* Using the above information, the EIR/EIS is to identify the remaining water available for export and other beneficial uses.</li> <li>* As discussed above, the Delta Reform Act prohibits construction of a new Delta conveyance facility until arrangements have been made to pay for the cost of mitigation required for construction, operation and maintenance of any new Delta conveyance facility. [Footnote 46: California Water Code [Section]85089(a).] Accordingly, the mitigation</li> </ul>	<p>As described in Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, of the EIR/EIS, the range of alternatives provides a range of flow criteria, rates of diversion, and operational criteria. One of the potential alternatives considered in Appendix 3A was based upon the State Water Resources Control Board 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem. This potential alternative was not evaluated in detail because the flow recommendations in the 2010 report could not be achieved without adverse impacts to cold water management for fisheries in the Sacramento, Feather, and American rivers, and without reductions in non-SWP and non-CVP water rights diversions. The purpose and need of this EIR/EIS would not allow changes to non-SWP and non-CVP water rights. However, Alternatives 7 and 8 in the EIR/EIS reflect similar flow criteria in a manner that would only affect SWP and CVP water rights.</p> <p>All of the alternatives were developed and analyzed in a manner that provide water first for water rights and existing regulatory requirements; then, for environmental requirements established by the alternative; and finally, remaining water supplies were allocated to SWP and CVP water contractors.</p> <p>Mitigation measures and proposed funding actions will be discussed in the Final EIR/EIS. For more information regarding the proposed project's compliance with the Delta Reform Act please see Master Response 31. Please also see response to Comment 1433-15.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>measures need to be clearly specified and linkages to impacts of the proposed project should be plainly identified so that the financial obligations are apparent.</p> <p>The EIR/EIS either fails to include or fails to clearly address these major requirements of the Delta Reform Act. Therefore, the BDCP cannot be incorporated into the Delta Plan unless these flaws are remedied.</p>	
1433	28	<p>The Delta Plan requires that actions be taken to reduce reliance on the Delta as a water supply. CEQA requires that the EIR/EIS give proper consideration to measures that would reduce reliance on the Delta, including improved water use efficiency, increased storage, and local water supply projects (e.g. desalination). These measures should be addressed either as an alternative to the proposed plan or as proposed mitigation measures to address significant impacts of the proposed project. The EIR/EIS fails to consider or properly address these measures as alternatives to the proposed project.</p>	<p>The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The specific proposals that were considered but ultimately rejected by the Lead Agencies are discussed in Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1. Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS, including the NRDC Portfolio-Based Proposal, Congressman Garamendi's Water Plan, and other similar concepts that would require actions that are beyond the scope of the proposed project.</p> <p>Please 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. Also, refer to Master Response 6 and Appendix 1C for further information on demand management measures, including water conservation. 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.</p> <p>For more information regarding the proposed project's compliance with the Delta Reform Act please see Master Response 31.</p>
1433	29	<p>The Partnership for Sound Science in Environmental Policy maintains the BDCP and the supporting EIR/EIS are seriously flawed with respect to potential long-term impacts related to selenium loading to San Francisco and San Pablo Bays. Our members respectfully request that these flaws be corrected, and that adequate financial commitments are made by the BDCP proponents to carry out adequate long-term monitoring of future selenium loading to San Francisco and San Pablo Bays that are directly or indirectly attributable to BDCP actions. Further, we request that the BDCP proponents provide adequate financial assurances that future "adaptive management" actions will be taken to address the impacts of expected selenium loading of San Francisco and San Pablo Bays which, we believe, a robust Bay-Delta selenium monitoring program will confirm.</p>	<p>Please refer to Master Response 14, which provides additional discussion of selenium.</p> <p>Concurrently with the FEIR, the Monitoring Mitigation and Reporting Program (MMRP) will be published and it will provide additional details responsive to this comment.</p>
1433	30	<p>[ATT 1: Article on Selenium attached to BDCP1433 - "Modeling Fate, Transport, and Biological Uptake of Selenium in North San Francisco Bay."]</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>
1433	31	<p>[ATT 2: Map from BDCP EIR/EIS showing affected area of environmental impacts.]</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>
1433	32	<p>[ATT 3: Report on Selenium Assessment of BDCP attached to BDCP1433 by Western State Petroleum Association - "Review of Selenium Bioaccumulation Assessment in The Bay Delta Conservation Program Draft EIR/EIS."]</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1434	1	<p>Though this is a program level document, we at Sacramento Metropolitan Air Quality Management District recommend that there be a more detailed estimate of impacts made in the Cumulative Effects sections in each chapter. It is inadequate to simply state an impact could be significant, if the EIR does not also give information regarding the size or scope of the impact. Without that information, decision-makers cannot make informed decisions as to whether the impact is acceptable.</p>	<p>Chapter 22, Air Quality and Greenhouse Gases, Section 22.3.5, Cumulative Analysis, evaluates cumulative air quality and greenhouse gas (GHG) impacts associated with construction and operation of the water conveyance facilities and conservation measures (CM)/environmental commitments. Per the Sacramento Metropolitan Air Quality Management's (SMAQMD) CEQA guidelines, the analysis relies on the district's project-level thresholds to determine the significance of potential mass emission impacts. As noted in the CEQA guidelines, "the District's approach to thresholds of significance is relevant to whether a project's individual emissions would result in a cumulatively considerable adverse contribution to the SVAB's existing air quality conditions. If a project's emissions would be less than these levels, the project would not be expected to result in a cumulatively considerable contribution to the significant cumulative impact."</p> <p>As described under Impact AQ-28, all alternatives would exceed SMAQMD's threshold for nitrogen oxides (NOx) and would therefore result in adverse cumulative effects on regional air quality. Implementation of Mitigation Measures AQ-1a and AQ-1b are available to reduce NOx to a less-than-significant level by offsetting emissions below SMAQMD CEQA thresholds. Operation of the water conveyance facilities would not exceed applicable thresholds, and therefore would not result in a cumulatively considerable long-term impact.</p> <p>Section 22.3.5 also evaluates potential health impacts from cumulative exposure to diesel particulate matter (DPM), carbon monoxide (CO), and localized particulate matter (PM) from construction of the water conveyance facilities and past, present, and reasonably foreseeable projects in the study area (listed in Appendix 3D, Defining Existing Conditions, No Action Alternative, and Cumulative Impact Conditions). The analysis found that while Mitigation Measures AQ-9 and AQ-16 would reduce project specific health risks, emissions generated from the development of each alternative would still be cumulatively significant based on the contribution from other existing operational emission sources.</p> <p>Finally, Section 22.3.5 addresses mass emissions and health risks from implementation of the CMs and environmental commitments. As described under Impact AQ-31, cumulative construction and operational emissions associated with the restoration and enhancement actions could exceed SMAQMD thresholds. Mitigation Measure AQ-24 would be available to reduce this effect, but may not be sufficient to reduce emissions below SMAQMD thresholds. Consequently, the impact was determined to be cumulatively considerable and significant and unavoidable. Potential exposure to cumulative health risks from implantation of the CMs and environmental commitments and past, present, and reasonably foreseeable projects in the study area would be addressed through implementation of Mitigation Measure AQ-25, which requires preparation of a site-specific health risk assessment (HRA) for all restoration sites adjacent to sensitive receptors.</p>
1434	2	<p>Given the scope of this project in terms of length of time and cost to construct, to ensure the many air quality mitigation commitments being made (for all pollutants) are met, we at Sacramento Metropolitan Air Quality Management District recommend that plans be outlined for development of contingency mitigation should any currently proposed mitigation prove infeasible.</p>	<p>The lead agencies are committed to ensuring all appropriate, feasible, and applicable measures are implemented. As such, a comprehensive list of measures have been identified and proposed as environmental commitments/best management practices, avoidance and minimization measures, and conservation measures (see Appendix 3B, Environmental Commitments, AMMs, and CMs) and mitigation measures (see Chapter 22, Air Quality and Greenhouse Gases). As drafted, these measures allow flexibility to ensure the lead agencies meet the mitigation and reduction requirements outlined in the analysis.</p> <p>Should the lead agencies determine that any mitigation measures are infeasible, the reasons for this determination will be provided in written Findings of Fact. The need for any additional or modified mitigation requirements would be made at that time prior to implementation of the project.</p>
1434	3	<p>On Page 22-30, footnote 3 of the BDCP Draft EIR/EIS:</p> <p>As stated in July 2013 comments, section 22.2.3.2 Greenhouse Gases - Footnote 3 says that "once fully constructed, the project will not be a land use development or stationary source project, and would therefore likely not be subject to land use development and stationary</p>	<p>Footnote 3 in Chapter 22, Air Quality and Greenhouse Gases, Section 22.2.3.2, is used to clarify that the project does not fit into the land use development or stationary source project categories, as defined by current air district greenhouse (GHG) guidance. The document to which the footnote refers outlines recommended analysis criteria for the determination of significant GHG impacts; it is not a binding air</p>

DEIRS Ltr#	Cmt#	Comment	Response
		source guidance recommended by the Sacramento Metropolitan Air Quality Management District (SMAQMD)." Any future SMAQMD rules will apply and compliance is required. Please revise by adding the following (or similar) statement: "If the air district amends its rules in the future, project proponents will need to reevaluate the rule and guidance applicability."	district regulation. As such, the footnote does not preclude compliance with current or future air district rules, which are discussed in Section 22.2.3.1. As noted in this section, the list of rules may not be all encompassing as additional air district rules may apply to the alternatives as specific components are identified.
1434	4	On Page 22-35, Line 16 of the BDCP Draft EIR/EIS:  Sacramento Metropolitan Air Quality Management District does not use mass emission threshold for PM10, but rather a concentration based threshold, which was correctly used for calculations in other sections of the document. The concentration-based threshold should also be used here, or the analysis should explain why the mass emission threshold is being used instead. Without the explanation, we cannot determine whether the DEIR approach is supportable. Sacramento Metropolitan Air Quality Management District threshold details are available here <a href="http://www.airguality.org/ceqa/ceqguideupdate/Ch2TableThresholds.pdf">http://www.airguality.org/ceqa/ceqguideupdate/Ch2TableThresholds.pdf</a> and are recommended for use in all appropriate sections of the document.	The statement on page 22-35 had incorrectly stated that no PM10 concentration threshold had been established for CEQA impact determinations. The SMAQMD does have a PM10 concentration threshold of 50 micrograms/cubic meter. This concentration threshold is discussed in Chapter 22, Air Quality and Greenhouse Gases, Section 22.3.1.4 (page 22-45), of the RDEIR/EIS. The PM10 concentration threshold is also discussed on page 20 of Appendix 22C, Bay Delta Conservation Plan/California WaterFix Health Risk Assessment for Construction Emissions.
1434	5	On Page 22-37, Section 22.3.1.4 of the BDCP Draft EIR/EIS:  This section does not satisfactorily explain or justify why dispersion modeling was performed only on Alternative 4. Please include an adequate explanation, or provide dispersion modeling results for all alternatives.	The RDEIR/SDEIS includes a PM dispersion analysis for all five project alignments—pipeline tunnel option (PTO), east canal, west canal, modified pipeline tunnel option (MPTO), and separate corridor option (SCO). The modeled alternatives within each alignment option represent the alternative with the greatest intensity of construction activity. For example, Alternative 1A includes construction of five intakes in Sacramento County, whereas all other PTO alternatives would construct five or fewer intakes. Accordingly, emissions and health risks associated with other PTO alternatives would be equal to or less than the modeled concentrations from Alternative 1A. Please refer to Impacts AQ-9 through AQ-12 and AQ-14 through AQ-17 in Chapter 22, Air Quality and Greenhouse Gases, of the RDEIR/SDEIS.
1434	6	On Page 22-41, Section 22.3.2.2 of the BDCP Draft EIR/EIS:  NOx is a precursor to both ozone and PM, and while the EIR acknowledges the ozone relationship, it is silent on the role of NOx as a precursor to PM. The CEQA significance threshold for NOx is relevant to both ozone and PM pollution problems. Because the 85 pound threshold is triggered, the analysis should be revised to indicate NOx is a precursor to both summertime ozone and late fall and wintertime PM problems, and that there is a significant impact in both areas. The mitigation obligation would remain the same, because reducing NOx emissions year-round through cleaner equipment addresses both fall/winter ozone and summer PM levels.  Because NOx is a precursor to both pollutants, any mitigation fees collected to help meet emission reduction commitments will be used to fund emission reducing strategies designed to address PM or ozone problems by reducing one or more of the following pollutants; PM, NOx and VOC emissions. These strategies include replacement of older construction equipment with newer models, replacement of older on-road-heavy-duty trucks with newer trucks, replacement of wood-burning fireplaces, stoves and inserts with cleaner burning devices and enforcement of wood-burning prohibitions.	Section 22.1.2.1 in Chapter 22, Air Quality and Greenhouse Gases, describes the secondary formation of PM through chemical reactions involving sulfur dioxide (SO2), NOx, and reactive organic gases (ROG). The air districts incentive programs and mitigation fees are discussed in Section 22.2.3.1. Offsets for ROG, NOx, and PM are collectively discussed. The text indicates that the analysis of impacts would address both summertime ozone and late fall and wintertime PM problems within the region, although the mitigation obligation would remain the same as reducing NOx emissions year-round through cleaner equipment addresses both fall/winter ozone and summer PM levels.
1434	7	On Pages 22-51 to 22-54, Impact 2 MM AQ-2a of the BDCP Draft EIR/EIS:  The language of this measure accurately reflects discussions between BDCP consultants and Sacramento Metropolitan Air Quality Management District staff at the administrative draft stage of this document. It is worth noting that any decisions regarding general conformity de minimis thresholds being satisfactorily met are up to Environmental Protection Agency	Section 22.2.1.1 in Chapter 22, Air Quality and Greenhouse Gases discusses the role of the federal lead agencies and U.S. Environmental Protection Agency (EPA) in the conformity process. The air district offset programs are only used to mitigate construction emissions consistent with the General Conformity Rule; the conformity determination is made by the federal lead agencies for submission to EPA (see also Appendix 22E, General Conformity Determination).

DEIRS Ltr#	Cmt#	Comment	Response
		not the local air district.	
1434	8	On Page 22-233, MM AQ-2c of the BDCP Draft EIR/EIS:  Though this mitigation appears accurate given current analysis, if additional analysis is performed on other alternatives, this analysis should change accordingly. Refer to <a href="http://www.airquality.org/ceqa/cequguideupdate/Ch2TableThresholds.pdf">http://www.airquality.org/ceqa/cequguideupdate/Ch2TableThresholds.pdf</a> .	The analysis presented in Chapter 22, Air Quality and Greenhouse Gases, in the RDEIR/SDEIS includes a revised HRA based on additional construction information. This mitigation measure is included as Mitigation Measure AQ-16 in the RDEIR/SDEIS and will be implemented to avoid adverse cancer risk impacts in the Bay Area Air Quality Management District (BAAQMD). As disclosed in Impact AQ-14, construction of the water conveyance facilities would not expose receptors in Sacramento County to adverse health risks and as such, no mitigation is required.
1434	9	On Page 22c-17, Line 16 of the BDCP Draft EIR/EIS:  Use the link <a href="http://www.airquality.org/ceqa/cequguideupdate/Ch2TableThresholds.pdf">http://www.airquality.org/ceqa/cequguideupdate/Ch2TableThresholds.pdf</a> to locate the Sacramento Metropolitan Air Quality Management District threshold for PM2.5 which was overlooked in the PM analysis for this jurisdiction.	SMAQMD's concentration-based thresholds for PM are discussed in Chapter 22, Air Quality and Greenhouse Gases, Section 22.3.1.4 (page 22-45), of the RDEIR/EIS. The PM2.5 concentration threshold is also discussed on page 20 of Appendix 22C, Bay Delta Conservation Plan/California WaterFix Health Risk Assessment for Construction Emissions.
1434	10	On Page 3B-23, Lines 14-20 of the BDCP Draft EIR/EIS:  The mitigation plan takes a progressive approach to requiring use of low- and no-emission technology. Although we support this approach, there is a risk that not all of the measures will be achieved. In light of that, the EIR should include a requirement for contingency plans or measures where particular projects are unable to achieve full compliance with the mitigation plan. Otherwise, there is a risk that the plan will not achieve the reductions needed to mitigate impacts.	The Construction Equipment Exhaust Reduction Plan and other environmental commitments described in Appendix 3B, Environmental Commitments, AMMs, and CMs, will be outlined in the Mitigation Monitoring Report Protocol (MMRP) and considered a condition of project approval. Emissions of ROG, NOx, and PM not reduced through onsite measures, but still in excess of air district and federal de minimis thresholds will be offset to CEQA thresholds or net zero through implementation of Mitigation Measures AQ-1, AQ-2, and AQ-4. The offset programs will also be included in the MMRP and considered a condition of project approval.
1435	1	The City of Los Angeles (City) is working diligently to reduce its reliance on water from the Sacramento-San Joaquin Delta (Delta) by implementing a host of local water supply projects and programs outlined in Los Angeles Department of Water and Power's 2010 Urban Water Management Plan (UWMP) and the City's 2006 Water Integrated Resources Plan. Those plans identify significant investments in water conservation, water recycling, stormwater capture, and groundwater remediation aimed at reducing by half the City's dependency on imported water purchased from the Metropolitan Water District of Southern California (MWD).  These efforts are consistent with priorities of the California Water Action Plan, issued by the Brown Administration in January 2014, and the 2009 Delta Reform Act, which states:  "The policy of the State of California is to reduce reliance on the Delta in meeting California's future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency."  Increased local water resource development, conservation, and groundwater cleanup, along with State efforts to ensure reliable deliveries from the Delta, are necessary to secure the City's water future. Local supplies alone will not be sufficient to meet the City's water needs into the foreseeable future, and after fully implementing the local resource development and groundwater remediation programs outlined in the 2010 UWMP, imported supplemental water from the Delta will still be required as part of Los Angeles' water portfolio. That diverse portfolio is particularly important in dry years, when the City will rely on purchased imported water from MWD for up to 50 percent of its supply, with the majority of that purchased water coming from the Delta.	The efforts completed by the City of Los Angeles are supportive of the action alternatives and included in the Existing Conditions, No Action Alternative, and Cumulative Impact analysis assumptions.
1435	2	Los Angeles Department of Water and Power is the largest municipally owned water and power utility in the nation, serving a 464 square-mile area and delivering water and	The continued use of SWP water by Metropolitan Water District of Southern California users, including the

DEIRS Ltr#	Cmt#	Comment	Response
		<p>electricity to nearly four million residents and businesses in the City of Los Angeles. The City receives most of its water from the Eastern Sierra Nevada through the Los Angeles Aqueduct, by purchases from Metropolitan Water District, and from locally pumped groundwater. A mix of these sources, along with a strong water conservation ethos and some water recycling, provide the water supply needed to serve the City.</p> <p>In an average hydrological year, the City now purchases approximately 52 percent of its water supply from MWD, with about 44 percent coming from the Delta and about 8 percent coming from the Colorado River. In dry years, purchased water makes up a much larger percentage of the City's water supply. For example, purchased water will make up about 79 percent of the City's supply during the current year, with about 71 percent coming from the Delta.</p>	<p>City of Los Angeles, are included in the Existing Conditions and No Action Alternative assumptions.</p>
1435	3	<p>The Los Angeles Department of Water and Power's experience is that Delta water supplies have already been reduced by about 30 percent in recent years due to concerns about impacts to the Delta fishery system, and we anticipate that maintaining the status quo will result in the continuing decline of the Delta ecosystem and a likely increase in pumping restrictions. The Delta's levee system is at risk from a variety of factors including climate change, sea level rise, land subsidence, earthquake, and storm surge events. In the case of major levee failures in the Delta, water deliveries to Southern California could be disrupted for up to three years. The Los Angeles Economic Development Corporation estimates that a three-year disruption of water deliveries from the Delta could result in a total revenue loss to Los Angeles County of \$240 billion. [footnote 1: "Total Regional Economic Losses from Water Supply Disruptions to the Los Angeles County Economy." July 23, 2013. Report prepared by A. Rose, I.S. Wing, D. Wei, and M. Avetisyan of the Price School of Public Policy and Center for Risk and Economic Analysis of Terrorism Events, University of Southern California for the Los Angeles County Economic Development Corporation. 54 pages.]</p>	<p>Section 16.3.3.1 of Chapter 16, Socioeconomics, describes that over the long-term, Delta communities and socioeconomic conditions in the Delta would be subject to risks associated with climate change, seismic activity, and other phenomena, as discussed in Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies. Section 16.3.3.17 describes the No Action Alternative-Early Long Term, which applies to the preferred alternative, 4A. However, Chapter 16 does not quantify the financial risks of seismic occurrences because none of the impacts regarding the project in Chapter 9, Geology and Seismicity are significant. Please also refer to Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies for more detailed discussion on seismic risks.</p>
1435	4	<p>The City of Los Angeles was supportive of the passage of the 2009 Delta Reform Act and continues to monitor the current BDCP process. Consistent with the City's support of the 2009 Delta Reform Act, Los Angeles Department of Water and Power supports a solution that provides the following:</p> <ul style="list-style-type: none"> <li>• Equitable cost distribution according to a "beneficiary pays" approach.</li> <li>• Enhanced Delta ecosystem fishery habitat throughout the Delta.</li> <li>• Increased water supply reliability to the Southern California region.</li> <li>• Flexible Delta pumping operations to help reduce the inherent conflict between fisheries and water conveyance.</li> <li>• Improved export water quality to meet stricter urban drinking water standards while also allowing habitat features that promote a healthy food web for fish.</li> <li>• Reduced climate change risks to export water supplies, including reduced risk from salinity intrusion and levee failure associated with rising sea levels and storm surge events.</li> <li>• Reduced risks to export water supplies from seismic-induced levee failure, land subsidence, and subsequent flooding.</li> </ul>	<p>The preferred alternative is now Alternative 4A (California WaterFix Project) and no longer includes an HCP. The proposed project will provide environmental benefits while stabilizing water supplies for a large population of California residents, consistent with statutory policy as found in the Delta Reform Act of 2009 (see, e.g., Cal. Pub. Resources Code, §§ 85001(c), 85002, 85004(a), 85020.) Refer also to Master Response 31 (Compliance with the Delta Reform Act).</p> <ul style="list-style-type: none"> <li>• For more information on funding and costs, see BDCP Chapter 8, cost-benefit analysis on the project website, and Master Response 5.</li> <li>• Constructing new water diversion points in the north Delta with state-of-the-art fish screens and providing a means to transport water supplies under the Delta, rather than through sensitive natural channels, would help in improving the Delta ecosystem. Refer also to the following Master Responses: 3 (Purpose and Need for project) and 17 (Biological Resources). For further information on fish species, including Delta and longfin smelt, refer to Chapter 11 of the EIR/EIS.</li> <li>• The proposed project would enable DWR to construct and operate new conveyance facilities that improve water supply reliability, consistent with California law (e.g., Water Code, § 85001(c)). One of the purposes of the project would be to restore and protect the ability of the SWP and 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. See Master Response 5 and Master Response 3 (Purpose and Need).</li> <li>• The water quality analysis presented in Section 4 of the RDEIR/SDEIS covers the new proposed sub-alternatives and Chapter 8 of the EIR/EIS provide a thorough analysis of important water quality</li> </ul>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Proposals identified in the draft BDCP EIR/EIS could meet the principles for a Delta solution that the City of Los Angeles supported in 2009. A viable solution will better protect threatened and endangered fish species, and also address the impacts of climate change on the Delta system, which may result in changes in the water volume and runoff pattern of the Sacramento River and Delta watershed, and a decreased proportion of precipitation that is naturally stored as snowpack.</p>	<p>constituents of concern throughout the Delta to present the potential water quality effects that could result with project implementation. The effects of the project on salinity conditions in the Delta are also assessed through the comprehensive analysis under each alternative of predicted changes in the specific constituents of bromide (Impacts WQ-5 &amp; WQ-6), chloride (Impacts WQ-7 &amp; WQ-8), and electrical conductivity (Impacts WQ-11 &amp; WQ-12), which contribute to salinity. Regulatory water quality objectives (or guidance values) exist for these constituents for protection of agricultural water supply, municipal and industrial drinking water supply, and fish and wildlife beneficial uses. In addition to potential effects associated with the proposed project and alternatives, modeling results for the No Action Alternative indicate that, with or without project, rising sea levels will bring saline tidal water further into the Delta than what occurs at present. For additional information on water quality, please see Master Response 14.</p> <ul style="list-style-type: none"> <li>The proposed project 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 (collectively Conservation Measure 1; Alternative 4A), measures focused on the protection, restoration, and enhancement of the Delta ecosystem (Conservation Measures 2-11), and measures to reduce other stressors (Conservation Measures 12-21). In addition to the added water management flexibility created by new water diversions and operational scenarios, the project would improve habitat, increase food supplies and reduce the effects of other stressors on the Delta ecosystem. By improving and expanding available habitat, the 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. By reducing other stressors on the Delta ecosystem, the proposed project would also improve the health of the ecosystem and of individual species population, making them stronger and more resilient to the potential variability and extreme conditions caused by climate change. The location of the north Delta diversion facility is less vulnerable to salinity intrusion, a potential impact of sea level rise in the future. If substantial sea level rise and critically dry upstream conditions were to occur, salinity could be repelled from this location for a much longer period of time than under current conditions. By establishing an alternative diversion point for exports as is proposed in BDCP and Alternative 4A, 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. 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 project.</li> </ul> <p>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 action alternatives would be able to completely counteract all of the impacts of climate change. More information on ways in which the project proposes to improve resiliency and adaptability of the Delta to climate change can be found in Chapter 29, Climate Change, EIR/EIS and Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies, EIR/EIS and for the new sub-alternatives in Section 4 of the RDEIR/SDEIS. Additionally, refer to Master Response 19 (Climate Change and GHG). In regard to other stressors, please see Master Response 23.</p> <ul style="list-style-type: none"> <li>Chapter 9 of the EIR/EIS describes the geology and seismicity of the study area. Based on a review of the last 20 years of precast tunnel lining seismic performance histories, it can be concluded that little or no damage to precast tunnel lining was observed for major earthquakes around the world. Based on preliminary data, it is anticipated that the Delta tunnels can be designed to withstand anticipated seismic loads. Design-level geotechnical studies would be conducted to assess site-specific hazards and appropriate mitigation measures would be implemented. Impact GEO- 1 and GEO-7 discusses the possibility of loss or damage resulting from strong seismic activity during construction and operation of water conveyance features. For information regarding tunnel design please see the 2013 Conceptual Engineering Report.</li> </ul>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>Additionally, refer to Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies, of the EIR/EIS for discussion of potential consequences of an earthquake to exports under a No Action scenario and to Master Response 16 (Seismic Issues).</p> <ul style="list-style-type: none"> <li>The Delta ecosystem is in steep decline, which jeopardizes the Delta’s ability to provide water supplies and support fisheries. Over the last 150 years, the Delta has been altered by a system of manmade levees, reservoirs, and dredged waterways constructed to support farming and urban development and to provide flood protection for local towns and cities. Hence, the Delta is threatened by continuing land subsidence and flooding. For additional discussion of these critical issues, please refer to Master Response (Seismic Issues).</li> </ul> <p>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. Refer to Master Response 4 regarding alternatives that were considered, along with Master Response 7 (Desalination) and Master Response 37 (Storage).</p>
1435	5	<p>Because implementation of BDCP will not occur in the Los Angeles area, the primary impact to Los Angeles Department of Water and Power ratepayers is cost. The draft BDCP documents, including the Implementing Agreement, do not yet address final cost sharing percentages for the state and federal water contractors. While the draft BDCP documents do include a 36 percent construction contingency, Los Angeles ratepayers and other beneficiaries will be at risk from cost overruns and issues with project delivery that exceed the contingency. In past positions on the Delta and BDCP, the City of Los Angeles has established a principle of paying a fair share for the construction of conveyance facilities and associated mitigation. LADWP will continue to monitor negotiations, review future drafts of the implementing agreement, and work to ensure that City ratepayers are not required to bear additional or unjustified costs. It is of paramount importance to LADWP that costs associated with a Delta solution do not impact the ability to invest adequately in local resource projects.</p>	<p>This comment expresses concern over the cost burden of the project and addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). Please note that the BDCP is no longer the preferred alternative. Instead, please see Alternative 4A. For more information on funding and costs, see BDCP Chapter 8, cost-benefit analysis on the project website, and Master Response 5.</p>
1435	6	<p>Based on the information available, Los Angeles Department of Water and Power staff estimates a typical single-family residential household in Los Angeles would expect to see a \$2-3 per month increase in their water bill to pay for the construction of the proposed conveyance facility, also called Conservation Measure 1. This estimate is based on several assumptions and variables, including the following:</p> <ul style="list-style-type: none"> <li>Total cost for the conveyance facility is \$14.5 billion, with annual debt service costs of \$1.1 billion.</li> <li>Costs are shared equitably among water exporters based on water deliveries, with MWD’s expected share of the state contractor’s cost at about 50 percent.</li> <li>LADWP continues to purchase water from MWD at current volumes, which is about 15 percent of MWD’s total sales.</li> <li>LADWP collects revenue to cover this cost through retail water sales.</li> <li>A typical single-family residential household in Los Angeles uses about 12 hundred cubic feet per month.</li> </ul>	<p>Please note that the Statewide Economic Impact Report is not a part of this EIR/EIS. No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. No further response is necessary.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1435	7	Chapter 8 also recommends that most of the costs associated with Conservation Measures 2 through 22 (Delta habitat enhancement and restoration and other stressors) and other tasks (monitoring, research, plan administration) should be paid for by State and federal funding sources. Los Angeles Department of Water and Power staff agrees with this recommendation, given the statewide and regional benefits provided by these measures and tasks.	Please see Master Response 5 regarding costs of implementation and for more information regarding funding for the proposed project. The preferred alternative is now Alternative 4A and no longer includes all aspects of CM2-21.
1435	8	Los Angeles Department of Water and Power firmly believes that ensuring the reliability of Delta supplies is only one component of the City's water supply equation. Preliminary estimates indicate that meeting the local resource development and groundwater remediation goals outlined in the City's 2010 UWMP will require about \$2.5 billion in local projects (capital costs) to reach a total of about 258,800 acre feet per year (AFY) of local water supply, including existing groundwater entitlements. State and federal funding, such as that potentially provided by a 2014 Water Bond, would help to minimize the rate impacts to Los Angeles ratepayers. LADWP urges the state and federal governments to provide additional funding to make local resource development (i.e., water conservation, water recycling, and stormwater capture) and groundwater remediation projects locally cost effective for ratepayers. This funding is critical to reducing future dependence on the Delta.	Comment on additional funding for local resource development is noted. No issues related to the adequacy of the EIR/EIS were raised. No further response is required.
1435	9	<p>Local resource development, groundwater remediation, and an improved and reliable Delta water delivery system are complementary efforts and critical to the overall future reliability of the City of Los Angeles' water supply and to the continuing success of its economy. These local efforts are also critical to achieve the environmental benefits that are fundamental to the BDCP by lessening future demands on the Delta. The City's local resource projects go hand-in-hand with a Delta solution and serve to further the Governor's water policy by reducing the City's future reliance on the Delta.</p> <p>Los Angeles Department of Water and Power acknowledges that BDCP is a comprehensive effort to address the chronic water challenges facing both the State Water Project and the Central Valley Project in a manner that also protects the Delta environment. The Delta is currently facing many risks (i.e., earthquakes, levee failure, land subsidence, ecosystem decline, sea level rise, storm surge, climate change, and fish restrictions), which if ignored, will have serious impacts to the City's water supply reliability and economy. There is an opportunity now to implement a long-term solution in the Delta through the implementation of BDCP. However, the State must remember that support for local water resource projects is a necessary and complementary component of the broader statewide water solution, and that proper cost control and allocation of a Delta solution will be necessary to ensure those local resource projects can be constructed.</p>	The proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change. It is important to note that the project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need 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 more information regarding storage, please see Master Response 37.
1436	1	<p>On behalf of San Diego County Taxpayers Association (SDCTA), I would like to invite the California Natural Resources Agency to respond to the specific questions outlined for further SDCTA analysis regarding the Bay Delta Conservation Plan (BDCP).</p> <p>Please identify the methodology used for determining the preferred conveyance size:</p> <p>a. Please include where and how the increased conservation anticipated as a result of rate increases is reflected in the methodology.</p> <p>b. Please include where and how the increased local supply development incentivized by lessening the cost differential between imported water and local supply development is reflected in the methodology.</p>	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. Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. 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

DEIRS Ltr#	Cmt#	Comment	Response
		c. Please include where and how the tolerance of ratepayers to invest in local supply development given the higher rates is reflected in the methodology.	<p>the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p> <p>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, Master Responses 4 for information on the development of the alternatives, and Master Response 5 for additional information on the BDCP.</p>
1436	2	How does the conveyance sizing account for local projects that are planned across the state? Specifically, if all planned local projects are successfully constructed, how would demand for imported water compare to the state's capacity to import it?	<p>Chapter 30, Section 30.1.3, Urban Land Use and Water Use by Hydrologic Region in the 2013 Public Draft EIR/EIS, describes long-term water demand in the hydrologic regions based on projections from the California Water Plan. The California Water Plan evaluates different combinations of regional and statewide resources management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. Follow the California Water Plan here: <a href="http://www.waterplan.water.ca.gov/">http://www.waterplan.water.ca.gov/</a>. 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 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.</p> <p>Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1, in the Final EIR/EIS, describes the range of conveyance alternatives considered. Appendix 1B, Water Storage, in the Final EIR/EIS, describes the potential for additional water storage and Appendix 1C, Demand Management Measures, in the 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.</p> <p>Please see Master Response 4 regarding the selection of alternatives analyzed, Master Response 6 regarding demand management and Master Response 37 regarding water storage.</p>
1436	3	While it is understood by San Diego County Taxpayers Association that the existing analysis is an environmental process, the feasibility and success of the project will in part be determined by financing mechanisms available. What assurances are offered that planned financing mechanisms will reflect dynamic projections as described in item 'A'?	Please see Master Response 5 for information regarding the proposed project funding strategy.
1436	4	While it is understood by San Diego County Taxpayers Association that the existing analysis is an environmental process, the feasibility and success of the project will in part be determined by financing mechanisms available. What assurances are offered that rate increases and allocation will be fair, appropriate and competitive with local potable water sources and conservation?	<p>Rates charged to water users by individual water agencies receiving SWP or CVP supplies are based on the independent rate-setting policies of those agencies. Implementation of the proposed project would not affect how agencies distribute water supply costs among their water customers.</p> <p>The State Water Resources Control Board, not DWR, is responsible for decisions relating to water rights. DWR holds water rights approved by the State Water Resources Control Board but does not have the power or authority to issue water rights to others. Additionally, the proposed project does not seek any new water rights nor include any regulatory actions that would affect water rights holders other than DWR, Reclamation, and SWP and CVP contractors.</p> <p>Importantly, all water exported by the SWP and CVP is the subject of the existing water rights of those two agencies. Exports do not come at the expense of other water rights holders. The proposed project and its alternatives analyzed in the EIR/EIS only include the use of water from existing SWP and CVP water rights or voluntary water transfers from other water rights holders. The proposed project and its alternatives do not reduce the protections for other water right holders.</p> <p>Please refer to Master Response 5 regarding costs and funding of the project.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1436	5	For each of the conveyance sizes studied, to what degree is water reliability out of the Bay Delta increased through managing habitat?	See response to comment 1436-1. The preferred alternative, Alternative 4A, no longer includes an 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 wetlands habitat are similar between all alternatives; therefore, changes in SWP and CVP water supply reliability are related to conveyance capacities and operational criteria defined for each alternative. Overall, average annual Delta exports for each alternative are presented in Figure C-10-8 in Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the Final EIR/EIS.
1436	6	For each of the conveyance sizes studied, to what degree is the drinking water system protected from seawater contamination that could result from a major earthquake.	<p>Assumptions in the No Action Alternative and all of the action alternatives include the assumption of continued operation of the levees as under existing policy and management practices, including levee repairs. As described in Chapter 1 of the Final EIR/EIS, one of the benefits of the Project Objectives and Purpose and Need is to provide a second set of intakes that could be used following levee failures in the central or southern Delta. However, if hydrologic conditions are not consistent with criteria established in each action alternative (e.g., adequate flows to provide north Delta bypass flows), the north Delta intakes would not be operable. In that case water users would continue to manage drinking water supplies as under the Existing Conditions and No Action Alternative.</p> <p>Please see the Final EIR/EIS, Appendix 6A regarding Delta levees and seismic activity. Please see Master Response 3 and Master Response 8 regarding reasons that levee modifications were not included in the alternatives. See also Master Response 14 regarding water quality issues related to salinity.</p>
1437	1	<p>The proposed expansion of the Clifton Court Forebay will directly impact Western's existing Hurley-Tracy No. 1 and 2 double circuit 230-kilovolt (kV) transmission line (HUR-TRY 1&amp;2), Tracy-Contra Costa/Tracy-Los Vaqueros 69-kV transmission lines (TRY-CC/LV Lines) and the Transmission Agency of Northern California's (TANC) Olinda-Tracy 500-kV transmission line (TANC Line) as part of the California-Oregon Transmission Project. Western operates, maintains, and holds the land easement rights for this impacted segment of the TANC Line. When developing new transmission corridors, Western selects alignments that avoid crossing over or through open bodies of water unless required in order to span over rivers and/or canals. Reasonable access to maintain these transmission lines is critical to the operational reliability of Western's electric network and the TANC Line. An alignment of a Western transmission line over/through the proposed Clifton Court Forebay expansion is unacceptable to Western.</p> <p>If the proposed expansion of the Clifton Court Forebay is necessary as part of the BDCP, then the HUR-TRY 1&amp;2, TRY-CC/LV Lines and TANC Line will need to be relocated/rerouted as required by Western and TANC. As these lines are part of the bulk electric system and critical to the reliability of the network, it should be noted that acquiring the necessary outages to relocate these lines may be limited or restricted under certain system operating conditions. The BDCP will enter into an agreement with Western which will include terms and conditions for advance funding and payment of all of Western's costs to relocate/reroute Western transmission lines.</p>	The lead agencies will coordinate with Western to minimize disruption to service and determine acceptable alignments for new and re-aligned transmission lines. Mitigation Measure UT-6: Relocate Utility Infrastructure in a Way That Avoids or Minimizes Any Effect on Operational Reliability, minimizes these effects. Existing corridors will be utilized to the greatest extent possible with the last priority being creating new corridors. Any utility relocation will be coordinated with all appropriate utility providers and local agencies to integrate with other construction projects and minimize disturbance to communities, as required by California Water Code §11590 and associated agreements and any utility-specific guidelines such as WAPA's General Guidelines for the Use of Electric Transmission Line Rights-of-Way. Funding and payment will be coordinated and determined with the appropriate utility districts prior to beginning construction.
1437	2	For the proposed temporary and permanent transmission lines necessary to serve the BDCP temporary construction activities and ongoing BDCP pumping loads when the tunnels are placed in-service, Western recommends an increase to the width of the proposed transmission line corridors from 150 feet to not less than 300 feet. Evaluating a wider corridor will allow for engineering flexibility during design and final alignment of the temporary construction and permanent easements that are expected to range between 100	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 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

DEIRS Ltr#	Cmt#	Comment	Response
		and 150 feet for the 230-kV transmission line segments.	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 refer to Response to Comment 1437-1.
1437	3	Western expects the lead federal agency for the EIS will be the lead federal agency for Section 106 National Historic Preservation Act compliance and all other consultation requirements required by the National Historic Preservation Act and all other laws, orders, and legislation regarding Native American consultation, including appropriate Government-to-Government consultation with federally recognized tribes. The lead agency for Section 106 requirements would be responsible for all appropriate consultation with California State Historic Preservation Office (SHPO), Advisory Council on Historic Preservation, and any other agency requirements. Western recommends that it be a signatory on any Programmatic Agreement and/or other appropriate agreements regarding Section 106 compliance for the BDCP. Western would review all cultural resource documents to ensure adequacy for Western's requirements as appropriate.	This comment was addressed in the RDEIR/SDEIS through Sections 18.2.1.3, which provides information on Section 106 compliance specific to the proposed project. As stated in the RDEIR/SDEIS, a Section 106 Programmatic Agreement (PA) is being developed and the USACE will be the federal lead agency. There has been a change in that Reclamation is no longer a party to the PA.  Since the PA is being developed with the USACE as the federal lead agency, any signatory requests are required to be made directly to USACE. Western was provided a copy of the draft PA for review in spring of 2016.
1437	4	Western recommends that the transmission line portion of the BDCP be included in the project Endangered Species Act (ESA) and Section 106 National Historic Preservation Act (NHPA) consultation and mitigation. If the transmission portion of the project is not sufficiently covered under the project ESA or NHPA consultation and mitigation, then it could cause delays and Western will need to complete additional ESA and NHPA consultation. If Western needs to relocate/reroute existing transmission lines to support the BDCP project, it is likely that Western would need to arrange for a separate ESA and NHPA consultation.	The transmission line portion of the project has not been finalized as the service provider has not been selected. ESA and NHPA consultations are ongoing and will be conducted prior to the determination of the final alignment for the transmission line. Please see Responses to Comments 1437-3 and 1437-1.
1437	5	One of the BDCP proposed soil spoils area is located in the vicinity of Western's TRY-CC/LV Lines, towers 4/1 through 5/2, west of Clifton Court Forebay. Typically, the Western easement agreement restricts the landowner from piling or placing materials within the easement area. This restriction is needed to insure ground to conductor clearance of not less than 35 feet for the 69-kV circuits. In addition, 30 feet of unobstructed maintenance access is required around the towers.	The comment pertains to the BDCP/Alternative 4 evaluated in the 2013 Public Draft EIR/EIS. As explained in Response to Comment 1437-2, the proposed project and preferred alternative is now Alternative 4A/California WaterFix. Please refer to Response to Comment 1437-1 regarding agreements with Western.
1437	6	In general, plans for all tunnel crossings, spoil areas and any other use of Western's rights-of-way or easements shall be reviewed and approved by Western during the design phase and prior to construction.	Where potential conflicts regarding rights-of-way or easements are involved, the Lead Agencies will obtain the appropriate permits prior to construction. See Response to Comment 1437-1.
1437	7	Western requires an entity working in or around Western electrical power lines to abide and comply with the National Electric Safety Code and Occupational Safety and Health Administration (OSHA) standards. Equipment within a Western easement area shall not exceed (14) feet in height when the transmission line is energized.	The proposed project will be required to comply with all Cal-OSHA standards.
1437	8	During construction activities, BDCP must prevent or minimize the proliferation of dust from contaminating and building up on insulators of nearby Western transmission lines.	Please see 3B.2.17 Fugitive Dust Control in Appendix 3B of the RDEIR/SDEIS for more information.
1437	9	Abide by Western's General Guidelines for the Use of Electric Transmission Line Rights-of-Way (copy attached).	The Lead Agencies will coordinate early with the appropriate utility providers to ensure compliance with guidelines and regulations.
1437	10	Western recommends it participate in the BDCP environmental review as a federal Cooperating Agency. As a Cooperating Agency under an appropriate agreement, Western	The Lead Agencies appreciate Western's involvement in the planning process as well as the commitment to stay involved moving forward. The final RDEIR/SDEIS has been updated to include a description of Western's

DEIRS Ltr#	Cmt#	Comment	Response
		<p>will likely not need to supplement the BDCP NEPA documents, provided the BDCP EIR/EIS addresses Western’s requirements. If Western does not become a Cooperating Agency, Western could adopt the BDCP EIR/EIS and then, at a minimum, submit comments on the Draft EIR/EIS and recirculate the document, or prepare its own NEPA document.</p> <p>Whether Western is a federal Cooperating Agency or not, coordination with Western throughout the NEPA process is appropriate and necessary to ensure that any action taken by Western to construct, remove, replace, install, acquire land, acquire easements, perform environmental reviews, etc. associated with the Western transmission system in support of the BDCP project is covered under the BDCP NEPA documentation (including required mitigation).</p>	<p>federal action as described in Western’s public comment letter.</p>
1437	11	<p>Western Area Power Administration (Western) owns and maintains the Olinda-Tracy 500-kilovolt (kV) 200 foot wide transmission line right-of-way (ROW), the Tracy-Los Vaqueros and Tracy-Contra Costa 69-kV 175-foot wide transmission line ROW, and the Hurley-Tracy 230-kV double circuit 125-foot wide transmission line ROW. Western's rights within the easement include the right to construct, reconstruct, operate, maintain, and patrol the transmission line.</p> <p>Rights usually reserved to the landowner include the right to cultivate, occupy, and use the land for any purpose that does not conflict with Western's use of its easement. To avoid potential conflicts, it is Western's policy to review all proposed uses within the transmission line easement. Western considers: (1) Safety of the public, (2) Safety of our Employees, (3) Restrictions covered in the easement, (4) Western's maintenance requirements, and (5) Protection of the transmission line structures and (6) Road or street crossings.</p> <p>[From ATT 1]</p>	<p>See Response to 1437-1. Any construction or utility relocation within Western’s right-of-way will be coordinated with all appropriate utility providers and local agencies to integrate with other construction projects and minimize disturbance to communities, as required by California Water Code §11590 and applicable utility guidelines, and to avoid potential conflicts.</p>
1437	12	<p>The outline below lists the considerations covered in the review. Please note that some items may overlap. This outline has been prepared only as a guide; each right-of-way encroachment is evaluated on an individual or case-by-case basis.</p> <p>Safety of The Public:</p> <p>A. Approval depends, to a large extent, on the type and purpose of the development. Western takes our obligation to public safety very seriously. To insure our obligation, any use of the easement that will endanger the public will not be allowed or strongly discouraged (e.g., kite flying is prohibited).</p> <p>B. Metal fences must be grounded in accordance with applicable safety codes.</p> <p>C. Lighting standards shall not exceed a maximum height of 15 feet and not placed directly under the conductors (wires). All lighting standards must be grounded.</p> <p>D. Structures are not allowed on the easement. Structures include, but are not limited to, buildings, sheds, swimming pools, basketball courts, tennis courts, gazebos, etc.</p> <p>E. No ground elevation changes are allowed which would reduce the ground to conductor clearance below 35 feet.</p> <p>Safety of Our Employees:</p> <p>Vegetation and encroachments into our right-of-way requires our crews to take action,</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Please refer to Responses to Comments 1437-1 and 1437-11.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>which places them at risk. Therefore, any vegetation or encroachments that present a risk to our employees will not be allowed.</p> <p>[From ATT 1]</p>	
1437	13	<p>Restrictions Covered In the Easement:</p> <p>The easement prohibits the following: (1) any use that will interfere with or damage the equipment of the United States, (2) digging or drilling of a well, (3) erecting buildings or structures, (4) placing or piling up material within the easement boundaries. The easement gives Western the right to remove trees, brush or other objects interfering with the safe operation and maintenance of the line.</p> <p>[From ATT 1]</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Please refer to Responses to Comments 1437-1 and 1437-11.</p>
1437	14	<p>Maintenance Requirements:</p> <p>A. Berms shall not be placed next to the base of the transmission line tower.</p> <p>B. Any proposed improvements to the easement (including grading, parking lot, lighting, landscaping, fences, etc.), must be reviewed by Western to assure that they will not interfere with the safe operation and maintenance of the transmission line.</p> <p>C. A 14-foot gate is required in any fences that cut off access along our easement.</p> <p>D. Thirty (30) feet of unobstructed access is to be maintained to and around the towers.</p> <p>[From ATT 1]</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Please refer to Responses to Comments 1437-1 and 1437-11.</p>
1437	15	<p>Protection of the Transmission Line Structure (Towers, Guy Wires, etc.):</p> <p>A. If the proposed use increases the possibility of a motor vehicle hitting the transmission line structure, an appropriate guardrail shall be installed to protect the structure (e.g., parking lots or roads).</p> <p>B. Trench digging within 200 feet of the structures, which would weaken or damage the structures, is prohibited. Also the locations of the tunnels shall not cross at midspan of the structures.</p> <p>C. No ground elevation changes are allowed within 30 feet of the structures, and in no case shall the conductor to ground clearance be reduced below 35 feet.</p> <p>D. Abide and comply with the National Electric Safety Code and Occupational Safety and Health Administration (OSHA) standards. These standards shall be applied for equipment, electrical, and non-electrical workers operating around electrical power lines.</p> <p>E. Utilize water trucks while earth moving equipment is in use to prevent dust contamination on the transmission line insulators.</p> <p>F. Equipment within the easement area shall not exceed (14) feet in height including tunnel burrowing machines, excavators, backhoes, front-end loaders, cranes or other equipment.</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Please refer to Responses to Comments 1437-1 and 1437-11.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		[From ATT 1]	
1437	16	<p>Roads or Street Crossings:</p> <p>Western's policy is to have roads or streets cross the easement at right angles, or as nearly at right angles as possible, so that a minimum area of the road or street lies within the transmission line easement.</p> <p>[From ATT 1]</p>	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Please refer to Responses to Comments 1437-1 and 1437-11.
1438	1	The Yolo-Solano Air Quality Management District (YSAQMD) has received the above referenced document (DEIR). The DEIR describes various alternatives for the operation of the existing State Water Project Delta facilities and for the construction and operation of conveyance facilities for the movement of water entering the Delta from the Sacramento Valley watershed to the existing State Water Project and federal Central Valley Project pumping plants in the southern Delta.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1438	2	<p>The Yolo-Solano Air Quality Management District would like to make the following comment regarding the proposed project and the DEIR:</p> <p>The DEIR analyzes impacts to air quality for each project alternative described in the DEIR. Not all of these alternatives would produce impacts in the YSAQMD. For alternatives that would generate criteria air pollutants in excess of YSAQMD thresholds, the DEIR proposes implementation of Mitigation Measure Air Quality AQ-2a to offset the emissions. Mitigation Measure AQ-2a would offset emissions through the payment of offsite mitigation fees that would be used to fund clean air projects, such as the replacement of older vehicles with newer, less emissive vehicles. The projects funded by the offset payments could occur anywhere in the Sacramento Federal Nonattainment Area.</p>	<p>Mitigation Measure AQ-2a is now Mitigation Measure AQ-1a and Mitigation Measure AQ-2b is now Mitigation Measure AQ-1b in the RDEIR/SDEIS. Mitigation Measures AQ-1a and AQ-1b were revised in the RDEIR/SDEIS to indicate that offsetting would occur within the Sacramento Federal Nonattainment Area (SFNA), rather than identifying applicable air districts (e.g., Sacramento Metropolitan Air Quality Management District [SMAQMD] and Yolo-Solano Air Quality Management District [YSAQMD]).</p> <p>Please refer to Master Response 22 for more information regarding mitigation measures.</p>
1438	3	<p>One of the components of Mitigation Measure Air Quality-2a is the following:</p> <p>"Develop a compliance program to calculate emissions and collect fees from the construction contractors for payment to Sacramento Metropolitan Air Quality Management District. The program will require, as a standard or specification of their construction contracts with Department of Water Resources, that construction contractors identify construction emissions and their share of required offsite fees, if applicable. Based on the emissions estimates, DWR will collect fees from the individual construction contractors (as applicable) for payment to SMAQMD. Construction contractors will have the discretion to reduce their construction emissions to the lowest possible level through additional onsite mitigation, as the greater the emissions reductions that can be achieved by onsite mitigation, the lower the required offsite fee. Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, additional electrification or alternative fuels, engine-retrofit technology, and/or after-treatment products. All control strategies must be verified by SMAQMD."</p> <p>Regarding the implementation of this mitigation measure, the Yolo-Solano Air Quality Management District would like to emphasize that when a threshold of significance for criteria pollutants is exceeded, on-site emission reductions are always preferable to offsite mitigation. Reducing emissions on-site ensures that reductions occur at the same time and at the same location that the emissions are generated. This is especially true for particulate emissions, the impacts of which are far more localized than the impacts resulting from emissions of ozone precursors. While offsite mitigation of criteria pollutants is a legitimate</p>	As described in Appendix 3B, Environmental Commitments, AMMs, and CMs, all feasible onsite emissions reduction measures have been incorporated into the project design. Specifically, the Lead Agencies will implement a Construction Equipment Exhaust Reduction Plan, which is comprised of several aggressive performance standards for off-road equipment, on-road vehicles, marine vessels, and locomotives. The Lead Agencies will also implement basic and enhanced control measures at all construction and staging areas to reduce construction-related fugitive dust. The environmental commitments described in Appendix 3B will reduce onsite construction emissions to the greatest extent practical, and will be pursued prior to the procurement of offsets. Only the remaining emissions after implementation of all feasible onsite control measures will be offset through Mitigation Measure AQ-1a/b. As described in Chapter 22, Air Quality and Greenhouse Gases, all offsets purchased by the Lead Agencies must provide contemporaneous (i.e., occur in the same calendar year as the emission increases) and localized (i.e., within the SFNA) emissions benefit to the area of effect.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>measure for reducing emissions, and will definitely be necessary if it is determined that emissions should be reduced to "net zero", priority should always be given to limiting emissions from the actual emission source(s). The YSAQMD recommends that emissions from the project be reduced to the greatest extent practicable on-site, and that any remaining emissions be mitigated through Measure AQ-2a.</p>	
1438	4	<p>Table 22-9 on page 22-42 of the DEIR shows thresholds of significance that have been adopted by the various air districts in which impacts from the project would occur. The table identifies an increased cancer risk of ten in one million for the Yolo-Solano Air Quality Management District as a threshold for long-term exposure to toxic air contaminants (TACs), such as diesel particulate matter. The YSAQMD would like to emphasize that this ten-in-one-million threshold does not apply to impacts from mobile sources, including construction-related vehicles. The YSAQMD's Handbook for Assessing and Mitigating Air Quality Impacts, which provides guidance for analyzing air quality impacts in the District, states that the TAC thresholds are based on the District's Risk Management Policy (page 7). The Handbook further states: "While the District's Risk Management Policy provides a basis for a threshold for TACs from stationary sources, this policy does not cover TACs from mobile sources. The District has no permitting or other regulatory authority over mobile sources. While the District continues to evaluate a threshold of significance for mobile source TAC, no specific mobile source TAC threshold is proposed at this time."</p> <p>Since the YSAQMD has no official mobile source threshold of significance for TACs, lead agencies can choose a threshold that they believe is appropriate for their analysis. Many analyses for projects that have occurred in the YSAQMD in the past have determined that the ten-in-one-million excess cancer risk stationary source threshold is also appropriate for mobile or construction-related TAC impacts.</p>	<p>The lead agencies have elected to utilize ten-in-one-million to assess the significance of diesel particulate matter (DPM) concentrations from all project sources, including mobile sources. This threshold is consistent with the current state of practice for conducting health risk assessments and guidance published by the California Air Pollution Control Officers Association (CAPCOA) and other air quality management districts.</p>
1440	1	<p>I am writing you today, as a concerned citizen, to ask that any Delta solution developed by the state does not come at the expense of those who live and work in the Sacramento region. The proposed solutions in the Bay Delta Conservation Plan focus on solving the Delta's environmental problems and Central and Southern California's water supply needs. However, it continues to ignore the needs of Northern California upstream of the Delta. This poses serious risks to our economy, environment and quality of life.</p>	<p>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.</p> <p>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, Master Responses 4 for information on the development of the alternatives, and Master Response 5 for additional information on the BDCP</p> <p>The proposed project would not affect upstream water rights. It aims to allow the federal and state water projects to deliver more reliable water supplies, in a way less harmful to fish. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. The CALSIM II modeling performed for conveyance facility operations takes into account projected future demand for water supply in areas upstream of the Delta (as part of the future No Action baseline) prior to calculating Proposed Project diversion estimates to ensure that no area-of-origin protections or upstream water rights</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>are affected by project conveyance facilities. Please see Appendix 5A of the Final EIR/FEIS for additional modeling details. Please see Master Response 6 regarding demand management and Master Response 26 on water resources in northern California.</p> <p>Chapter 16 of the Final EIR/EIS and RDEIR/SDEIS Appendix A (Socioeconomics) identifies the unique features of the Delta and describes the potential effects on Delta communities. Please see Chapter 15 of the Final EIR/EIS for a discussion on impacts to recreation. Impacts to agriculture are identified and discussed in Chapter 14 of the Final EIR/EIS; the lead agencies have proposed measures that would support and protect agricultural production in the Delta by securing agricultural easements and/or by seeking opportunities to protect and enhance agriculture with a focus on maintaining economic activity on agricultural lands. Please see Master Response 18 for more information on agricultural mitigation and Master Response 24 for information on the Delta As a Place.</p>
1440	2	<p>In early 2014, I was shocked and saddened by the drought's impacts upon Folsom Lake and the lower American River. The lake and river are key to the Sacramento region's economy, lifestyle and environment and are crucial in providing water for California's water system and the Sacramento-San Joaquin Delta.</p>	<p>This comment is consistent with findings for other portions of California when water supplies are reduced, as discussed in Chapter 16, Socioeconomics, of the Final EIR/EIS. Please also see Master Response 47 regarding drought and Alternative 4A.</p>
1440	3	<p>The current draft of the BDCP's Environmental Impact Statement/Environmental Impact Report states that as the BDCP is implemented, Folsom Reservoir could go to dead pool approximately once every ten years. Folsom Lake is crucial not only to our water supplies, but for the entire state. The BDCP acknowledges the possibility of Folsom Lake going dry, but the state is not proactively working toward solving this critical issue.</p>	<p>Please see response to comment 1440-1 regarding the preferred alternative. 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.</p> <p>The dead pool issue under the No Action Alternative is associated with climate change effects on reservoir operations were included in the No Action Alternative and were used to compare the EIR/EIS alternatives under future conditions. This allowed the effects of each alternative to be discussed under future (assumed) climate change conditions. Folsom Lake minimum storage was assumed to be 90,000 acre-feet, corresponding to an elevation of 320 feet (to allow water supply releases). This condition was simulated to occur in 3 years for the Existing Conditions (CEQA baseline) and was simulated in 6 years for the No Action Alternative (ELT) and in 9 years for the No Action Alternative (LLT). Because the CALSIM model used the same assumed reservoir operations rules for each alternative, the comparison between alternatives and the No Action Alternative result in changes related to the alternative implementation only.</p> <p>As discussed in this comment, increased water use by senior water rights holders in the American River watershed would reduce the availability of water for the SWP and CVP operations, as indicated in the EIR/EIS through the comparison of the No Action Alternative and Existing Conditions. The No Action Alternative includes an additional 177,000 acre-feet/year of water rights diversions upstream of Folsom Lake for senior water rights holders.</p> <p>The EIR/EIS evaluates long-term operation 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 Proposed Project and other action alternatives and as compared to the 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 recent 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. Please also see Master Response 25 regarding upstream reservoirs and Master Response 6 regarding demand management.</p>
1440	4	<p>In this dead pool scenario, significant urban populations in Sacramento, Placer and El Dorado counties- including Granite Bay and the cities of Folsom and Roseville - would be essentially cut off from critical surface water supplies for several months. This would</p>	<p>Please see response to comment 1440-1 regarding the preferred alternative. 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,</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>devastate the region's economy, devalue property and likely lead to depopulation of cities. It would also ultimately devastate the same environment that the BDCP is looking to restore -- the San Francisco- San Joaquin Bay Delta. These economic and environmental impacts would not only harm the Sacramento Region, but also harm the entire state.</p> <p>The Sacramento region's water agencies, cities and counties have worked together on a comprehensive review of the current draft of the BDCP and its related documents and have identified fatal flaws. As a concerned citizen of California, I feel it is critical to reiterate the fatal flaws in the current draft of the BDCP.</p>	<p>Section 4, New Alternatives: Alternatives 4A, 2D, and 5A, and Master Responses 4 (Alternatives) and 5 (BDCP) for additional information.</p> <p>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 Other Indirect Effects, of the Final EIR/EIS, including a reduction of water demand by up to 20 percent. These changes would result in "dead pool" conditions in SWP and CVP reservoirs upstream of the Delta even without action alternatives.</p> <p>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.</p>
1440	5	<p>The current draft of the BDCP is fundamentally inconsistent with existing water rights and contracts held by diverters from Folsom Reservoir (cities of Roseville and Folsom and San Juan Water District). The current plan does not meet the basic federal and state criteria to be considered complete. The BDCP lacks an operational plan for the proposed twin tunnels, and the overall governance of the twin tunnels is unclear. Without clarity in the BDCP about the operation of the twin tunnels, the impacts to Folsom Reservoir remain unclear and our region continues to face the potential of dead pool with no clear solutions.</p>	<p>Please see response to comment 1440-1 regarding the preferred alternative. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP. Please see Master Responses 4 and 5 for additional detail on the BDCP and the alternatives involving an HCP component.</p> <p>The proposed project does not seek any new water rights nor include any regulatory actions that would affect water rights holders other than DWR, Reclamation, and SWP and CVP contractors.</p> <p>The amount of water that can be diverted from the new north Delta facilities is set by Federal regulating agencies, ESA compliance and project design, and not by the water contractors. Operations for the proposed project would still be consistent with the criteria set by the FWS (2008) and NMFS (2009) BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641), subject to adjustments made pursuant to the adaptive management process as described in the 2008 and 2009 BiOps (RDEIR/SDEIS Executive Summary ES.2.2). In addition to permitting constraints on daily operations of the SWP and CVP, DWR must maintain proper performance and bypass flows across fish screens when endangered and threatened fish species are present within the north Delta facilities area. The intake fish screens drive the overall size of the intake structure on the riverbank, and have been numbered and sized to permit water to flow through the screens within a predetermined flow regime set by California Department of Fish and Wildlife and NMFS fish screen criteria (BDCP Appendix 5B Section 3.B.3.3).</p> <p>The Lead Agencies will make the final decisions regarding the selection of an alternative (and therefore, an operational scenario) for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see Chapter 3 of the Final EIR/EIS for additional information on Proposed Project operations.</p> <p>Please see Master Response 28 and 5 for more information regarding operational scenarios and compliance with ESA respectively. Please also refer to Master Response 32 for information on water rights issues.</p>
1440	6	<p>With too many unanswered questions, errors and questionable assumptions, I strongly feel that the current draft of the BDCP should be considered incomplete. I ask that you direct</p>	<p>Please see response to comment 1440-1 regarding the preferred alternative. The preferred alternative, Alternative 4A, no longer includes an HCP/NCPP under ESA Section 10 and the NCCPA, but rather would</p>

DEIRS Ltr#	Cmt#	Comment	Response
		the Department of Water Resources to do a better and more complete job and provide the public with a document that clearly defines a solution to the Delta and also supports a good, comprehensive water plan for all of California.	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 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. The proposed project was developed to meet the rigorous 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. Please see Master Response 3 for more information on the purpose and need for the project, Master Response 4 for more information on alternatives development, Master Response 6 for information on demand management, and Master Response 37 for more information on storage.
1441	1	My real worry concerning the proposed tunnel project 9BDCP0 is the long term effect on farming in an area that has provided food for the country for almost 160 years. Its location, soil, and water are the three main reasons that brought the farmers here and the reason we are still here.	The commenter's opinion regarding the project is acknowledged. Although both the construction of new physical facilities in the Delta and the restoration of habitat will lead to the conversion of some amounts of agricultural land in the Delta, effects of the BDCP will be subject to aggressive mitigation efforts. Land that is not directly affected by construction or habitat restoration should remain productive. Please see Master Response 18 for more information regarding agricultural impact mitigation.
1441	2	The tunnels, as proposed, are of such a size that when the originally proposed pumps and the additional two intakes are added, the 15000 cubic feet per second would doom all of us that are downriver from the intakes.  We might live through the construction period, but only with complete destruction of the area.	The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. As described in Section 9.3, all the proposed facilities would be designed and managed during and after construction to meet the safety and collapse-prevention requirements of the relevant state codes and standards listed in Appendix 3B of the RDEIR/SDEIS. Regarding emergency responders, impacts on traffic safety are discussed in Section 4.3.15 of the RDEIR/SDEIS, Transportation (Impact TRANS-3). The potential for significant impacts is identified and mitigation is proposed to avoid or minimize these effects. The proposed mitigation will allow for emergency responders to respond in a timely manner. This potential impact is discussed in Section 4.3.16, Public Services and Utilities, Impact UT-1 of the RDEIR/SDEIS.
1441	3	It is under or right next to my home as was the first proposed alignment. Why don't we now know where the tunnels would go?	For information concerning the routes of the tunnel alternatives, refer to Chapter 3 of the FEIR/FEIS. The Mapbook figures associated with Chapter 3 also have a detailed view of the alignment routes.
1441	4	The questions that were asked at public meetings with DWR officers were never answered. Why were the meetings held?	Please refer to Master Response 40 regarding outreach conducted for California WaterFix (and previously the BDCP).
1441	5	Dewatering! The chapter leaves you with more questions than answers. If wells have to be drilled between 50 and 75 feet apart ahead of the tunneling machine a path through the orchard would have to be made to make room for the drilling rights, removal of the water and much. Removing water for tunnel construction removes water from the orchard itself, and certainly from any domestic water well in its path.	As described under Impact GW-1 in Section 7.3.3.2 of Chapter 7, Groundwater, of the EIR/EIS, the dewatering well spacing of 50 to 75 feet are for the pipelines near the intakes and forebays, intakes, levees, forebays, pumping plants, and tunnel shafts. As stated in this section, "no dewatering is required along the tunnel alignment."
1441	6	By chance, I have been following the tunneling project near Seattle where the costs will have far exceeded the estimates, and the period of down time from December 2013 to March 2015 is the present estimate before drilling will be restored. I hope all of you are following this project.	Please see Master Response 5 regarding the adequacy of the proposed project's cost estimates, including an explanation of how the risk of cost overruns has been minimized. DWR is aware of the challenges that have faced the tunneling project in Seattle associated with the realignment of the Alaska Way Viaduct downtown.
1442	1	Absolutely not. I do not support exporting more water to encourage urban sprawl. Leave it where it is, and encourage an end to urban development instead.	This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.

DEIRS Ltr#	Cmt#	Comment	Response
			<p>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. By establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water volume, timing, and salinity, the project is designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. The Lead Agencies do not have land use/zoning authority to control development. See Master Response 3 (Purpose and Need), Master Response 26 (Changes in Delta Exports), Master Response 35 (Southern California Water Supply), and Master Response 34 (Beneficial Use of Water).</p>
1443	1	<p>I'm sure you've read the big long letters coming in detailing all the problems with this proposal. I just want to ask you to please drop this heinous plan. It is clearly a disaster.</p> <p>I just drove through Northern California yesterday. The drought conditions are killing off hundreds year old oak trees. Northern California simply cannot afford to water Southern California. To take away the water from the people and farmers and businesses of the North is a total crime. A crime.</p>	<p>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. 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's alternatives would be able to completely counteract all of the impacts of climate change. More information on ways in which the project proposes to improve resiliency and adaptability of the Delta to climate change can be found in Chapter 29, Climate Change, Draft EIR/EIS and Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies, Draft EIR/EIS and for the new sub-alternatives in Section 4 of the RDEIR/SDEIS. Refer also to Master Response 19 (Climate Change and GHG). Additionally, the BDCP process was initiated by former Governor Arnold Schwarzenegger, who was twice elected by a majority of California voters. The process has continued under the administration of his successor, Edmund G. Brown, Jr., who has publicly stated his tentative support first for Alternative 4 (BDCP) as set forth in the Draft EIR/EIS and now for Alternative 4A (California WaterFix Project) as described in the Final EIR/EIS, though he has acknowledged the need to complete environmental review and to obtain public input prior to making any final decisions on the project. Hence, this planning, design, and environmental process has been initiated and carried forward by two Governors acting on a mandate from the voters of the State as a whole. The environmental documentation and project approval will be acted upon by the decision makers from each lead agency at the conclusion of the CEQA and NEPA processes.</p>
1443	2	<p>I was in Southern California last week. They are overcrowded and they have to figure out another alternative to their water problems. When I lived through the drought in Santa Barbara, the city built a desalination plant -- and the city's landscaping now looks fine. Back then, it was all dying -- but the desalination plant appears to be doing its job. Los Angeles needs to learn to conserve, the farmers down south need to implement better watering schemes. It can be done. It is important for communities to find solutions -- stealing the water from other people is not a solution.</p> <p>The risks of the proposed project are too great. Please abandon the Bay Delta Conservation Plan before irreparable damage is done.</p>	<p>The 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. It is important to note that the project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures).</p>
1444	1	<p>Please do not ruin our Delta. So many boaters, sightseers need a place just to enjoy. As you know, when the government messes with our lives it turns out terribly bad. We are fighting the water weeds that are so bad they are going to overtake our sloughs so why don't you work on that problem. It is a big problem you have not addressed in many years. It is on its way to killing the boating adventures here. So here is hoping you will address the real problem in the Delta, not make more.</p>	<p>No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. See Chapter 15, Recreation, for a description of potential impacts on recreation. The proposed project includes an environmental commitment to fund the California Department of Boating and Waterways' Programs for Aquatic Weed Control. This commitment is described further in Appendix 3B of the FEIR/FEIS.</p>
1445	1	<p>We do not want this pork barrel, impracticable boondoggle or the bill for it. We want our wetlands restored to health, not have their water shipped to corporate farms. We do not want to subsidize desert farming, especially while our good, fertile bottomlands are being</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the</p>

DEIRS Ltr#	Cmt#	Comment	Response
		built over with housing and shopping malls.	<p>index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The commenter’s opposition to the project is acknowledged. The BDCP/California WaterFix 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.</p> <p>Through the Legislature and through executive agencies, California has embraced water conservation on numerous fronts, as have many California water agencies. Many of these efforts are highlighted in Appendix 1C, Demand Management Measures, EIR/EIS, which describes conservation, water use efficiency, and other sources of water supply, including recycled water. While these elements are not proposed as part of the BDCP, the Lead Agencies recognize that they are important tools in managing California’s water resources.</p> <p>State constitutional restrictions require the reasonable and beneficial use of water and state law requires that water supplied from the Delta be put to beneficial uses. The Lead Agencies do not have the authority to designate what water deliveries are used for. Please refer to Master Response 34 regarding the potential uses of water delivered via BDCP proposed conveyance facilities.</p>
1445	2	What we want is for our Governor to live up to his self-projected image as a champion of the People, not a corporate flunkie. Please, Jerry ... Save the wetlands and the San Francisco Bay from this corporate rip-off.	<p>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 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.</p>
1446	1	I strongly oppose the tunnels construction! Put the money into desalinization plants!	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>The main 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. For information on desalination, refer to Master Response 7.</p>
1447	1	<p>The plan is simply not reasonable!</p> <p>An entire river should not be redirected for the sake of large-scale, unmeted agriculture and the oil industry fracking!</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised. DWR’s fundamental purpose of the proposed project is to make physical and operational improvements to the SWP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. By establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water timing to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility. Providing regulatory oversight to oil companies or large agribusiness is outside the scope of the proposed project and environmental analysis. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. See Master Response 3 (Purpose and Need), Master Response 34 (Beneficial Use of</p>

DEIRS Ltr#	Cmt#	Comment	Response
			Water), Master Response 26 (Area of Origin), and Master Response 35 (MWD Water Supply).
1447	2	Please consider more cost-effective and productive alternatives.	Most of the take alternatives were developed using the EIR/EIS alternatives as a basis. An extensive process to develop and screen alternatives for the EIR/EIS (Section 9.1.3, Development of the BDCP Proposed Action) focused on the identification of alternatives that reduced the scope and intensity of potential environmental effects, including adverse effects on covered fish and wildlife species. The take alternatives, however, have been developed to allow for a more focused analysis of the effects of different project components on covered fish and wildlife species.
1448	1	<p>The Delta Stewardship Council's role with regard to the BDCP:</p> <p>The Delta Reform Act in Water Code Section 85320(c)-(g) gives the Council several responsibilities with respect to the BDCP:</p> <ol style="list-style-type: none"> <li>1. The Council is a responsible agency in development of the EIR/EIS.</li> <li>2. DWR is required to consult with the Council during development of the BDCP.</li> <li>3. If the Department of Fish and Wildlife (DFW) approves the BDCP as a Natural Communities Conservation Plan and determines that it meets specified requirements of the Delta Reform Act, DFW's determination may be appealed to the Council. If the Council determines on appeal that the BDCP meets the Delta Reform Act's requirements, the Council shall incorporate the approved BDCP into the Delta Plan.</li> <li>4. The Council may make recommendations to BDCP implementing agencies regarding BDCP implementation, and the BDCP implementing agencies must consult with the Council regarding these recommendations.</li> </ol> <p>In addition, the Delta Independent Science Board is tasked in the Delta Reform Act with reviewing the draft EIR/EIS and transmitting its comments to the Council and the Department of Fish and Wildlife (Water Code Section 85320(c).</p> <p>The BDCP will not be incorporated into the Delta Plan and its public benefits will not be eligible for state funding if it does not meet the requirements of Water Code Section 85320(b).</p>	<p>The comment summarizes the Delta Stewardship's and the Delta Independent Science Board's role in reviewing and incorporating the BDCP into the Delta Plan. Please note that the BDCP is no longer the preferred alternative. Alternative 4A has been developed in the response to public and agency input. The EIR/EIS analyzes all alternatives.</p> <p>Please see Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Final EIR/EIS for additional detail on the requirements in the 2009 Delta Reform Act for incorporating the BDCP. Please see Appendix 3J of the Final EIR/EIS for Alternative 4A's compliance with the 2009 Delta Reform Act. Please also see Master Response 31 regarding compliance with the Delta Reform Act.</p>
1448	2	<p>The Delta Reform Act's requirements regarding the BDCP EIR:</p> <p>The Delta Reform Act lays out specific requirements regarding the BDCP's EIR/EIS (Water Code Section 85320(b)(2)(A-G)). We (the Delta Stewardship Council) emphasized the importance of these requirements in our June 28, 2010 scoping comments on the BDCP's EIR and in our June 2013 comments on the administrative draft EIR/EIS. The current version of the draft EIR/EIS' Appendix 3I provides a much improved roadmap on where information is contained, but can be improved to better demonstrate that the BDCP and the draft EIR/EIS satisfy all the requirements in Water Code Section 85320.</p> <p>Meeting the requirements of California Water Code Section 85320(b)(2).</p> <p>The second paragraph in this section misquotes Water Code Section 85320(b), which states that all the "public benefits associated with the BDCP shall not be eligible for state funding," not just the "public funding benefits."</p>	<p>Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, describes how Alternatives 1 through 9 initially presented in the Draft BDCP EIR/EIS were prepared in a manner to comply with the 2009 Delta Reform Act, including Water Code section 85320(b)(2). The proposed project (Alternative 4A) and Alternatives 2D and 5A are not being proposed to fulfill the requirements of a habitat conservation plan/natural community conservation plan as described in this Water Code section referenced in this comment. However, these alternatives were developed with consideration of the requirements of the Delta Reform Act, as described in Appendix 3J of this Final EIR/EIS. Please also see Master Response 31 regarding compliance with the Delta Reform Act.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	3	<p>Flow criteria, rates of diversion, and operational criteria</p> <p>The latest version of Appendix 31 contains a more robust discussion of these issues than was included in the 2013 administrative draft and the reader is more easily able to find this information. The description of the various alternatives seems to partly track the law's requirement to address a reasonable range of flow criteria, so long as the effects analysis shows that they meet the needs of fish. It is still not clear how many of the eight different operational scenarios and 15 alternatives carried forward for complete analysis include flow criteria and what the range of such criteria is. Both Appendix 3A and Appendix 31 could be improved with a graphic in this section showing where each alternative fits within the bookends of SWRCB flow criteria on the one end and providing the full amounts of water described in the USBR's and SWP's contracts on the other end. This discussion could be improved and better supported by adding a table (similar to table ES-11) summarizing and comparing the Delta outflow and exports for each alternative and the bookend flows (31-5 lines 25-27).</p> <p>The BDCP draft EIR does not "identify the remaining water available for export and other beneficial uses" (Water Code Section 85320(b)(2)(A). To fully comply with Water Code Section 85320(b)(2), the BDCP should quantify the water supply needs of in-Delta beneficial uses and compare its flow criteria against a range of hydrologic conditions to determine the remainder of flows available to support exports and other beneficial uses in the Delta. The EIR should include a water balance to show how proposed flows will be apportioned between exports, and Delta ecological needs, as well as flows for other beneficial in-Delta uses. If this information is embedded or implied within chapter 3 of the draft EIR/EIS or in some other section, then Appendix 31 could be improved by explicitly including this information for each alternative in a table under the category: "remaining water available for export and other beneficial uses".</p>	<p>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 proposed project and its alternatives do not reduce the protections for other water right holders. 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.</p> <p>The Draft EIR/EIS to specific threshold values in most cases, including comparisons of resultant SWP and CVP water deliveries to full contract amounts or Delta outflow to the preliminary 2010 flow criteria recommendations. The Draft EIR/EIS did evaluate the incremental differences between the action alternatives to the Existing Conditions and the No Action Alternative. A comparison of changes in SWP and CVP deliveries are summarized in Tables 5-4 through 5-9. These results have been updated in the Final EIR/EIS for the original BDCP alternatives, as well as the three non-HCP alternatives in Tables 5-4 through 5-12.</p> <p>The frequency of full contract deliveries is presented in Figures C-13 – 1 through C13.13 – 13 in Appendix 5A, Section C, Modeling Results. Full Contract Amounts are generally indicated by the highest delivery which occurs towards the upper right portion of the plots.</p>
1448	4	<p>Climate change considerations.</p> <p>To fulfill Water Code Section 85320(b)(2)(C), the EIR should better explain how new facilities are adapted to account for the increased water levels in the Delta that will accompany sea level rise. As our July 11, 2013, comment letter states, sea level rise will also raise water levels in the Delta, yet neither chapters 3 nor 29 of the draft EIR/EIS acknowledge the need to increase the height of levees and to adapt diversion and conveyance facilities to accommodate this change. Some of the necessary information to assess this issue in the body of the EIR is included in Appendix 3E.</p>	<p>Section 3.5.1 No Action Alternative, Chapter 3 of the EIR/EIS discusses the continuing vulnerability in the south Delta to long-term reductions in water quality due to sea level rise, and continuing vulnerability resulting from a major seismic event harming Delta facilities so as to temporarily halt export operations. As noted in the comment, further discussion of these risks and their potential consequences are discussed in Appendix 3E. Each of the resource chapters also discusses the cumulative impacts of sea level rise and climate change in addition to any of the project impacts.</p> <p>Section 29.6.1.3 Delta Levee Stability and Reliability, Chapter 29 of the EIR/EIS also discusses the vulnerability of Delta levees due to sea level rise and extreme precipitation events. Appendix 6A provides additional information regarding flooding in the Delta.</p> <p>Improvements to Delta levees are not part of the proposed project because they are not included in the project purpose and need. Levees are an important public safety resource and the proposed project would not change levee policy or replace ongoing programs and grant projects aimed at facilitating and supporting levee improvements in or outside the Delta. It is recognized that levee maintenance and safety in the Delta is an important issue for the residents of the Delta and for statewide interests.</p> <p>Please also see Master Response 19 regarding climate change and greenhouse gas emissions.</p>
1448	5	<p>Sacramento and San Joaquin River flood management.</p> <p>To better fulfill the Water Code Section 85320(b)(2)(E), the EIR/EIS should evaluate and provide mitigation for both 1) the hydraulic impacts associated with construction of cofferdams in flood conveyance channels, which may restrict channel flood capacity for six</p>	<p>As discussed in the EIR/EIS, Appendix 3F Intake Location Analysis, DWR performed preliminary hydraulic modeling to evaluate potential impacts of proposed intake structures for CM1 along the Sacramento River on river hydraulics. The modeling results showed that the cumulative increase in the flood stage for the proposed on-bank type intake was not significant and did not warrant any mitigation to make it a flood neutral design. Based on the engineering completed to date, the intake cofferdams would encroach about</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>to ten years during CM 1's construction; and 2) any impacts to the structural integrity of levees from construction traffic. The EIR should also explain:</p> <p>* How flood fights on levees in the construction zone may be affected during construction of CM1, including provisions to maintain adequate flood fight capacities.</p> <p>* How relocation of Highway 160 away from its current levee-top route may affect evacuation of Delta residents when high water threatens flood safety.</p> <p>Mitigation should be proposed for any adverse impacts on flood safety or levee integrity from these construction effects. Local agencies responsible for levee maintenance and emergency response should be consulted as these mitigation measures are developed.</p> <p>In addition, the EIR/EIS should explicitly acknowledge how implementation of the BDCP CMs will alter facilities of the State Plan of Flood Control, for example, by altering the Yolo Bypass, by setting back project levees, or by integrating habitat restoration with the proposed San Joaquin River floodway at Lathrop/Paradise Cut. Our July 11, 2013, comment letter included a reminder to consult with the Central Valley Flood Protection Board (CVFPB) regarding setback levees. Chapter 3 of the EIR/EIS says: "All construction and modifications will comply with applicable state and federal flood management, engineering, and permitting requirements." While the BDCP was developed by DWR, the draft EIR/EIS does not provide evidence of consultation with the CVFPB, nor sufficient discussion of impacts to its State Plan of Flood Control that may result from enhancing channel margins, setting back levees, and restoring habitat such as the activities identified in CMs 2,4-7, and 10.</p>	<p>60-feet into the river. As part of future engineering, additional hydraulic modeling will be performed to accommodate design refinements and to comply with U.S.C. Title 33 – Navigation and Navigable Waters Section 408 and other permitting requirements. EIR/EIS Appendix 1F provides information on the USACE permitting requirements. These requirements would need to be met before construction would begin on elements of the project that would affect the federal flood control levees.</p> <p>The importance of many Delta roadways in flood protection was considered in developing mitigation for potential effects on the physical conditions of roadway segments (see Draft EIR/EIS Chapter 19, Mitigation Measure TRANS-2c). Flood protection agencies would be consulted during the design of any roadway improvements implemented through this mitigation measure. It should also be noted that for Alternative 4A, the preferred alternative, State Route 160 would no longer be routed around the intakes. The roadway would be constructed immediately adjacent to the intake fish screens and over the forebay. This would result in State Route 160 remaining at its current surface elevation.</p> <p>Chapter 6 Surface Water and Chapter 3 Alternatives, includes a discussion of the measures that the Lead Agencies would take to ensure that construction would not interfere or adversely affect flood protection afforded by the existing levees. USACE, CVFPB, and DWR would require that any construction that would disturb existing levees to be designed in a manner that would not adversely affect existing flood protection</p> <p>The proposed on-bank intakes along the Sacramento River for the BDCP/CWF water intake facilities would require alterations to portions of the existing levees within the facility footprints. Because the existing levees within the project limits along the Sacramento River are federal project levees, construction of the proposed intakes would require permission from US Army Corps of Engineers (USACE) and compliance with U.S.C. Title 33 – Navigation and Navigable Waters Section 408. Section 408 requires that proposed alterations must not be injurious to the public interest or affect the USACE project's ability to meet its authorized purpose. Therefore, as part of future engineering and Section 408 permitting efforts, DWR will work with USACE and Central Valley Flood Protection Board to ensure the levee sections within the intake footprints will meet or exceed the flood protection requirements of federal project levees during and after construction. EIR/EIS Appendix 1F provides information on the USACE permitting requirements.</p> <p>DWR intends to continue making good-faith efforts to enter into mitigation agreements with affected agencies to enhance the capacity of affected roadways. In many cases, the Lead Agencies will coordinate with state, regional, and local agencies to implement needed improvements. Mitigation Measure TRANS-1c details the good faith efforts that would be undertaken to enter into mitigation agreements with agencies and the forms of contribution (such as construction of improvements, payment of impact fees, etc.).</p> <p>Appendix 6A, Section 6A.3 includes information on the State Plan of Flood Control. Section 6A.6.2 discusses the intersection between the proposed project and SPFC facilities, as well as anticipated coordination with CVFPB and USACE.</p>
1448	6	<p>Resilience and recovery of conveyance alternatives.</p> <p>Water Code Section 85320(b)(2)(F) requires that the BDCP include a comprehensive review and analysis of "the resilience and recovery of Delta conveyance alternatives in the event of catastrophic loss caused by earthquake or flood or other natural disaster." The National Infrastructure Advisory Council defines infrastructure resilience as: "the ability to reduce the magnitude and/or duration of disruptive events. The effectiveness of a resilient infrastructure or enterprise depends upon its ability to anticipate, absorb, adapt to, and/or rapidly recover from a potentially disruptive event."</p> <p>The draft EIR/EIS does not assess the resilience and recovery of conveyance facilities or conveyance operations impacted by levee failure. Chapter 6 states that Delta levees are</p>	<p>The BDCP/CWF seeks to avoid water supply disruption and protect water quality by modernizing and updating California's water delivery facilities to meet current seismic safety standards. The proposed water conveyance facility would be designed to meet 200-year flood protection and would use the latest seismic criteria and design methodologies to protect against earthquake damage. Also, the design would protect water supplies by building intakes upstream in the north Delta, where supplies are less vulnerable to seawater intrusion. For additional information, please see Section 29.3.2.5, Delta Levee Stability and Reliability, in Chapter 29, Climate Change of the Final EIR/EIS. Please also see Master Response 16 for more about the potential for the proposed project to withstand a seismic event, as well as how Delta water exports would be affected by a seismically induced levee failure. Please note that the BDCP is no longer the preferred alternative. Instead, please see Alternative 4A.</p> <p>Please see Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Final EIR/EIS for additional</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>currently at risk of failure from factors such as overtopping, under- and through-seepage, subsidence, animal burrows, and earthquake loading. The risks of levee failure will increase in the future as sea level rises and subsidence continues. Levee failures would severely impact water supply reliability, and would be catastrophic to Delta communities. The resulting flooding would inundate homes, farms, and infrastructure in the Delta (including proposed conveyance facilities), causing significant environmental social, cultural, and economic impacts.</p>	<p>detail on the requirements in the 2009 Delta Reform Act for incorporating the BDCP. Please see Appendix 3I of the Final EIR/EIS for Alternative 4A's compliance with the 2009 Delta Reform Act. Please also see Master Response 31 regarding compliance with the Delta Reform Act.</p>
1448	7	<p>New BDCP conveyance facilities will be protected to withstand a flood with a recurrence interval of 1 in 200 years. The BDCP does not, however, adequately describe how levees and other conveyance facilities could be recovered in the event of larger floods, which may occur more frequently with climate change. In addition, there is no discussion about how earthquake- or flood-related levee failures would affect Delta hydrodynamics and resulting impacts on the operation of the existing through-Delta conveyance system, or of how alternative BDCP conveyance facilities would be recovered and resume operations in the event of such failures. Such a discussion is warranted because the conveyance facilities should be considered critical lifeline facilities, and should be resilient to large floods and major earthquakes.</p> <p>The summary of the risks that may result from construction and operation of the conveyance in the EIR/EIS Appendix 3I is not fully responsive to Water Code 85320(b)(2) (F). It primarily discusses risks resulting from construction of conveyance and restoration actions, rather than providing an assessment of the resilience and recovery of the conveyance alternatives in the event of catastrophic loss. Our April 18, 2012, and July 11, 2013, comment letters point out that while the draft EIR/EIS addresses continued water delivery via the tunnels in the event of levee failure along the through-Delta conveyance route, there is no discussion of how long it will take to fully recover conveyance operations and restore water quality. If levees that help maintain Delta water quality or levees along the through Delta conveyance corridor fail, how difficult will it be to restore them to service condition, and how long will conveyance operations and/or water quality be affected before full recovery?</p> <p>Appendix 3E includes information that can help inform the additional analysis of the conveyance facilities' resilience in the event of disasters.</p> <p>Finally, the BDCP EIR/EIS should acknowledge that alternatives 1-8 do not address improving levee stability.</p>	<p>As discussed in the EIR/EIS (Appendix 1A, Section 1A.2.5, Delta Levees, EIR/EIS), a majority of the levees protecting the Delta are not within the State Plan of Flood Control. The "non-project" levees are maintained at a different standard than "project" levees under the State Plan of Flood Control – a detailed map of these levees can be found at Figure 1A-2 (Appendix 1A, Primer on the Delta and California Water Delivery Systems, EIR/EIS). The potential impacts of seismic and climate change risks are discussed in Appendix 3E of the EIR/EIS. Additional information regarding the potential for abrupt disruptions for south of Delta water supplies can be found in the Final EIR/EIS (Appendix 5B, section 5B.2.2, Potential for Abrupt Disruptions of South of Delta Water Supplies, EIR/EIS).</p> <p>Section 9.2.2.6 "Regulatory Design Codes and Standards for Project Structures" in EIR/EIS Chapter 9 Geology and Seismicity, outlines the building codes and construction standards the project proponents must follow when construction the water conveyance facilities.</p> <p>EIR/EIS Appendix 1F Supplemental Information for USACE Permitting Requirements provides an overview of the requirements the Lead Agencies must meet before being securing permission to construct the water conveyance facilities under Section 408. The requirements under the Section 408 process necessarily includes a detailed level of engineering design, as well as a detailed level of analysis related to effects on USACE's civil works projects and indirect hydraulic effects. EIR/EIS Appendix 6A Flood Protection and Levee Resources, includes additional information on the effects of the water conveyance facilities on flood protection within the Delta.</p> <p>As mentioned earlier, improvements to Delta levees are not part of the proposed project because they are not included in the project purpose and need. The California Department of Water Resources' Levee Repairs and Floodplain Management Office is responsible for administering levee programs through evaluation and direct rehabilitation of structural deficiencies in California's levee system. Overall levee repairs and improvement programs administered by DWR will continue with available funding. For additional information on the relationship between the proposed project and Flood protections in the Delta, please see EIR/EIS Appendix 6A, BDCP/California WaterFix Coordination with Flood Management Requirements.</p> <p>Please see Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Final EIR/EIS for additional detail on the requirements in the 2009 Delta Reform Act for incorporating the BDCP. Please see Appendix 3J of the Final EIR/EIS for Alternative 4A's compliance with the 2009 Delta Reform Act. Please also see Master Response 31 for information regarding compliance with the Delta Reform Act.</p>
1448	8	<p>Mitigation of conveyance impacts</p> <p>The Delta Reform Act requires that "construction of a new Delta conveyance facility shall not be initiated until the persons or entities that contract to receive water from the State Water Project and the federal Central Valley Project or a joint powers authority representing those entities have made arrangements or entered into contracts to pay for ... (a) the costs of ...mitigation, including mitigation required pursuant to [CEQA], required for the construction, operation, and maintenance of any new Delta water conveyance facility"</p>	<p>The Final EIR/EIS includes mitigation at the end of each impact that would reduce the impacts attributable to constructing or operating each action alternative, include Alternative 4A. In addition, the Mitigation Monitoring and Reporting Plan will provide additional detail on each measure including responsibilities, timing, success criteria, etc. This information will help determine the costs of the proposed project's mitigation package. The mitigation monitoring and reporting program for the proposed project provides information on the action, responsible parties, location, timing, monitoring, and reporting requirements for each mitigation measure proposed in the EIR/EIS. For more information regarding cost and funding sources</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>(Water Code Section 85089).</p> <p>Accordingly, the BDCP mitigation measures proposed in the EIR/EIS should be clearly specified and their relationship to impacts of construction, operation, and maintenance of the conveyance facilities for the preferred alternative should be plainly identified, so that the specific costs and financial implications to water contractors or others are apparent and can be considered in the BDCP's finance plan.</p>	<p>please see Master Response 5.</p>
1448	9	<p>CEQA requires analysis of the policy and planning context in which a project is proposed, including inconsistencies between the proposed project and applicable regional plans, such as the Delta Plan (CEQA Guidelines 15125(d)). The EIR/EIS should include such an assessment of any inconsistencies between the Delta Plan's policies and recommendations and the BDCP. The Delta Reform Act requires that, if successfully approved by Department of Fish and Wildlife as a natural community's conservation plan and if it meets the criteria of Water Code Section 85320, the BDCP shall be incorporated into the Delta Plan. Thus, the Delta Plan may need to be revised if and when the BDCP is incorporated into it to eliminate any inconsistencies. Identification of those conflicts would be an important first step in assessing potential environmental impacts of such changes, which the BDCP's EIR/EIS should identify and evaluate so that the Council can rely on it when the BDCP is incorporated in the Delta Plan.</p>	<p>Chapter 13, Land Use, describes whether the project is incompatible with regional and local plans, policies, and regulations that may be relevant to implementation of one or more of the project alternatives. Generally, state and federal agencies, as well as some local or regional agencies involved with the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, are not subject to local land use regulations and inconsistency with a specific local land use regulation is not by itself an adverse effect on the environment (Hall v. Taft (1956)). The Final EIR/EIS, in assessing whether particular categories of environmental effects (e.g., biological or cultural resources) are adverse or beneficial (NEPA) or significant (CEQA), considers relevant local land use regulations that are adopted for the purpose of avoiding or mitigating an environmental impact. For additional information regarding the applicability of local land use plans, please see Master Response 11.</p> <p>Delta Reform Act compliance for the non-HCP alternatives 2D, 4A, and 5A, involving construction and operation of water intakes in the north Delta and associated conveyance facilities, would be achieved through either the Delta Plan Consistency certification process or through a possible future amendment to the Delta Plan. Appendix 3J has been included in the EIR/EIS to provide information regarding the compatibility of Alternative 4A (Proposed Project) with the Delta Reform Act.</p> <p>For the rest of the alternatives, which involve preparation of an HCP, such as the BDCP, Delta Reform Act compliance for all elements of the conservation plan would likely be achieved through the Council's consideration of the BDCP for inclusion in the Delta Plan. For more information regarding BDCP compliance with the Delta Reform Act please see Master Response 31 and Appendix 3I of the FEIR/EIS.</p>
1448	10	<p>The presentation of CMs 2-22 at only the programmatic level in the BDCP EIR/EIS contributes to uncertainty about both the BDCP's benefits and its impacts. This makes it difficult to comparatively assess and quantify impacts and then to evaluate proposed mitigation for impacts to biological resources, water quality, agriculture, cultural resources, and community character.</p> <p>Preparation of regional conservation strategies for each restoration opportunity area, no later than early during the BDCP's implementation, could be a way to reduce these uncertainties, guide restoration and adaptive management, and better direct mitigation efforts. These regional conservation strategies would also help ensure application of landscape ecology, as emphasized in the Delta Plan (p. 138), in implementation of the BDCP's habitat restoration CMs. Near-term implementation of restoration actions to carry out the Biological Opinions should not be delayed until these strategies are complete. Rather, these near-term actions should help inform the strategies' development, clarify uncertainties, and test approaches to be further explored in the regional strategies.</p> <p>In combination with development of these strategies, a staged EIR/EIS as described in CEQA Guidelines Section 15167 could present an approach worthy of the BDCP's consideration. In this case, the BDCP draft EIR/EIS provides programmatic evaluation of these CMs, but acknowledges the need for subsequent environmental documents when each regional conservation strategy is completed. Staging the EIR/EIS in this way could effectively allow for accumulation of the data needed to reduce uncertainties in the current draft EIR/EIS. A</p>	<p>Please note that the BDCP is no longer the preferred alternative.</p> <p>For more information on project vs program level of detail/analysis in the EIR/EIS, including the level of detail necessary for analyzing impacts of conservation measures, please see Master Response 2. The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR used the best available science throughout the effects analysis, consistent with the requirements of the ESA. Additionally, the official public review process for the proposed project provides an opportunity for formal public comment on the proposed project and project alternatives. Public and agency comments on the public draft have led to further refinement of the proposed project, as evidenced in the RDEIR/SDEIS.</p> <p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>staged EIR/EIS could be amended as more information is gathered, and the management approach could be tailored to those findings.</p>	<p>This EIR/EIS is intended to provide CEQA and NEPA support for approval of any of the BDCP alternatives or non-HCP alternatives, and to inform permit decisions for the issuance of related permits.</p> <p>For more information regarding existing conditions, the no action alternative, and cumulative impacts please see Appendix 3D of the FEIR/EIS. Please see Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Final EIR/EIS for additional detail on the requirements in the 2009 Delta Reform Act for incorporating the BDCP. Please see Appendix 3J of the Final EIR/EIS for Alternative 4A's compliance with the 2009 Delta Reform Act. Please also see Master Response 31 for information regarding compliance with the Delta Reform Act.</p>
1448	11	<p>Range of alternatives for habitat restoration conservation measures, CMs 4-10</p> <p>As described in our July 11, 2013, comment letter, CEQA requires alternatives to be addressed in meaningful detail before they are eliminated from consideration, and requires an explanation of the reasons for selecting or eliminating alternatives. While the draft EIR/EIS presents a range of alternatives for CM 1, the EIR/EIS still does not present a similar range of alternatives for its habitat restoration conservation measures (CMs 4-10), which hinders evaluation of whether these CMs are the least environmentally damaging way to achieve the BDCP's biological goals and objectives. Each conveyance alternative in CM 1 includes the same CMs 2-22, except for alternatives 5 and 7, which change the construction and restoration area footprints for CMs 4 and 6. An additional alternative could be considered for CMs 4-10 that emphasizes, for example, restoration of Suisun Marsh while de-emphasizing the acquisition of Delta farmland for habitat restoration.</p>	<p>Please see response to Comment 1448-1. Since the new preferred alternative no longer contains an HCP component, CMs 2-21 are not included as elements of Alternative 4A. Please see Master Response 4 for an overview of the alternatives development process.</p>
1448	12	<p>Adequately specifying mitigation measures</p> <p>CEQA requires discussion of the significant environmental impacts of the proposed project, and of the mitigation measures proposed to minimize those impacts. In the draft EIR/EIS, however identification of feasible and enforceable mitigation measures for some impacts to water quality, agriculture, recreation, and cultural resources is postponed for further evaluation and consultation. This likely does not meet the requirements of CEQA Guidelines Section 15126.4(a)(1)(B), which provides that "formulation of mitigation must not be deferred to a future time." As an alternative, the EIR/EIS could offer measures that "specify performance standards which would mitigate the significant effect of the project and which may be accomplished in more than one specified way."</p>	<p>Since the time of the Draft EIR/EIS, many of the mitigation measures have been refined and updated in the Final EIR/EIS. The Mitigation Monitoring and Reporting Plan will additionally provide further detail on each measure including information on the action, responsible parties, location, timing, monitoring, and reporting requirements for each mitigation measure proposed in the EIR/EIS.</p> <p>Master Response 22 provides an overview of the proposed mitigation, environmental commitments, and avoidance and minimization measures. With regard to agricultural impact mitigation, please see Master Response 18. With regard to cultural resources assessment, please see Master Response 20.</p>
1448	13	<p>Details on Restoration Opportunity Areas</p> <p>Both impacts and benefits. We recommend that as ROAs are restored in the future, the BDCP should identify clearly articulated regional conservation strategies to maximize benefits to covered species and details on Restoration Opportunity Areas (ROAs) are not presented, which makes it difficult to assess habitat while minimizing other impacts to biological resources, as discussed above. Adoption of regional strategies may also enable reduction of adverse impacts on other resources such as agriculture and recreation in the Delta.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Instead, please see Alternative 4A which no longer includes an HCP.</p> <p>Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of</p>

DEIRS Ltr#	Cmt#	Comment	Response
			the CEQA/NEPA process.
1448	14	<p>Uncertain benefits of conservation measures, CMs 2-22</p> <p>The benefits of CMs are uncertain and conclusions may therefore be overly optimistic because:</p> <ul style="list-style-type: none"> <li>* Specific restoration sites have not yet been identified, and success will depend on critical details regarding the siting and design of habitat restoration measures at particular locations.</li> <li>* The likelihood of success of the measures has not yet been demonstrated, and the time required to achieve the benefits of restoration is as yet unknown.</li> <li>* The effectiveness of the ecosystem restoration measures in contributing to the recovery of covered species is only partly understood.</li> </ul> <p>Similar concerns were raised by the Delta Independent Science Board (ISB) and the Delta Independent Science Review Panel (IRP) including the observation that the BDCP impact assessments rely on overly optimistic expectations regarding feasibility, effectiveness, and timing of proposed conservation actions, especially habitat restoration (ISB Appendix B, 2014 [ATT 3], and IRP 2014).</p>	<p>Please note that the BDCP is no longer the preferred alternative. Instead, please see Alternative 4A which no longer includes an HCP.</p> <p>In the event that a conservation measure proves to be ineffective, the adaptive management process would be used to develop a “contingency plan” in the form of a new or revised conservation measure. In addition, the BDCP includes provisions to address many contingencies through the “changed circumstances” section described in BDCP Chapter 6.</p> <p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the proposed project (Alternative 4A), except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b).</p> <p>Restoration actions that are independent of proposed project will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p> <p>For more information regarding restoration feasibility, please see the Final EIR/EIS, Appendix 3G. For additional information regarding adaptive management and monitoring please see Master Response 33.</p>
1448	15	<p>Benefits of tidal marsh restoration</p> <p>In particular, chapter 11 of the draft EIR/EIS (as informed by the effects analysis of the BDCP’s chapter 5) likely overstates the benefits of tidal marsh restoration to delta smelt. Success depends on siting and design of restored habitat areas. Independent scientists concur that “restoration of tidal marsh benefits many fish, mammals, and birds. These benefits can be very important for the growth and survival of individuals of desirable species on site” (Herbold et al, 2014). The success of such measures, however, will depend on the location of restoration sites within the Restoration Opportunity Areas, and on how they are designed—neither of which are currently known because the measures are only described at the programmatic level in the BDCP and draft EIR/EIS.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Instead, please see Alternative 4A which no longer includes an HCP. Tidal marsh restoration acreage has been updated. Please refer to Chapter 12 of the Final EIR/EIS. Please see Master Response 6 regarding effectiveness of tidal restoration.</p>
1448	16	<p>Importance of controlling invasive aquatic weeds</p> <p>Invasive aquatic weeds are a significant and persistent stressor that degrade the Delta’s ecosystem. As habitat restoration proceeds, so will the risk that areas infested by these weeds may expand. We are pleased to see the BDCP’s commitment, in CM 13 (Invasive Aquatic Vegetation Control) to expanding treatment of the acreage affected by invasive aquatic weeds by supplementing the funding available to control these weeds under current control programs. Research actions addressing invasive aquatic weeds should be coordinated with the Agricultural Research Service and its local partners in the Delta to maximize opportunities for cooperative activities. Pilot projects to test new control methods are crucial. Commitments to monitoring and adaptive management of aquatic weed control efforts are especially important so that available funds can be targeted at high priority areas.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Instead, please see Alternative 4A which no longer includes an HCP. Although CM 13 is not incorporated into Alternative 4A, DWR has made a commitment to contribute funds to further the Department of Boating and Waterway’s aquatic weed control programs in the Delta. Please see Appendix 3B for additional discussion of this commitment.</p>
1448	17	<p>Timelines for restoration</p> <p>The proposed timelines for habitat restoration in the BDCP may be overly optimistic, as also</p>	<p>Please see the response to comment 1448-13.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>identified by the Delta Independent Science Board (ISB Appendix B, 2014 [ATT 3]), and the benefits may not be achieved in a timely manner so as to offset negative impacts of the project. For example, the BDCP forecasts that implementation of restoration measures can occur within five years of site acquisition. However, a survey by Council staff of similar restoration projects in the San Francisco Bay and the Central Valley shows that they typically took 12-13 years following land acquisition to permit, design, and construct. This does not include the additional time needed for establishment of habitat conditions and functionality to provide the intended benefits to covered species</p>	
1448	18	<p>Impact assessment</p> <p>Chapter 11 of the draft EIR/EIS still does not fully compare the anticipated ecological benefits of the proposed project to existing baseline estimates for abundance and distribution of species and habitat types. For example, the EIR/EIS should include a table showing the pre-project extent and distribution of existing low-salinity habitat (critical to both longfin and delta smelt) in comparison to the post-project anticipated changes in low-salinity habitat.</p> <p>The BDCP draft 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 BDCP Effects Analysis (Chapter 5 of the BDCP)." (Appendix 31.7, p 31-14, lines 21-23). Since the effects analysis pertains only to Alternative 4 (the preferred alternative in the draft EIR/EIS), Appendix 31 and chapter 11 should clearly describe how impacts to covered and non-covered fish and other species were analyzed at similar levels for other alternatives.</p> <p>The EIR/EIS should provide modeling results or other assessments showing a comparative analysis for both early-long-term (ELT) and late-long-term (LLT) conditions for each covered species, particularly fish species, and for each alternative. The current modeling results presented in the impact analysis are primarily focused on LLT conditions. ELT conditions, which are not presented, would provide an earlier indication of the project's biological impacts and benefits as opposed to only looking at projections at the end of the 50 years during LLT. The proposed 50- year project duration suggests it would be appropriate to present impact analysis results for both ELT and LLT. One benefit of this approach would be to provide a benchmark against which to measure mid-term outcomes of the BDCP's implementation.</p> <p>Uncertainties in modeling</p> <p>More explicit and consistent accounting of uncertainties would provide more realistic forecasts of outcome and impacts. As the Delta Independent Science Board recommended, modeling could be used more effectively to bracket a range of uncertainties, and to explore how uncertainties propagate through the analyses. Once the range of possible outcomes is better known, contingency plans and a range of possible corrective measures could be proposed as part of adaptive management efforts that are integral to many of the draft EIR/EIS' mitigation measures. The approach would also help identify areas where scientific research could have the most impact in better forecasting outcomes.</p>	<p>To the extent that the low salinity zone is associated with the species evaluated in Chapter 11, methods were used to assess the differences between the alternatives and the baselines. Additional analysis are also included in the BA. All alternatives evaluated in the EIR/EIS use the same methods for evaluation.</p> <p>The proposed project is evaluated at the ELT (Early Long Term), and is not proposed as a 50 year plan. No comparisons between ELT are provided because the purpose of the CEQA and NEPA evaluation is to analyze the effects of the project compare to existing conditions and the No Action alternative, respectively.</p> <p>More information about the methods used to assess the effects on fish, including uncertainties associated with the models, is included in Section 11.3.2 of the FEIR/EIS. Additionally, the Adaptive Management Program will be used to identify and reduce these uncertainties. For additional information regarding adaptive management and monitoring, please see Master Response 33.</p> <p>For additional information regarding environmental baselines, please see Master Response 1.</p>
1448	19	<p>Unintended consequences</p> <p>The EIR/EIS should demonstrate how unintended and potentially adverse consequences of proposed CMs have been considered and evaluated. For example, potential adverse impacts</p>	<p>Various analyses related to unintended consequences were included in the 2013 Public Draft. The potential for increases in an important invasive nonnative species (Potamocorbula amurensis and Egeria densa) were analyzed in Appendix 5.F of the 2013 Public Draft, with some discussion also being included in the DEIR/EIS. The potential for predation increases were already discussed in the DEIR/EIS Chapter 11 Fish and Aquatic</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>can occur from: 1) increases in invasive nonnative species; 2) increases in predation; 3) effects on existing downstream tidal wetlands; and 4) increased applications of herbicides. The EIR/EIS should evaluate the impacts of these factors and offer appropriate mitigation. For example, the EIR/EIS should address potential adverse ecological effects associated with reduced downstream sediment transport (suspended sediment loads and associated turbidity) that may result from proposed north Delta diversions and from tidal habitat restoration.</p> <p>As noted in our July 11, 2013, comment letter, the EIR/EIS should also address the potential impacts caused by reduced flushing of the Sacramento River water that will result in increased hydraulic residence times, and, as a consequence, the potential production of microcystis, a harmful algal bloom. Increased residence times could also lead to warmer temperatures and potentially adverse fluctuations in dissolved oxygen levels, which could lead to less favorable habitat conditions for delta smelt and other covered fish species. The EIR/EIS should not defer evaluation of these potentially adverse impacts to the adaptive management phase.</p>	<p>Resources at page 11-331, Analyses in Appendix 5.F of the 2013 Public Draft examined effects of herbicide application (see in particular section 5.F.4.3.1.2). Potential for reductions in downstream sediment was addressed in the 2013 Public Draft (see section 5.5.1.2.1 of Chapter 5), and more of this analysis was incorporated into the FEIR/EIS.</p> <p>With respect to Microcystis, analysis was included in the public draft BDCP (see section 5.F.7.3.1 in Appendix 5.F) and the FEIR/EIS. Chapter 8, Water Quality, impact WQ-32 discusses the impacts of operation of CM-1 on microcystis blooms and Chapter 25, Public Health, impacts PH-8 and PH-9 discuss the resulting impacts on public health. Please refer to Master Response 14 with regards to water quality.</p> <p>With respect to analysis of temperature, section 5C.4.4.4 of Appendix 5.C in the 2013 Public Draft described the small differences between the BDCP and existing conditions, and the reasons for these differences. With respect to dissolved oxygen, the analysis presented in EIR/EIS Chapter 8, Water Quality, suggested that dissolved oxygen levels would be very similar to Existing Conditions in the areas upstream of the Delta, in the Delta, and in the SWP/CVP export service areas (see discussion of Impacts WQ-10 and WQ-11).</p> <p>For more information regarding Environmental Commitments, including the reuse of RTM material, please see Appendix 3B of the FEIR/EIS. For additional information regarding RTM, please see Master Response 12.</p>
1448	20	<p>The possibility of new storage, especially north of the Delta, should be included in the cumulative impacts analysis. Although new storage projects are in various stages of review, the array of projects under study and the broad interest in new storage suggest that added storage, either above- or below-ground, or operated conjunctively, is likely. Appendix 3D of the draft EIR/EIS discusses projects considered in the cumulative impacts analysis. The Los Vaqueros reservoir expansion is the only project included in the No Action/No Project (NA/NP) and cumulative impacts analysis. While raising Shasta Dam, constructing Temperance Flat, and the Delta Wetlands projects were mentioned in Appendix 3D, none were actually included in NA/NP or cumulative impacts analysis. The proposed Sites reservoir project is not mentioned in the appendix. These, and perhaps other potential future storage projects (e.g., groundwater banking) merit consideration in the cumulative impacts analysis.</p>	<p>Each resource chapter in the EIR/EIS includes the list of past, present, and reasonably foreseeable impacts considered for that particular resource. The Los Vaqueros Reservoir expansion, North of Delta Offstream Storage Investigation, Upper San Joaquin River Storage Investigation, and Shasta Lake Storage Investigation among other projects were considered in the water supply (Chapter 5 of the FEIR/EIS) cumulative impact assessment. Table 5-13 in Chapter 5 lists all the projects that were considered in the cumulative impact assessment of water supply. For a full list of projects that were considered for Existing Conditions, No Action and Cumulative, please see Appendix 3D in the Final EIR/EIS.</p>
1448	21	<p>Assess the contributions of water conservation and diversifying local water supplies to reduced reliance on the Delta</p> <p>The EIR/EIS should go further in explaining how demand-reduction actions, including diversification of local water supplies and better water use efficiency, relate to current and future demands for water exported from the Delta through the BDCP's CM1 or other conveyance alternatives. The Delta Plan highlights several approaches to reducing demand for this water.</p> <p>The draft EIR/EIS Appendix 1C also provides an overview of water use efficiency programs to reduce water demand in the state. The draft EIR/EIS addresses reducing reliance on water from the Delta only in Appendix 5B, where it is described as a response to public policies, levee failures, or climate changes that reduce water supplies. The EIR should go further by describing how reduced water demands upon the Delta through water conservation and diversification of local water supplies in areas receiving export, complement supplies diverted through the BDCP's conveyance facilities and the existing south Delta diversions.</p>	<p>It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage. The proposed project cannot impose obligations on third parties that are not applicants under the project. Although 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.</p> <p>Refer to Master Response 6 for further information on demand management measures, including increasing agricultural water use efficiency and water conservation.</p>
1448	22	<p>The draft EIR/EIS's evaluations of the preferred alternative (Alternative 4) were conducted for all four decision tree options in operations Scenario H. In the case of water quality,</p>	<p>Please note that the Alternative 4 (BDCP) is no longer the preferred alternative. Alternative 4A has been</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>however, there is no indication of which decision tree option was used as the basis for determining impacts of Alternative 4. The draft EIR/EIS presents results of the analysis of the four operational scenarios, but conclusions regarding the impacts of Alternative 4 as a whole are drawn without differentiating between the operational scenarios. How accurately can impacts be predicted from a wide range of flows that the operational scenarios span in the decision tree process?</p>	<p>developed in response to public and agency input.</p> <p>For more information regarding the decision tree please see Master Response 44. For more information regarding water quality impacts and its associated mitigation measures please see Chapter 8 of the FEIR/EIS.</p> <p>Operational scenario H3+ would be applied to Alternative 4A. This would not include the operation for the modified Fremont Weir as the Yolo Bypass improvements considered as elements of the BDCP would not be implemented as part of Alternative 4A. Starting operations would be determined through the Section 7 and 2081(b) permit process and an adaptive management and monitoring program would guide future operations. Master Response 28 provides an overview of the operational criteria used for Alternative 4A.</p>
1448	23	<p>Historical data used to support the water quality analysis provide limited ability to characterize water quality conditions in the Delta. An improved understanding of existing water quality dynamics in a complex system such as the Delta is not possible without additional data regarding water quality. Furthermore, as noted by the ISB (Appendix A, 2014 [ATT 2]), the EIR/EIS should provide for enhanced monitoring of pesticides in the Delta to offset the lack of historical monitoring data.</p>	<p>Historical monitoring data presented in the EIR/EIS is sufficient for characterizing water quality conditions in the Delta.</p> <p>Monitoring of pesticides in the Delta does not fall specifically within the responsibilities of the project proponents. Monitoring programs are run by the State Water Resources Control Board and by NPDES permit holders within the Delta, as well as through other programs and agencies. We agree that enhanced monitoring of pesticides in the Delta would be a good thing, but enhanced monitoring of pesticides in the Delta would only be the responsibility of the project proponents if there was compelling reason to expect that effects of the project on pesticides would be adverse/significant, and therefore mitigation was required. Effects of pesticides were considered adverse only for CM13, which includes control of non-native vegetation in which pesticides are applied specifically as part of the conservation strategy. Mitigation required in this case to reduce the effects to less than significant is implementation of integrated pest management (IPM), and enhanced monitoring is unlikely to meaningfully contribute to the reduction in potential effects. In addition, Alternative 4 (BDCP) is no longer the preferred alternative. Instead, please see Alternative 4A, which no longer includes CM13. Alternative 4A has been developed in response to public and agency input.</p>
1448	24	<p>Many species that rely on the Delta, Suisun Bay, and Suisun Marsh also use areas downstream in San Francisco Bay including salmonids, sturgeon, salt marsh harvest mice, and rails. For this reason, to comprehensively evaluate the project's impacts to these species and their habitats, San Francisco Bay should be included in the scope of the analysis, especially for water quality. The BDCP states that the strong influences of tidal fluctuations in San Francisco Bay form the basis for concluding that potential water quality impacts to the Bay are insignificant. However, the ISB and the Independent Science Review Panel (IRP) note that the Delta and the Bay should be treated as an interconnected system. The ISB says that potential impacts of various BDCP alternatives on water quality downstream of the Delta should be evaluated, and indicates that this was a specific recommendation of the National Research Council (ISB Appendices A and B, 2014, and IRP 2014).</p>	<p>An assessment of downstream impacts for aquatic resources and water quality variables including temperature and sediments was included in the RDEIR/SDEIS and the Final EIR/EIS. For more information please see Chapter 8 and 11 of the FEIR/EIS.</p>
1448	25	<p>Especially important are the BDCP's impacts on sediment transport associated with the North Delta diversions and tidal marsh restoration in the Delta and Suisun Marsh, which may adversely affect development of tidal marshes in the San Francisco Bay estuary that are already deprived of beneficial sediments under current conditions. The ISB also noted that impacts on sediment would affect the ability of marshes to adapt to sea level rise (Appendices A and B, 2014).</p>	<p>Alternative 4A contains much lower acreage of tidal restoration than the BDCP, and is thus not anticipated to have significant impacts on sediment transport.</p> <p>Regarding sediment removed by the North Delta Diversion, to the maximum extent practicable (under Alternative 4A), the first and preferred disposition will be to reintroduce it to the water column in order to maintain Delta water quality (specifically, turbidity, as a component of Delta Smelt critical habitat). DWR will collaborate with USFWS and CDFW to develop and implement a sediment reintroduction plan that provides the desired beneficial habitat effects of maintained turbidity while addressing related permitting concerns (the proposed sediment reintroduction is expected to require permits from the Central Valley Regional Water Quality Control Board and USACE). USFWS and NMFS will have approval authority for this plan and for monitoring measures, to be specified in the plan, to assess its effectiveness.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	26	<p>The draft EIR/EIS' discussions of water quality impacts are limited to potential changes in meeting water quality objectives with little regard to specific water quality needs of aquatic species of concern, in particular to sensitive aquatic species with needs that are not addressed by existing water quality objectives. The EIR/EIS should consider potential impacts to specific sensitive ecological receptors in the project areas and that are in the food chain associated with the covered species. The Delta Independent Science Board commented that the draft EIR/EIS's evaluation of nutrients is too limited and that nutrient impacts on algae should be considered; specifically the potential of altered nutrient ratios to either encourage or reduce toxic algal blooms should be considered (Appendix B, 2014 [ATT 3]).</p>	<p>The water quality assessment relies on applicable federal and state water quality criteria, as this represents the best available information for which to compare changes in constituent concentrations due to the project and assess potential effects of projected changes to beneficial uses. Note that impacts on microcystis bloom formation resulting from operation of the water conveyance facilities (Impact WQ-32) and implementation of conservation measures ( WQ-33) have been added to the EIR/EIS. For constituents with no applicable water quality criteria (e.g., dissolved organic carbon, bromide, selenium), other relevant thresholds recognized by the scientific community (e.g., USEPA, state regulatory agencies) were applied. For additional information regarding water quality, please see Master Response 14.</p>
1448	27	<p>Constituents associated with construction activities and historic land uses in the Delta (including aromatic hydrocarbons [PAHs] from construction equipment, pH, and legacy contaminants such as pesticides) should be more thoroughly evaluated. For example, the EIR/EIS should evaluate impacts of construction or proposed restoration actions that could result in release of various constituents including legacy contaminants during construction and throughout their establishment; this is particularly important for those areas that would be subject to frequent tidal inundation or floodwater flows. The ISB noted that the remobilization during construction of soil and sediment with legacy contaminants was not addressed in the draft EIR/EIS (Appendix B, 2014 [ATT 3]). Many legacy contaminants have a tendency to bioaccumulate, which could exacerbate this impact. For example, PAHs that impact ecosystems originate not only as combustion by products, but also potentially from spilled petroleum products, which is a heightened risk during construction. While environmental commitments such as an Erosion and Sediment Control Plan and Storm Water Pollution Prevention Plan are intended to control pollutants related to construction activities, the risks that legacy pollutants remobilized by BDCP construction activities may pose to Delta water quality should be more thoroughly assessed. Historical records and descriptions of past farming systems should be consulted to assess whether these legacy pollutants may pose water quality risks in the project area and if needed, propose mitigations to prevent remobilization of these legacy pollutants. Information gained from previous water quality monitoring efforts and studies in areas near and down-gradient from current large scale restoration actions in the Restoration Opportunity Areas should be used in the EIR/EIS analysis to identify the various water quality constituents that could be released during proposed restoration activities. The ISB also noted that the anticipated efficacy with which wastewater treatment plants remove contaminants of emerging concern is very optimistic in the draft EIR/EIS (ISB, 2014).</p>	<p>As described in Chapter 24, Hazards and Hazardous Materials, with the implementation of environmental commitments (e.g., SWPPPs, HMMPPs, SPCCPs, SAPs, and a Barge Operations Plan) and Mitigation Measures HAZ-1a and HAZ-1b, UT-6a and UT-6c (described in Chapter 20, Public Services and Utilities), and TRANS-1a (described in Chapter 19, Transportation), construction of the water conveyance facilities would not create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials or the upset/accidental release of these materials. The severity of this impact would be reduced with the implementation of these environmental commitments and mitigation measures by identifying and describing potential sources of hazardous materials so that releases can be avoided and materials can be properly handled; detailing practices to monitor pollutants and control erosion so that appropriate measures are taken; implementing onsite features to minimize the potential for hazardous materials to be released to the environment or surface waters; minimizing risk associated with the relocation of utility infrastructure; and coordinating the transport of hazardous materials to reduce the risk of spills.</p>
1448	28	<p>The BDCP's modeling is based on past conditions instead of projected future conditions during the project time frame. As discussed by the Delta Independent Science Board (ISB), it is unclear whether models include likely scenarios of future conditions in the Delta, since it appears that existing conditions were used to support the water quality modeling efforts. The ISB noted that for a proposed permit term of 50 years, modeling should reflect the BDCP impacts throughout and at the end of the permit term. Additionally, the BDCP should include provisions for additional modeling using performance-monitoring data to inform adaptive management (ISB, 2014).</p> <p>Limited modeling methods are applied to assessments of water quality impacts; the assessments use CALSIM and DSR2 without explanation of limitations or of the conditions under which they were run. As noted by the ISB, the model outputs have not been adequately validated with observational data, and the results have not been presented in a way that acknowledges the uncertainties associated with the models. Additionally, the use</p>	<p>An expanded discussion of model validation and uncertainties has been added to Chapter 8 of the EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		of qualitative analysis complicates the comparison of alternatives because constituents of concern are not evaluated in an equivalent manner (ISB, Appendix B, 2014 [ATT 3]).	
1448	29	Because the BDCP will significantly impact Delta hydrodynamics, the Restoration Opportunity Areas (ROAs) must be selected with particular attention to the effect that their locations may have relative to the hydrodynamics of the greater Delta system. The positioning and connectivity of proposed ROAs and the hydrodynamic impacts of the BDCP should be considered with respect to impacts associated with the intrusion of saltwater and impacts to water quality.	For additional detail on the primary issues being raised with regard to the BDCP or Alternative 4, as well as a discussion of the Effects Analysis, please see Master Response 5. The Lead Agencies acknowledge the commenter's concern regarding the connectivity of the proposed ROAs and the greater Delta system. However, it should be noted that the new preferred alternative, Alternative 4A, involves less acres of restoration than the BDCP.
1448	30	Water quality impacts to in-Delta users, and impacts from restoration measures are not well described. The water quality for in-Delta agricultural and municipal users will be significantly adversely affected by changes in the mix of flow between the Sacramento and San Joaquin Rivers, which may require upgrades to water treatment facilities.	Water quality impacts are fully described in Chapter 8 of the EIR/EIS. Effects on agricultural and municipal beneficial uses are assessed. The change in source water mixing between the Sacramento and San Joaquin Rivers is also assessed for relevant water quality constituents. For additional information regarding water quality, please see Master Response 14.
1448	31	Many impacts are described as significant and unavoidable with no recommended feasible or enforceable mitigation measures. Analyzed constituents with significant and unavoidable impacts for the preferred alternative include bromide, chloride, salinity, mercury, organic carbon, and pesticides. CEQA requires development of implementable and enforceable mitigation measures for these impacts such as treatment before use, or increased fresh water flows.  Chapter 8 of the draft EIR/EIS only offers deferred mitigation despite exceeding water quality objectives for many constituents, which may adversely affect in-Delta water quality for agricultural uses. Exceeding water quality objectives is a significant impact, which requires that fully-defined mitigation measures be included in the EIR/EIS.	Alternative 4A would have substantially less effect on Delta water quality such that significant impacts were only identified for electrical conductivity (EC) at Emmaton and Prisoners Point, and mercury associated with the limited tidal habitat restoration that would be implemented. The significant impacts to EC are to be mitigated through real-time operations that could not be completely represented in the modeling on which the EC assessment is based.  A detailed discussion of the mitigation that will be used to offset water quality impacts is included in the EIR/EIS Mitigation Monitoring and Reporting Plan. This plan provides detail on each measure including information on the action, parties responsible for implementing the mitigation measure, responsible parties, location, timing, monitoring, and reporting requirements.
1448	32	Constructing and operating the proposed BDCP conveyance and restoration measures will significantly and adversely affect important attributes of the Delta's regional character, including values that the Council's Delta Plan describes as contributing to making the Delta a distinctive and special place. The Delta Reform Act and Delta Plan anticipate that changes to these attributes will occur and maybe necessary to achieve the coequal goals, but seeks to accommodate these changes while preserving the fundamental characteristics and values that contribute to the Delta's special qualities and that distinguish it from other places.	Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.  The purpose of the EIR/EIS is to analyze the impacts of the alternatives on the environment under the legal framework of NEPA and CEQA. The analysis covers 26 resource areas within the plan area. Although "Delta's unique values" is not a specific topic area, the EIR/EIS nonetheless addresses many of the concerns raised by the Council by virtue of the analysis required under CEQA and NEPA. The impacts from construction activities, for example, are discussed across all the resource chapters. Please see Master Response 24 Delta As Place.  Please see Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Final EIR/EIS for additional detail on the requirements in the 2009 Delta Reform Act for incorporating the BDCP. Please see Appendix 3J of the Final EIR/EIS for Alternative 4A's compliance with the 2009 Delta Reform Act. Please see Master Response 31 regarding compliance with the Delta Reform Act.
1448	33	Agriculture:  Between 1984 and 2008, approximately 89,000 acres of agricultural land were lost to development in the Delta. By 2050 (before the 50-year term of the BDCP is complete), the Delta Protection Commission's Economic Sustainability Plan forecasts that an additional 26,000 acres may be lost to development. Further threats to Delta farmlands arise from the region's fragile levees, which are at significant risk of failure over the BDCP's 50-year life. In this timeframe, potential failure of levees on 18 to 23 agricultural islands leading to	he comment does not raise any environmental issues related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The impact of constructing and operating the water conveyance facilities and restoration actions on agriculture is addressed in Chapter 14 Agricultural Resource. The proposed project does not include a commitment to improve the current levee system except where the project explicitly includes levees in the project construction (for more information on the purpose and need of the proposed project, please see Chapter 2). However, it would provide additional adaptability to catastrophic failure of Delta levees by providing a mechanism to continue making water deliveries to State Water Project (SWP) and Central Valley Project (CVP) contractors and local and in-Delta water users with conveyance inerties even if the Delta were

DEIRS Ltr#	Cmt#	Comment	Response
		catastrophic flooding of about 74,000 to 120,000 acres, could not be cost-effectively reclaimed, Suddeth (2011) concludes.	temporarily disrupted. Any modifications to Delta levees and the flood control system, as a result of constructing the project, would be fully mitigated and under the responsibility of the project proponents. In some instances, levees modified by the project would be strengthened relative to existing conditions. For additional information about how the proposed project would coordinate with flood management requirements, please see Appendix 6A.
1448	34	<p>Recreation:</p> <p>The Delta has significant areas of public land, but facilities encouraging recreation on them are few in comparison to other regions, such as the Bay area. For example, State Parks' Brannan Island SRA has been threatened with closure, and its Delta Meadows property is unimproved. Legal public access for simple recreation pursuits, such as bank fishing or walking, is in short supply. Most Delta recreation facilities are provided at private resorts, marinas, and other visitor-serving commercial facilities. The Delta Protection Commission's Economic Sustainability Plan found that many of these commercial recreation facilities were aging and struggling to remain competitive with tourism regions such as the wine country and the Sierra.</p>	<p>The Final EIR/EIS Chapter 15 Recreation addresses impacts on recreation as a result of constructing and operating the water conveyance facilities and restoration actions.</p> <p>Please note that the BDCP is no longer the preferred alternative. Instead, please see Alternative 4A which no longer includes an HCP.</p> <p>Refer to 15.1, Environmental Setting/Affected Environment, of the Final EIR/EIS, regarding the existing conditions of recreation in the study area.</p> <p>Refer to 15.3, Environmental Consequences, of the Final EIR/EIS, regarding the methods of analysis used, determination of effects, and the approach to mitigation for the impacts to recreation from the proposed project.</p> <p>Refer to 15.3.4.2, Alternative 4A- Dual Conveyance with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H) for impact conclusions regarding recreational impacts. Several mitigation measures and environmental commitments are provided to help reduce construction-related impacts by compensating for effects on wildlife habitat and species; minimizing the extent of changes to the visual setting, including nighttime light sources; manage construction-related traffic; and implementing noise reduction and complaint tracking measures. These mitigation measures include; REC-2, BIO-75, AES-1a, AES-1b, AES-1c, AES-1d, AES-1e, AES-1f, AES-1g, AES-4a, AES-4b, AES-4c, AES-4d, TRANS-1a, TRANS-1b, TRANS-1c, NOI-1a, and NOI-1b.</p>
1448	35	<p>Historical and archeological resources:</p> <p>Historical and archeological resources in the Delta are continually being lost due to deterioration, incremental disturbances from various land uses, and limited financial resources for upkeep and preservation.</p>	This comment does not raise any environmental issues related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Impacts on historical and archeological resources as a result of implementing the proposed project are found in Chapter 18. Please also see Master Response 20 regarding cultural resources.
1448	36	<p>These trends [agriculture, recreation and historical and archeological resources] provide important context for both the consideration of the BDCP's effects on the Delta's unique resources and for selection of mitigation measures. As such, they should be acknowledged and discussed in the environmental setting of the EIR/EIS, in its No Project Alternative, and/or in its assessment of cumulative impacts.</p> <p>The BDCP's proposed mitigation measures, in some instances, may not reduce impacts to less-than-significant; the EIR/EIS would be greatly improved by: 1) recognizing that collective impacts from a variety of proposed actions will adversely affect the Delta's agricultural, social, and economic character; and 2) by offering additional mitigation measures to better offset adverse impacts.</p>	The setting section of each resource chapter describes the current environment of the study area (which primarily falls within the Delta). Wherever significant impacts are found to occur as a result of implementing the action alternatives, mitigation is proposed where feasible. In some cases, even with mitigation, these impacts are unable to be reduced and remain significant and unavoidable. For additional information on these significant and unavoidable impacts, please see Master Response 10. A summary of impacts as well as proposed mitigation for each of these impacts can be found in the Executive Summary in Table ES-8.
1448	37	The draft EIR/EIS evaluates a variety of impacts to Delta agriculture caused by habitat restoration conservation measures; however, because CMs are presented at a programmatic level of detail, it is not possible to identify impacts to agriculture with any degree of certainty. The BDCP presents a broad and somewhat inconsistent range of restoration targets (p. 11 of the BDCP Executive Summary indicates roughly 83,000 acres will be restored compared to 153,000 acres on p. 14-22 of the draft EIR/EIS). Specific	The analysis of the impacts on agricultural resources for the BDCP alternatives was conducted at the project level for the water conveyance facilities (CM-1) and at the program-level of the other conservation measures. The Lead Agencies recognized that additional impact analysis may be required if a BDCP alternative was selected as the proposed project. The preferred alternative no longer includes an HCP. The analysis of impacts on agriculture as a result of implementing Alternative 4A was conducted at the project

DEIRS Ltr#	Cmt#	Comment	Response
		<p>locations, however, have not been selected for restoration CMs, and the draft EIR/EIS does not identify which farmlands, and how many acres of them will be impacted. The draft EIR/EIS states that of the 182,000 acres Restoration Opportunity Areas, roughly 20,600 acres are targeted for restoration in the 98,900 acres of the ROAs that are in agricultural use (14-3 and 14-4). The impact of the BDCP on agriculture in the ROAs apparently depends partly on how much of the 20,600 targeted acres for restoration fall within lands currently in agricultural use, as well as the extent of effects on farm lands outside of the ROAs, such as the Yolo Bypass or areas affected by setting back levees.</p> <p>It may be possible, however, to roughly estimate the magnitude of impacts on existing agricultural land by applying the hypothetical footprint associated with these CMs in a manner similar to that used to assess restoration benefits in the Effects Analysis. In this way, the discussion of agricultural impacts in Section 14.3.3 of the EIR/EIS could describe the range of potential project footprints for CMs 2 and 4-10 to evaluate the possible impact to crop production based on current cropping pattern. The implications of the loss of those lands could then be characterized to establish the general magnitude of impacts to agriculture and to establish the scale of mitigation programs, such as the general amount of funding to be committed to purchasing conservation easements to compensate for lands converted to habitat or the scale of efforts to mitigate any environmentally-significant impacts to the regional farm economy.</p>	<p>level. For additional information regarding agricultural impact mitigation, please see Master Response 18.</p>
1448	38	<p>Section 14.1.1.6 lists infrastructure that is critical to agriculture sustainability (for example, fuel and seed suppliers, irrigation and drainage infrastructure, post-harvest facilities, and equipment supply, etc.). However, the draft EIR/EIS does not discuss secondary effects of proposed alternatives; for example, project impacts caused by losses of important agricultural infrastructure, or by fragmenting parcels. Section 14.3.3 should consider how agricultural infrastructure may be affected by the BDCP project alternatives, and by estimating secondary effects to the region.</p>	<p>Effects on agriculture as a result of disruptions to agricultural infrastructure are discussed in Chapter 14 under Impact AG-2. Implementation of Mitigation Measure AG-1 (Develop an Agricultural Lands Stewardship Plan [ALSP] to Maintain Agricultural Productivity and Mitigate for Loss of Important Farmland and Land Subject to Williamson Act Contracts or in Farmland Security Zones) would reduce, among other effects, effects on agriculture related to relocating or replacing agricultural infrastructure in support of continued agricultural activities. The prevalence and distribution of agricultural infrastructure directly and indirectly affects labor requirements, economics, and environmental justice. These issues are discussed in Chapter 16, Socioeconomics, and Chapter 28, Environmental Justice. Please also see Master Response 18 regarding agricultural impact mitigation.</p>
1448	39	<p>Water quality may be degraded for in-Delta users. Section 14.1.1.6 discusses how high salinity levels in water or soil can damage crops, and Impact AG-2 discusses "other effects on agriculture as a result of constructing and operating the proposed water conveyance facility." There is currently no discussion, however, of which crops would be affected by increased salinity concentrations, nor of how much acreage would be lost or impaired.</p> <p>Section 14.3.3 of the EIR/EIS should estimate the quality and quantity of agricultural lands affected by salinity changes, and quantify the loss in both crop yield and production value under each alternative. Specifically, how many acres of farmland may be impacted by degraded water quality, and what actions are necessary to mitigate this loss?</p>	<p>As indicated in the Chapter 14 methodology discussion, the portion of the agricultural impact analysis that addressed potential impacts related to water quality was based on the water quality analysis presented in Chapter 8 Water Quality and in particular changes in EC. For Alternative 4A (preferred alternative) the analysis disclosed that adverse impacts on EC levels in the western delta could occur during drought periods and Lead Agencies have proposed Mitigation Measure WQ-11 to address this impact. The relationship between soil and irrigation water salinity and crop production and the response of growers to these changes is described in Chapter 14, Agricultural Resources. The Lead Agencies recognize that even with the proposed mitigation the impact on agriculture in the western Delta could remain significant during periods of drought; however, cropping patterns continually change and predicting cropping patterns over an extended period would be speculative.</p>
1448	40	<p>Impact ECON-6 (p. 16-168, lines 16-17) anticipates an increase in agricultural production costs from "operational constraints and longer travel times due to facilities construction", though there is no discussion or analysis of the impact of these longer travel times on agriculture. The EIR/EIS should evaluate how CM1 construction impacts may affect transportation to and from key agricultural areas.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>The Final EIR/EIS describes potential increased costs due to longer travel times at a level that satisfies CEQA and NEPA requirements. As described in Impact ECON-6 for Alternative 4A the proposed project may affect production costs on lands even if gross revenues are largely unaffected. Costs could be increased by operational constraints and longer travel times due to facilities construction. Construction designs and costs have provided for such costs in two ways. In most cases, affected lands fall within the facilities footprint, and are included in the agricultural acreage and value of production described elsewhere in this chapter and in</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>Chapter 14, Agricultural Resources, Section 14.3.3.9, Impacts AG-1 and AG-2. For potentially affected lands not included in the facilities footprint, conveyance construction costs include temporary and permanent roads, bridges, and other facilities as needed to service agricultural lands (California Department of Water Resources 2010a, 2010b). There could be some additional travel time and other costs associated with using these facilities, but such costs are not environmental impacts requiring mitigation. Lead Agencies.</p>
1448	41	<p>Chapter 19 (Table 19-25) indicates that the designated "Farm-to-market" corridor (Highway 99 between Bakersfield and Sacramento,) will not be impacted; however, during construction Level of Service (LOS) thresholds will be exceeded (made worse than previous LOS) on segments of state highways and local roadways (Impact TRANS-1). The EIR/EIS identifies mitigation measures (TRANS 1a-c) to reduce the severity of the impact. However, "the BDCP proponents cannot ensure that the improvements will be fully funded or constructed prior to the project's contribution to the impact," (page 19-173 lines 5-7). The EIR/EIS should explain the constraints that limit full funding of these mitigation measures, and the basis for determining that mitigation is not feasible. If all mitigation measures to reduce traffic impacts are not implemented successfully, the impacts to LOS on these roads will remain significant and unavoidable. The impacts of the decrease in LOS on roadways serving key agricultural areas due to construction will likely remain considerable, and the economic effect and any related environmental effects should be explicitly evaluated in chapter 15, Impact ECON-6.</p>	<p>Mitigation Measures TRANS 1a, 1b, and 1c have been proposed to reduce significant construction-related impacts on local and regional roadway capacities. Mitigation Measure TRANS 1a and 1b would be implemented by the Lead Agencies and are not dependent on third-party funding. Mitigation Measure TRANS 1c builds upon planned regional transportation improvements by made by other agencies and indicates the Lead Agencies will contribute to these improvements as a way to further reduce significant impacts on transportation. This financial contribution would be in proportion to the impact attributable to BDCP/CWF.</p> <p>As the Final EIR/EIS Chapter 19 states, if an improvement that is identified in any mitigation agreement(s) contemplated by Mitigation Measure TRANS-1c is not fully funded and constructed before the project's contribution to the impact is made, a significant impact in the form of unacceptable LOS would occur. Accordingly, this impact would be significant and unavoidable. If, however, all improvements required to avoid significant impacts prove to be feasible and any necessary agreements are completed before the project's contribution to the effect is made, impacts would be less than significant.</p> <p>Impact ECON-6 in Chapter 16 states that other effects related to production costs, travel time, and loss of investments in production facilities and standing orchards and vineyards would occur as a result of facilities construction. Costs could be increased by operational constraints and longer travel times due to facilities construction.</p> <p>In addition the Mitigation, Monitoring, and Reporting Plan includes information on the action, responsible parties, location, timing, monitoring, and reporting requirements for each mitigation measure included in this Final EIR/EIS.</p>
1448	42	<p>The draft EIR/EIS indicates that construction of the BDCP CMs will cause many significant and adverse direct and indirect impacts to agriculture, and that the BDCP will significantly alter the agricultural character and regional economy. For example, Impact ECON-3 comprises a clear change in the agricultural character of the Delta region. Farmland will be permanently converted to non-agricultural uses by: 1) construction and operation of conveyance facilities; 2) disruption of agricultural infrastructure due to construction of CM 1;3) degraded in-Delta water quality; and 4) implementation of habitat restoration conservation measures.</p> <p>The long-term footprint of construction and the disruption to infrastructure are expected to indirectly impact agriculture by increasing production costs (ECON-6) and by causing a decline in agricultural employment during construction, estimated at \$3.5 million (Impact ECON-1, Table 16-42). According to the draft EIR/EIS, impacts to agriculture under Alternative 4 will remain "significant and unavoidable." The commitment to providing appropriate mitigation for these effects should be strengthened.</p> <p>The draft EIR/EIS states that the BDCP proposed actions will have a major regional economic impact, which should be described in sufficient detail to enable meaningful comparison of alternatives. For example, what are the expected increases in agricultural production costs? What is the regional significance of the \$3.5 million decline in agricultural related income and the associated loss of jobs (Table 16-42)? What does the loss of a particular crop mean for the viability of that crop in the region as a whole? What are the impacts to high value</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>The analysis of the economic effect of changes in Delta agricultural production used results from Chapter 14, Agricultural Resources and Appendix 14A, Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction, which include changes in acreage resulting from facilities construction and operation and potential, but unquantified changes in crop production from water conveyance operations, and changes related to implementation of CM2-CM21. Please refer to Chapters 14 and 14A for more information on high value crops. As described in Section 16.3.1.4 of Chapter 16, quantitative estimates were made of the change in the value of agricultural production. Estimates were based on the acreage changes and, if appropriate, yield changes, estimated in Appendix 14A, Individual Crop Effects as a Result of BDCP Water Conveyance Facility Construction, and the prices and per-acre crop revenue information summarized in Section 16.1. Quantitative estimates are presented for the Delta region as a whole, but areas within the Delta that may be disproportionately affected are described in Section 16.3.3, Effects and Mitigation Approaches. Quantitative estimates of changes in value of agricultural production. Qualitative estimates of changes in production costs. Qualitative estimates of changes in value of agricultural facilities and investment.</p> <p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		crops (e.g., vineyards) and heirloom crops (e.g., pears and asparagus)? What other environmentally significant changes may these economic impacts trigger?	<p>Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p> <p>For more information regarding water quality impacts and its associated mitigation measures please see Chapter 8 of the FEIR/EIS.</p>
1448	43	<p>Integrating agricultural mitigation with regional conservation strategies.</p> <p>As restoration is implemented in the Restoration Opportunity Areas, selection of mitigation measures could be integrated into the regional conservation strategies recommended earlier in this letter. These regional strategies could: 1) incorporate agricultural considerations into regional Conservation Measures; 2) provide a framework for project selection and design; 3) contribute to a system of protected agricultural resources; and 4) provide a framework for evaluating and mitigating impacts to agriculture and other land uses. It could also help avoid or reduce impacts to the most valuable agricultural areas, enable interconnected agricultural zones and habitat corridors, and minimize edge effects. The following techniques should be used in the regional conservation strategies to preserve and protect agriculture:</p> <ul style="list-style-type: none"> <li>* Use easements to protect land where development threats are greater. For example, at a minimum, losses of farmlands converted to non-farmed habitat could be mitigated by securing conservation easements that protect other agricultural lands threatened by development, such as land in the Delta's secondary zone. The Delta Plan proposes mitigation for farmland losses at a ratio of one acre protected for each acre converted to non-farm use.</li> <li>* Identify mitigation within the regional conservation strategy framework so that the effects on drainage, cropping systems, etc. can be integrated with restoration strategies.</li> <li>* Implement safe harbor agreements, as described on pages 143 and 186 of the Delta Plan, and propose other good neighbor arrangements.</li> <li>* Compensate for crop losses where necessary.</li> </ul> <p>Recommendations from the Delta Plan.</p> <p>Potential mitigation measures included in the Delta Plan's recommendations for supporting the Delta's agricultural economy should be considered to mitigate environmentally-significant economic impacts to agriculture. For example, the Delta Plan recommends that local governments and economic development organizations, in cooperation with the Delta Protection Commission and the Delta Conservancy, encourage value-added processing of Delta crops in appropriate locations (DP R8 Promote Value-Added Crop Processing). Similarly, DP R9 (Encourage Agritourism) recommends support for agritourism, particularly in and around Delta legacy communities.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>Mitigation Measure AG-1c (Consideration of an Optional Agricultural Land Stewardship Approach or Conventional Mitigation Approach) represents a mitigation approach that would be implemented to mitigate impacts that cannot be otherwise mitigated by Mitigation Measure AG-1a or Mitigation Measure AG-1b.</p> <p>Mitigation Measure AG-1c requires that either a "Conventional Mitigation Approach" or an "Optional Agricultural Land Stewardship Approach" be implemented. The conventional approach involves the purchase of interests in agricultural land that would require the preservation and/or enhancement of land of similar agricultural quality to the land being lost to agricultural uses under the project actions, which would help maintain agricultural productivity.</p> <p>The proposed Optional Agricultural Land Stewardship Approach does not focus principally on physical effects, but on maintaining agriculture and economic viability in the Delta, taking into consideration the desire of individual Delta farmers to continue working on their land, the long-term viability of regional agricultural economies, the economic health of local governments and special districts, and the Delta as an evolving place.</p> <p>The law concerning CEQA's consideration and protection of agricultural land continues to evolve, and the Lead Agencies have carefully considered the impacts of farmland conversion related to the proposed project and the options available for responding to those impacts. Please refer to Master Response 18 regarding agricultural mitigation.</p> <p>Please see Appendix 3I, BDCP Compliance with the 2009 Delta Reform Act, in the Final EIR/EIS for additional detail on the requirements in the 2009 Delta Reform Act for incorporating the BDCP. Please see Appendix 3J of the Final EIR/EIS for Alternative 4A's compliance with the 2009 Delta Reform Act.</p>
1448	44	<p>Five million people live within a 20-minute drive of the Delta and Suisun Marsh, the typical distance Californians drive to reach a favorite recreation area. About 12 million visitor days occur in the Delta annually. Demand for recreation that can be provided in the Delta is growing, both with the forecast doubling of the region's population during the BDCP's implementation and with the potential to attract visitors from other regions. Protecting these valued recreation opportunities is important. Impacts to recreation facilities in</p>	<p>Regarding recreation related socioeconomic impacts; CEQA does not require a discussion of socioeconomic effects, except where they would result in reasonably foreseeable adverse physical changes to the environment. Under CEQA social or economic effects alone shall not be treated as significant effects (State CEQA Guidelines §§ 15064(f), 15131).</p> <p>The analysis of the economic effect of changes in Delta recreation used results from Chapter 15, Recreation,</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>construction zones.</p> <p>The ten or more years of conveyance construction will result in the long-term reduction of recreational opportunities and experiences in the Delta both on land and in water (Impact ECON-5, REC 2 and 3). Traffic delays, disturbance, noise, and water quality impacts may reduce visits to, or prevent access to specific recreational sites. This, in turn, may cause local recreation related businesses to suffer or close from reduced spending, with potential cumulative effects to private visitor-serving facilities vulnerable to a decline in regional recreational-related economic activity.</p> <p>Though proposed mitigation measures offer noise abatement programs, new access roads, alternative waterways, and other activities to minimize disturbances, the impacts of CM1 construction activities on recreation in construction zones are still significant. A more comprehensive assessment of impacts is warranted, and additional mitigation should be offered to offset the impacts. For example, Impact ECON-5 discusses the qualitative effects on recreational economics as a result of constructing conveyance, and Impacts REC 1-4 discusses general impacts qualitatively. Quantifying the effects on recreational uses and opportunities would enable comparison of alternatives to assess which alternative most significantly impacts recreation in the Delta (Section 16.3.3.9, page 16-166, 167, lines 15-36).</p>	<p>Sections 15.3.3.2 through 15.3.3.16, which included potential changes in recreational opportunities and quality resulting from facilities construction and operation, as well as potential changes resulting from the implementation of CM2–CM21.</p> <p>These changes, along with their anticipated economic effects, are discussed qualitatively in Sections 16.3.3 and 16.3.4 and are based on the discussion and analysis included in Chapter 15, Recreation, Sections 15.3.3.2 through 15.3.3.16, and Sections 15.3.4.2 through 15.3.4.4. While these discussions estimate recreational effects on the study area as a whole, it is possible that recreational opportunities and quality in specific areas within the Delta would be disproportionately affected by project activities. It is also possible that these activities would create beneficial effects in specific places based on the relocation of existing activities accomplished as part of an environmental commitment (see Appendix 3B, Environmental Commitments, AMMs, and CMs) or through the creation of new or higher-quality recreational opportunities related to mitigation measures, as described in Chapter 15, Recreation, Sections 15.3.3.2 through 15.3.3.16, and Sections 15.3.4.2 through 15.3.4.4. The potential for these economic effects is discussed, where appropriate.</p> <p>Regarding impacts to level of service impacts; Mitigation Measures TRANS 2a, 2b, 2c would help to mitigate impacts to level of service of roads through prohibiting and limiting construction activity on physically deficient roadway segments and improving physical conditions of affected roadway segments as stipulated in mitigation agreements or encroachment permits. Mitigation measure TRANS-1a, Implement Site-Specific Construction Traffic Management Plan, states that DWR will consult with Caltrans, local agencies for local roads, transit providers, rail operators, the U.S. Coast Guard; city and county parks departments, and the California Department of Parks and recreation. Please note that Mitigation Measure TRANS-1a, Implement Site-Specific Construction Traffic Management Plan, has been updated in this Final EIR/EIS, to include consultation with Caltrans and local transportation agencies to schedule construction traffic to minimize impacts to community events.</p> <p>Regarding impacts to recreation, evaluating impacts on recreation in a qualitative manner meets CEQA and NEPA requirements.</p> <p>The criteria used for determining the significance of an effect on recreational resources are based on Appendix G of the State CEQA Guidelines (Environmental Checklist) and professional standards and practices. Please see Master Response 31.</p> <p>The assessment methods for Conservation Measure (CM) 1, and Alternatives 2D, 4A, and 5A, which don't include CMs, evaluate effects on recreation resources resulting from the construction, operation, and maintenance of facilities as they affect the following.</p> <ul style="list-style-type: none"> <li>• Recreational activities (water-dependent, water-enhanced, and land-based) and opportunities in the study area that are near action alternative facilities.</li> <li>• Water-dependent (e.g., boating and swimming) and water-enhanced recreation opportunities at major north-of-Delta reservoirs and major SWP/CVP south-of-Delta reservoirs that may be affected by changed operations under the action alternatives.</li> </ul> <p>Effects on recreation were assessed by identifying recreation areas that fall within the construction footprint to evaluate whether recreation sites or facilities would be permanently displaced by the proposed water conveyance facilities. In addition, the effects on recreation sites or uses within certain distances of construction activity were evaluated to assess the potential for construction-related disturbances to recreation opportunities because of changes to the visual setting and elevated noise levels that could occur during construction of the proposed facilities. These impact areas were primarily based on the analysis described in Chapter 23, Noise, Section 23.3.3 (see Table 23-16. Predicted Noise Levels from Construction</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>Activities and Table 23-17. Predicted Noise Levels from Construction-Pile Driving and Construction Equipment for Intake Structures). These impact areas were determined using GIS sources to evaluate the potential for degradation of the recreation setting due to construction or operations and maintenance of the action alternatives.</p> <p>Effects on recreation that could occur during construction of action alternative facilities were evaluated qualitatively. Construction activities could result in a short-term loss of recreation opportunities (2 years or less) by disrupting use of recreation areas or facilities. A long-term effect (more than 2 years) could occur if a recreation opportunity is substantially changed or eliminated due to the presence of construction-related activities and noise or the opportunity is fully eliminated as a result of placement of water conveyance structure(s) on or adjacent to a recreation area or facility. Effects on recreation that could occur as a result of maintenance and operation of the water conveyance facilities were also evaluated qualitatively. Maintenance activities could result in short-term loss of recreation opportunities by disrupting use of recreation areas or facilities and operation of the pump stations could result in noise levels that affect recreation areas.</p> <p>Please refer to 15.1, Environmental Setting/Affected Environment, of the Final EIR/EIS, regarding the existing conditions of recreation in the study area.</p> <p>Please refer to 15.3, Environmental Consequences, of the Final EIR/EIS, regarding the methods of analysis used, determination of effects, and the approach to mitigation for the impacts to recreation from the proposed project.</p> <p>Please refer to 15.3.4.2, Alternative 4A- Dual Conveyance with Modified Pipeline/Tunnel and Intakes 2, 3, and 5 (9,000 cfs; Operational Scenario H) for impact conclusions regarding recreational impacts from the proposed project. Several mitigation measures and environmental commitments are provided to help reduce some construction-related impacts by compensating for effects on wildlife habitat and species; minimizing the extent of changes to the visual setting, including nighttime light sources; manage construction-related traffic; and implementing noise reduction and complaint tracking measures. These mitigation measures include; REC-2, BIO-75, AES-1a, AES-1b, AES-1c, AES-1d, AES-1e, AES-1f, AES-1g, AES-4a, AES-4b, AES-4c, AES-4d, TRANS-1a, TRANS-1b, TRANS-1c, NOI-1a, and NOI-1b.</p>
1448	45	<p>Impacts on recreational boating.</p> <p>The Delta Protection Commissions' Economic Sustainability Plan (2012) and California State Parks' Recreation Proposal for the Sacramento-San Joaquin Delta (2011) indicate that boating comprises 60 percent of Delta recreation-days and contributes 80 percent of tourism spending. Chapter 15 (p. 15-103) states that "Although there could be a marginal effect on the recreation experience if boaters are delayed at the boat launch, it is expected that there would be no adverse effect on recreational boating" with little supporting rationale or analysis. Given the importance of boater recreation to the Delta, the impacts of CM 20 on boater recreation should be more fully assessed. Impact ECON-17, "Effects on Recreational Economics as a Result of Implementing the Proposed Conservation Measures 2-22," could be improved with a discussion and assessment of the effects of CM 20 on recreational boating, and by offering mitigation of those recreational impacts where warranted.</p>	<p>CM20 is not a part of Alternative 4A, the new preferred alternative. However, DWR has made a separate commitment that is related to CM13 to contribute funds to further the DBW's aquatic weed control programs in the Delta. Enhanced ability to control invasive vegetation would lead to increased recreation opportunities which would compensate for the loss of recreational opportunities within the project area by providing a recreational opportunity downstream/upstream in the same area for the same regional recreational users. Additionally, this commitment has the added benefit of not delaying boaters at the boat launch.</p> <p>DWR analyzed impacts to recreation in Chapter 15 and transportation in Chapter 19, and proposed mitigation measures for significant and unavoidable impacts. The 2013 DEIR/DEIS and 2015 RDEIR/SDEIS identified reduction of recreation opportunities and experiences and recreational navigation opportunities as a result of constructing the proposed water conveyance facilities as significant and unavoidable impacts.</p> <p>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. To allow for construction of intakes, cofferdams would be constructed within the river channel. The cofferdams would vary in size according to intake location, but would range from 740 to 2,440 feet in length and would extend into the river channel up to 85 feet, depending on location. This would include a 25-foot buffer zone around each cofferdam. Although boats would be unable to use the portion of the waterway where construction was occurring, the river in the vicinity of the intake construction sites would remain open to boat passage at all</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>times. The river is approximately 500–700 feet wide near the proposed intakes, which would leave most of the channel width (approximately 380–580 feet) open to boat passage, providing ample room for the boat traffic observed to occur in the area to pass without difficulty and minimizing possible traffic congestion. See Impact REC-3 for Alternative 4 for more information. Additionally, 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.</p>
1448	46	<p>Impacts on RV parks and resorts.</p> <p>Housing for construction workers may include extended use of recreational vehicle parks and hotels and motels (p. 16-163), which could displace people seeking recreational opportunities in the Delta. Housing for migrant farm labor may also be affected. The extent of this potential impact to recreation is unclear and no mitigation is currently provided. While the draft EIR/EIS does not anticipate a large influx of out-of-area workers, this impact to recreation and need for mitigation should be more thoroughly evaluated.</p>	<p>Please refer to Impacts ECON-1, 2, and 5 in Chapter 16, Socioeconomics, regarding effects on regional economics and employment, population and housing, and recreational economics.</p> <p>It is anticipated that many of the construction jobs would be filled from the existing labor force in the five-county study area region although construction of the conveyance tunnels may require specialized skills resulting in recruitment of specially trained workers coming from outside this region. As described in Chapter 16, Socioeconomics, Section 16.3.3.2, Impact ECON-2, this additional population would constitute a minor increase in the total 2020 projected regional population of 4.6 million. Because the construction population would primarily come from the five-county labor force and because the minor increase in demand from the worker population that would move into the area for specialized jobs (e.g., tunnel construction) would be spread across the large multi-county study area, construction of the alternative is not anticipated to result in an increased demand or adverse effects on existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.</p>
1448	47	<p>Mitigation for recreation impacts.</p> <p>Chapter 15 of the EIR/5 should provide explicit mitigation measures for the significant and unavoidable recreation impacts caused by the BDCP's construction and operation. Determinations of appropriate mitigation should be made as part of the EIR/EIS, and appropriate mitigation commitments should be included in the final EIR/5. Potential mitigation measures include the Delta Plan's recommendations for encouraging recreation and tourism. For example, the Delta Plan recommendation DPR 11 (Provide New and Protect Existing Recreation Opportunities) asks ecosystem restoration agencies to provide recreation opportunities at new facilities and restored habitat areas whenever feasible, and to protect existing recreational facilities using California State Parks' Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh (2011) and the Delta Protection Commission's Economic Sustainability Plan (2012) as guides</p> <p>The environmental commitments listed in Appendix 3B, proposal 3B.2.3 (Fund Efforts to Carry-out the Recreation Recommendations Adopted in the Delta Plan) are an example of the vague and unenforceable nature of some proposed mitigation measures. Of the six actions listed, three could not feasibly be implemented during the CM1 construction period because they: 1) either depend on the outcomes of actions that occur during construction (reusable tunnel material and the CM 2 alterations of the Yolo Bypass); or 2) later (Barker Slough restoration). Three others, Wright-Elmwood Tract and Brannan Island SRA and improvements to the Yolo Bypass Wildlife Area, are distant from the CM1 construction zone where impacts would occur, and therefore do little to lessen or compensate for the project's effects. California State Parks staff familiar with its Central Valley Vision and Delta planning should be consulted to assess how a contribution of funds could facilitate meaningful</p>	<p>Due to the size of the Plan Area and the duration of construction, recreation impacts could be significant. Mitigation measures would reduce some construction-related impacts by implementing measures to protect or compensate for effects on existing recreation opportunities (Mitigation Measure REC-2); effects on wildlife habitat and species (Mitigation Measure BIO-75); minimize the extent of changes to the visual setting (Mitigation Measures AES-1a, AES-1b, AES-1c, AES-1d, AES-1e, AES-1f, AES-1g, AES-4a), including nighttime light sources (Mitigation Measures AES-4b, AES-4c, and AES-4d); manage construction-related traffic (TRANS-1a, TRANS-1b, TRANS- 1c); and implement noise reduction and complaint tracking measures (NOI-1a and NOI-1b). Mitigation measures and environmental commitments would reduce the impacts on wildlife, visual setting, transportation, and noise conditions that could otherwise detract from the recreation experience. However, due to the dispersed effects on the recreation experience across the Delta, it is not certain that mitigation would reduce the level of these impacts to less than significant in all instances.</p> <p>Please note that the language the commenter is referring to describes potential areas considered for the environmental commitment but the environmental commitment is not limited to these areas. As DP R13 states, California State Parks should cooperate with other agencies to improve recreation facilities at Delta Meadows-Locke Boarding House. Please refer to 3B.3.3, Fund Efforts to Carry out the Recreation Recommendations Adopted in the Delta Plan, of the Final EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		progress at Delta Meadows-Locke Boarding House.	
1448	48	<p>The Delta's Legacy Communities are valued resources, appreciated by both their residents and by visitors. Special care to protect them is warranted.</p> <p>Construction of CM 1 will result in numerous impacts, which are described in various places throughout the draft EIR/EIS. However, the scale of collective impacts in the construction zone over ten or more years of construction is difficult to comprehend. Because the collective construction impacts will have a major effect on numerous resource categories, the EIR/EIS should aggregate the description of impacts associated with CM1 construction activities in one location and summarize them, including the time frames for each impact. In this aggregation, the EIR/EIS should discuss the overall construction footprint. Each alternative should be compared to enable improved evaluation of direct and indirect effects on these communities associated with each alternative.</p>	<p>The way the document is currently organized, by resource topic, rather than by geographical location, meets CEQA and NEPA requirements.</p> <p>Impacts ECON-3, 9, and 15, Chapter 16, of the Final EIR/EIS, describe changes in community character as a result of construction of the proposed water conveyance facilities. This impact explains that construction of water conveyance facilities under Alternative 4A could affect community character in the Delta region during the construction work period. However, because these impacts are social in nature, rather than physical, they are not considered impacts under CEQA. To the extent that changes to community character would lead to physical impacts involving population growth, such impacts are described under Impact ECON-2 and in Chapter 30, "Growth Inducement and Other Indirect Effects," Section 30.3.2.</p> <p>Furthermore, notable decreases in population or employment, even if limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community character stemming from a lack of maintenance, upkeep, and general investment. However, implementation of mitigation measures and environmental commitments related to noise, visual effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see Appendix 3B, Environmental Commitments, AMMs, and CMs). Specifically, these include commitments to develop and implement erosion and sediment control plans, develop and implement hazardous materials management plans, provide notification of maintenance activities in waterways, develop and implement a noise abatement plan, develop and implement a fire prevention and control plan, and prepare and implement mosquito management plans. Implementation of mitigation measures, and environmental commitments as outlined in Appendix 3B, related to noise, visual effects, transportation, agriculture, and recreation, would reduce the extent of these effects.</p> <p>While the EIR/EIS does not aggregate impacts by geographical area and timeline, it does analyze all impacts throughout the 26 resource chapters, and in doing so fulfills NEPA and CEQA requirements. To the extent that economic impacts result in reasonably foreseeable adverse physical changes to the environment, they are analyzed throughout this Final EIR/EIS in the related applicable resource chapters (e.g. Aesthetic and visual resources, Noise, Transportation, etc.).</p>
1448	49	<p>The draft EIR/EIS states that construction and implementation of the BDCP will result in significant changes in community character caused by: 1) declining property values; 2) building abandonment near construction activities with associated loss of sales tax revenue; and 3) changes in the agricultural landscape, regional economy, labor, and employment (Impact AG1, 2, and ECON-1 and 3).The draft EIR/EIS also anticipates declining economic stability in communities closest to construction activities and in those most heavily influenced by agriculture and recreation. These indirect and secondary impacts caused by construction of the conveyance facility will have physical effects on the Delta environment that must be evaluated and mitigated in the EIR/EIS. For example, impacts that cause building abandonment can be considered a physical impact that warrants mitigation. Actions to reduce or mitigate adverse impacts should be taken.</p>	<p>Impacts ECON-3, 9, and 15, Chapter 16, of the Final EIR/EIS, describe changes in community character as a result of construction of the proposed water conveyance facilities.</p> <p>Construction of water conveyance facilities under Alternative 4A could affect community character in the Delta region. However, community character is not defined under CEQA. Because these impacts are social in nature, rather than physical, they are not considered impacts under CEQA. To the extent that changes to community character would lead to reasonably foreseeable physical impacts involving population growth, such impacts are described under Impact ECON-2 and in Chapter 30, Growth Inducement and Other Indirect Effects. Furthermore, notable decreases in population or employment, even if limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community character stemming from a lack of maintenance, upkeep, and general investment. However, Implementation of mitigation measures and environmental commitments related to noise, visual effects, transportation, agriculture, and recreation, would reduce the extent of these effects (see Appendix 3B, Environmental Commitments, AMMs, and CMs). Specifically, these include commitments to develop and implement erosion and sediment control plans, develop and implement hazardous materials management plans, provide notification of maintenance activities in waterways, develop and implement a noise abatement plan, develop and implement a fire prevention and control plan, and prepare and implement mosquito management plans.</p> <p>CEQA defines environment to include objects of aesthetic significance. (Pub. Resources Code, Section 21060.5.) Thus, to the extent community character involves aesthetics, CEQA requires it to be examined.</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>With regards to aesthetic impacts, please see Final EIR/EIS, chapter 17, Aesthetics and Visual Resources.</p> <p>While the communities in the Delta would experience a change in community character, as described in Impact ECON-3, Chapter 16, of the Final EIR/EIS, the proposed project would also result in an increase in construction-related employment and labor income, which could create net positive effects on the character of Delta communities.</p> <p>Please also see Master Response 24, Delta as a Place.</p>
1448	50	<p>The draft EIR/EIS highlights that "notable decreases in population or employment, even if limited to specific areas, sectors, or the vacancy of individual buildings, could result in alteration of community character stemming from a lack of maintenance, upkeep, and general investment." The draft EIR/EIS offers a list of environmental commitments to reduce these effects (16.3.3.9, p. 16-165, and Appendix 3B); however the environmental commitments may be insufficient.</p> <p>Precedents elsewhere from local housing authorities and from redevelopment agencies may provide successful examples of mitigation that could be offered to reduce the effects of these significant changes on the Delta as a Place. Examples from blight elimination programs could offer mitigation for community improvement and enhancement including making contributions toward community centers and libraries, or funding programs to curb foreclosures.</p>	<p>Refer to response to comment 1448-49, regarding community impacts.</p>
1448	51	<p>Scenic Highway 160 and other riverside roads are important resources, supporting recreational travel, providing a pleasing backdrop for recreational boating, and contributing to the setting of the Delta's Legacy Communities. The draft EIR/EIS indicates that permanent visual changes in the riverside landscape near intakes will dramatically alter the Delta's scenic character along scenic Highway 160 and at Clarksburg, Courtland, and Hood (EIR/EIS chapter 17 Impact AES-2).The EIR/EIS' narrative description of impacts should be enhanced with illustrative images of these impacts as viewed by travelers on scenic Highway 160 and by recreational boaters. The illustrative images should show conditions before construction and impacts both during construction and after construction is complete. Mitigation measures should be proposed that are consistent with Caltrans' practices for scenic highways and/or the Federal Highway Administration's report Scenic Byways: A guide for Roadside Improvements.</p>	<p>Chapter 17 analyzes impacts to visual character under Impact AES-1, scenic vistas under Impact AES-2, and scenic roadways under Impact AES-3 and accounts for impacts to the existing setting that would be seen from local roadways and Scenic Highway SR 160. The visual analysis has come to the finding that a number of proposed project features would result in adverse/significant and unavoidable visual impacts, even with mitigation, due to the scale of proposed facilities, changes to the visual character of affected lands and communities, and impacts to sensitive viewers. This includes impacts to scenic highways.</p> <p>The analysis addresses how the scenic route would be affected by the proposed project and its alternatives and concludes that there will be significant and unavoidable impacts to the scenic route because of the negative visual effects that would occur. Even if the realignments were not proposed, impacts would still be significant and unavoidable due to the proposed intake facilities that would require tree removal and the introduction of built structures that would negatively affect views from the scenic route. These actions, alone, could affect the scenic highway designation without a realignment of SR 160. Therefore, the only way to ensure SR 160 remains in compliance with the State Scenic Highway Program and the County Circulation Element would be if these changes (i.e., the proposed project) would not occur. Visual mitigation provides measures (Mitigation Measures AES-1a, AES-1c, AES-1e, AES-1f, and AES-1g) to lessen the visual appearance of the proposed project and improve project aesthetics as much as possible but cannot substantially lessen the significant adverse impacts to SR 160 because of the nature of the project, which is why the impacts are significant and unavoidable.</p> <p>Illustrative views of the intakes from Scenic Highway SR 160 are already simulated in Figures 17-76a, 17-76b, 17-77, 17-78, 17-79, 17-86a, 17-86b, and 17-88. The length of road affected by the project does not provide an accurate representation of impacts and the impact analysis does not identify how many miles of SR 160 would be affected. This is because views of the project are affected by season due to the presence and absence of seasonal foliage, the presence and absence of intervening development, distance of the driver from the feature being viewed, direction traveling on the roadway, and curvature/winding nature of the roadway. These factors are tempered by safety considerations such as driving speeds, familiarity with the roadway, and presence or absence of traffic that all affect the duration of viewing times. Therefore, the simulations were used to assess and represent potential impacts because they show various conditions such</p>

DEIRS Ltr#	Cmt#	Comment	Response
			as being closer to an intake, across from an intake, how the curvature of the roadway and vegetation affects views, etc. Simulations, such as those presented in Figures 17-85 and 17-88, aid in representing what would be seen from the river.
1448	52	The entire Delta region is rich in cultural resources with archeological significance, and the draft EIR/EIS identifies major impacts in chapter 18, most of which are considered significant and unavoidable. While the draft EIR/EIS identifies specific sites of cultural value, the EIR/EIS should consider whether areas significantly affected by the BDCP construction may qualify for consideration as significant cultural landscapes under the Secretary of the Interior's Guidelines for the Treatment of Cultural Landscapes. In cases where the impacts would remain significant and unavoidable, the EIR/EIS could offer additional mitigation adequate to preserve and protect the Delta's historic and cultural resources.	<p>Because the preferred alternative no longer includes an HCP, the land based impacts of the preferred alternative are substantially less than the BDCP alternatives. Mitigation Measures CUL-1 through CUL-8 indicate the steps to minimize impacts historical and archeological resources attributable to the each alternative including Alternative 4A. This includes coordination with the Department of Interior. It should also be noted that Reclamation and the U.S. Army Corps of Engineers are entering into a Programmatic Agreement with the California State Historic Preservation Officer for the implementation of NHPA Section 106 for their undertakings associated with the project. The effects of Federal undertakings (actions) on historic properties (eligible for or listed on the National Register of Historic Places) will be taken into account through the implementation of this programmatic agreement.</p> <p>Cultural landscapes are discussed throughout Chapter 18, including Rural Historic Landscapes in the Delta (Section 18.1.7.8). Direct effects of these cultural landscapes are discussed in Section 18.3.2 and Mitigation Measure CUL-6 includes accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties (36 CFR 68) and the National Park Service's Guidelines for the Treatment of Cultural Landscapes. Lastly, Mitigation Measure CUL-5 specifies consultation and implementation of a Built Environment Treatment Plan (BETP). This BETP will specify property-specific protection, avoidance, and treatment as necessary. Please refer to Master Response 20 for more information on Cultural Resources.</p>
1448	53	Recognizing that impacts to cultural resources from the BDCP will likely be similar to impacts caused by other large infrastructure projects in similar environments, the EIR/EIS could draw on experience from other infrastructure projects to describe a range of possible impacts on cultural resources and commit to a range of appropriate mitigation measures. There is precedent from large infrastructure projects across the country under Section 106 of the National Historic Preservation Act to provide additional mitigation or compensation for lost cultural resources.	The Lead Agencies did apply experience gained from other regional projects when assessing the impacts of constructing and operating the BDCP/CWF on archeological and historic resources. For additional information regarding cultural resources, please see Master Response 20.
1448	54	The BDCP could: <ul style="list-style-type: none"> <li>- Offer financial support to relocate significant resources to a museum.</li> <li>- Support archaeological research by local universities focused in the Delta.</li> <li>- Offer financial support to facilitate the listing of eligible artifacts, sites, or structures on the National Historic Registry.</li> <li>- Offer financial support to preserve or rehabilitate deteriorating buildings and structures of historical significance in the Delta such as in the Locke Historic District, the Japanese School in Clarksburg, or the Bacon Island Road Bridge.</li> </ul>	Mitigation Measure CUL-1 envisions that a qualified archaeological consultant will conduct data recovery excavations necessary to retrieve material that would otherwise be lost and that a data recovery report will be prepared. Also that the recovered material will be stored at an appropriate facility for curation. Mitigation Measure CUL-5 outlines various approaches to ensuring that impacts to built environment resources are mitigated, including relocation of historic buildings that would otherwise be demolished, following the Secretary of the Interior's standards to restore built resources outside of the area of direct effect that are of the same type as resources that will be demolished by construction of the action alternative.
1448	55	[ATT 1:] Review of the Draft BDCP EIR/EIS and Draft BDCP. Conducted by the Delta Independent Science Board. May 15, 2014.	Please refer to comment letter 1448, responses 56 through 72.
1448	56	[From ATT 1] <p>Expectations for the effectiveness of conservation actions are too optimistic. Throughout the DEIR/DEIS, the BDCP actions, as supplemented by Avoidance and Minimization Measures and Mitigation Measures, are assumed to produce the anticipated benefits when they are needed to offset any impacts of BDCP actions. In essence, it is often argued that</p>	<p>Please see Master Response 5 regarding reliance on tidal restoration and the benefits of habitat restoration.</p> <p>BDCP does not state that conservation measures CM2 to CM21 counterbalance negative impacts associated with CM1. In fact, CM1 has substantial conservation benefits, especially for fishes, which is why it is described as a conservation measure. See Master Response 5 for further explanation of this point.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Conservation Measures (CMs) 2-22 will have sufficient positive benefits for covered species to counterbalance any negative impacts of water diversions and changes in flow caused by proposed alternatives (CM1). This is an implausible standard of perfection for such a complex problem and plan, as noted in our reviews of Chapters 11 and 12 (Appendix B [ATT 3]). It would be better to begin with more realistic expectations that include contingency or back-up plans.</p>	<p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p> <p>Contingency or back-up plans are inappropriate because there is high confidence that the conservation strategy will be effective. Uncertainties remain regarding the mechanisms, timing, and extent of that effectiveness. These uncertainties are addressed via the adaptive management, monitoring and research activities detailed in Chapter 3 of the FEIR/EIS.</p>
1448	57	<p>[From ATT 1]</p> <p>Uncertainties are inconsistently and incompletely addressed. Project conclusions or comparisons among alternatives or the impacts of the Conservation Measures are encumbered by unaddressed uncertainties. Uncertainties accompany every action and consequence discussed in the DEIR/DEIS, ranging from the designations of habitats for individual species, to projections of entrainment, to modeling results used in the analyses. When combined, these uncertainties will be compounded and propagate. Although the Draft BDCP discusses some of these uncertainties, they are treated inconsistently in the DEIR/DEIS and are largely ignored in the Executive Summary. These concerns are elaborated in Appendix A [ATT 2] under the heading 'Uncertainty,' and related concerns about treatment of assumptions can be found there under 'Sensitivity to assumptions, uncertainty, and conflicting data.' If the outcomes of an action are considered too uncertain or speculative, it is sometimes argued in the documents that this uncertainty is sufficient reason not to address the issue of uncertainty at all. This approach is apparently based on a strict and narrow reading of NEPA and CEQA guidelines, which "require lead agencies to assess the potential for environmental effects based on the best available information and tools and avoid speculation". [Footnote 2: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf</a>, comment #4 and others.] Avoiding clear articulation of uncertainties is not the same as avoiding speculation. By inadequately addressing uncertainties, the documents may fail to prepare those charged with implementing the Plan to deal with surprises. Unaddressed, uncertainties can pose major and significant risks to the project as a whole and lead to false expectations from managers and stakeholders. If uncertainties are acknowledged, however, expectations of the outcomes and benefits of BDCP actions will be more realistic, enabling a more reasoned assessment of how the actions align with NEPA and CEQA standards.</p> <p>Although each of the BDCP actions is accompanied by uncertainties, perhaps the most important relate to how and to what extent the uncertain benefits of the actions detailed in Conservation Measures 2-22 will counterbalance the more certain impacts of Conservation Measure 1. It is important to recognize that Conservation Measures 2-22 are likely to have values in their own rights and are worth implementing regardless of which alternative (if any) is eventually selected. It seems reasonable to us that these measures will likely have positive effects on the ecological health and water quality of the Delta. Whether those positive effects will be adequate to offset the negative impacts of Conservation Measure 1, as assumed in the DEIR/DEIS, is uncertain, in part because they are given only program-</p>	<p>Because the preferred alternative no longer includes an HCP, the assessment of Alternatives 4A, 2D, and 5A is conducted at the project-level. It should be noted, however, that the portions of the EIR/EIS that address the impacts of BDCP CM-2 through CM-21 were conducted at the program-level and acknowledged that additional environmental assessments may be required as those CMs were implemented over the duration of the HCP permit period. For more information regarding project versus program level please see Master Response 2.</p> <p>The need for better representation of uncertainty in model outputs was reiterated in an independent review panel report for the 2016 California WaterFix Aquatic Science Peer Review. This was undertaken where possible in the effects analysis for the Final BA by incorporating panel suggestions to include, for example, prediction intervals for regressions predicting biological outcomes, or by acknowledging more clearly when uncertainty was not explicitly considered (e.g., with footnotes in figures).</p> <p>The proposed project has been revised to more explicitly treat the issue of uncertainty. New sections have been added to the discussion of effects on covered fishes (Chapter 5 in Appendix 11F) identifying specific uncertainties and suggesting research or monitoring actions 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 Appendix 11F). Also, specific large uncertainties have been identified as subject to specific adaptive management responses. These include a response to review BDCP's treatment of climate change risks at plan year 25 (by which time we will be seeing the climate changes that are currently only model projections), and a response to assess the utility of tidal wetland restoration in the south Delta at plan year 20, by which time we will have a much clearer understanding of the efficacy of the tidal wetland restoration program as a whole. For more information regarding restoration feasibility please see Master Response 5.</p> <p>The modeling analysis used to inform hydrodynamic based impacts of Alternative 4A is presented in Appendix 11G, Supplemental Modeling Results for New Alternatives, of this Final EIR/EIS. This appendix summarizes the sensitivity analyses performed for Alternative 4A compared to Alternative 4 to understand the incremental changes between these two similar alternatives. The results of this analysis indicate that modeling results for Alternative 4 and 4A are similar.</p> <p>Uncertainty and limitations that may be inherent in the CALSIM II tool is presented in Appendix 5A of this Final EIR/EIS. For the purposes of CEQA and NEPA, these uncertainties are disclosed as well as the comparative vs. predictive nature of this modeling tool. Please see Section A, Modeling Methodology and Section C related to appropriate use of modeling results. The analyses are presented within the context of these disclosed uncertainties; therefore, these uncertainties are not always repeated when alternative impacts are presented.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		rather than project-level analysis. As Delta Stewardship Council states in the review of Chapter 11 (Appendix B [ATT 3]), these measures are hypotheses to be tested, or perhaps broadly defined adaptive-management experiments. They need to be treated as such.	
1448	58	<p>[From ATT 1]</p> <p>The potential effects of climate change and sea-level rise are underestimated. Future climate change and sea-level rise are perhaps the greatest sources of uncertainty affecting BDCP. The Draft BDCP and DEIR/DEIS describe how climate change and sea-level rise might influence communities, species, and some aspects of hydrology, and how the BDCP actions may enhance resiliency and adaptation to these effects. However, the speed, magnitude, and intermittent nature of these changes may alter the outcomes of BDCP actions from what is planned. The potential direct effects of climate change and sea-level rise on the effectiveness of actions, including operations involving new water conveyance facilities, are not adequately considered. We focus on these concerns in our review of Chapter 29 and in a marsh-accretion sidebar in the Chapter 12 review (Appendix B [ATT 3]). Similar comments could be made about the treatments of other disrupting factors, such as floods, levee failures, earthquakes, or invasive species, any of which could profoundly alter the desired outcomes of BDCP actions.</p> <p>In their response to our preliminary draft review, the Department of Water Resources noted that "the scope of an EIR/EIS is to consider the effects of the project on the environment, and not the environment on the project". [Footnote 3: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf</a>.] If the effects of major environmental disruptions such as climate change, sea-level rise, levee breaches, floods, and the like are not considered, however, one must assume that the actions will have the stated outcomes. We believe this is dangerously unrealistic. CEQA requires impacts to be assessed "in order to provide decision makers enough information to make a reasoned choice about the project and its alternatives". [Footnote 4: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf</a>, comment #17.] Surely this choice should also include consideration of factors that may substantially alter the outcomes of the project.</p>	<p>CEQA requires analysis of reasonably foreseeable future conditions. The Lead Agencies have used robust science, state of the art procedures and an array of complex models to explore to the extent possible a range of reasonably foreseeable future conditions. The State of California has acknowledged that sea level rise threatens coastal and near coastal resources (such as the Delta and Delta water supplies) and that adaptation and resiliency planning to protect these resources from expected levels of sea level rise is appropriate. The eventual effects of climate change and sea level rise could indeed be worse than what has been modeled in the BDCP and EIR/S. No matter what conditions were analyzed this would always be a possibility. The analysis provided in the BDCP and EIR/S provides information for decision makers about whether the impacts to environmental resources and the public would be worse with or without the proposed project. Based on the analysis that was done, most impacts that would occur without the project (as a result of climate change) are to some degree ameliorated by the proposed project. However, effects due to climate change are not caused by the project, and are provided for informational purposes only, and do not lead to mitigation.</p> <p>Large earthquakes and catastrophic levee failures are highly uncertain events. It is beyond the scope of a CEQA document to evaluate potential impacts of such events and their impact on a proposed project. However, both types of events are discussed and evaluated in the context of water supplies in EIR/EIS Appendix 3E. It should also be noted that EIR/EIS Chapter 29 Climate Change includes a discussion of the resiliency and adaptability of each alternative to sea level rise and climate change. Also, see Appendix 6A in the Final EIR/EIS for information on project consistency with existing flood protection standards and regulations.</p> <p>Please also see Master Response 19.</p>
1448	59	<p>[From ATT 1]</p> <p>Confounding effects of linkages and interactions among species, landscapes, and the proposed actions themselves are insufficiently considered. The DEIR/DEIS acknowledges that the Delta is a complex, interacting system. In such systems, actions in one place or for one species will affect dynamics, both there and elsewhere, of the same or other species. Consequently, failure to meet the expectations of BDCP actions will have cascading effects. If the competitive or predatory effects of one species on another or the effects of habitat restoration in one place on upstream or downstream restoration projects are not fully considered, the effectiveness of actions may be compromised. Although some non-covered species are combined for analysis and some predation effects are considered, much of the DEIR/DEIS is focused on individual species, particular places, or specific actions that are considered in isolation from other species, places, or actions. In particular, potential predator-prey interactions and competition between covered and non-covered fish species are not fully recognized. By failing to treat the Delta as a fully functioning and integrated ecosystem, however, interactions that may enhance or undermine the effectiveness of BDCP actions may be overlooked. The potential consequences of such interactions should be described and evaluated, even if only in a qualitative way. Our reviews of Chapters 11</p>	<p>The analyses included in the public draft BDCP and its EIR/EIS aimed to account for the potential wide-ranging effects. For example, with respect to tidal habitat restoration (CM4), the analysis considered not only the potential beneficial effects in terms of lower food web productivity and habitat for occupancy (see, for example, sections 5.5.1.1.1 and 5.5.1.1.2 for delta smelt in Chapter 5 of the public draft BDCP), but also other effects, such as changes in hydrodynamics (see, for example, section 5.5.3.1.3 for winter-run Chinook salmon related to interior Delta entry) and capture of sediment that otherwise would move downstream (see section 5.5.1.2.1 for increased water clarity related to delta smelt). Please also see response to comment 19, which touches upon this issues raised in this comment regarding unintended consequences related to predation, competition, and other factors (primarily from biological stressors).</p> <p>The Environmental Commitments presented as part of Alternatives 4A, 2D and 5A are incorporated into these alternatives to reduce the potential for habitat and other effects on Delta habitat and ecosystem conditions. The habitat acreages described for these alternatives will be implemented according to restoration and protection principles as presented in Table 3-12. Terrestrial Biology Resource Restoration and Protection Principles for Implementing Environmental Commitments, of this Final EIR/EIS. Implementing the Environmental Commitments or the separate California EcoRestore program does not preclude considering an appropriately broad landscape scale.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		and 12 (Appendix B [ATT 3]) provide additional details.	
1448	60	[From ATT 1]  The geographic scope of the DEIR/DEIS was defined to exclude San Pablo Bay and San Francisco Bay. The consequences of BDCP actions undertaken within the Plan Area, however, will extend downstream to affect these bays. Changes in sedimentation in the Delta associated with BDCP actions, for example, will not be confined to the Delta. Likewise, changes within the bays (e.g., tidal wetland restorations) will affect tidal fluxes and salinity intrusion into the Delta. Many fish species also migrate into or through these areas.	Additional water quality and fish and aquatic resources analyses of areas downstream of the Plan Area were circulated for public review in the RDEIR/SDEIS and are included in this Final EIR/EIS.
1448	61	[From ATT 1]  Although levees receive considerable attention in both documents (as befits their importance to what goes on in the Delta), the coverage is disconnected and incomplete. In particular, neither the consequences of levee failures on the effectiveness of BDCP actions nor the financial implications of demands for levee maintenance receives adequate attention. The assumption that most levee breaches will be repaired seems unrealistic.	Please see Appendix 6A, FEIR/EIS, for information on potential impacts to flood protection under the new proposed project, Alternative 4A. Refer to Section 6A.2 and Section 6A.3 in the appendix for discussion on existing levee improvement programs and funding mechanisms, which would not be affected by the BDCP/CWF.  Also, see Section 6A.6 in Appendix 6A for a discussion on levees modified by construction of the California WaterFix (CWF), including responsibilities of the lead agencies.  Before and/or during construction of the CWF water conveyance facilities, the lead agencies 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.  Appendix 5B, Responses to Reduced South of Delta Water Supplies, discusses the potential responses of urban and agricultural water users to abrupt disruptions in Delta water supplies.
1448	62	[From ATT 1]  The increased water reliability produced by BDCP (if successful) will particularly benefit the agricultural sector, and these economic benefits receive quantitative attention in the Plan and DEIR/DEIS. However, there is no parallel discussion of possible environmental impacts that might arise as increased reliability affects which crops are planted, how fertilizers and pesticides are used, or how these changes might affect agricultural runoff and water quality.	Please refer to Section 30.3.4.1, Agricultural Contractor Export Service Areas, Chapter 30, of this Final EIR/EIS. This section describes potential indirect effects of reductions in SWP and CVP deliveries to Export Service Areas resulting from implementation of the project, including increases in cost of water, using empirical evidence from past behavior of agricultural and M&I contractors to increases in cost of water.  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. With regard to beneficial use of water, please see Master Response 34.
1448	63	[From ATT 1]  The adaptive management process is not fully developed. In keeping with its importance, adaptive management receives comprehensive discussion as the third and longest section in our response to the Delta Stewardship Council's charge questions (Appendix A [ATT 2]). Adaptive management is the key to dealing with uncertainties and successfully implementing BDCP. The proposed organizational infrastructure to support adaptive management is well described in the Plan. Yet, although adaptive management is mentioned frequently in the DEIR/DEIS, details about how it will be designed and done are left to a future Adaptive Management Team. As a result, it is unclear how adaptive management will be integrated into the implementation of BDCP, whether the scientific	While the BDCP is no longer the preferred project, adaptive management continues to be a part of the proposed project, Alternative 4A. The exposition of the adaptive management, monitoring and research program has been greatly revised since the public draft BDCP and is detailed in Section 3.6 of Appendix 11F in the Final EIR/EIS. See Master Response 33 regarding the role of adaptive management in the BDCP.  An EIR/EIS is not required to include a comprehensive summary of adaptive management principals. However, adaptive management has been, and will continue to be, a key component to this project. For a discussion in this Final EIR/EIS about the adaptive management, monitoring and research program refer to

DEIRS Ltr#	Cmt#	Comment	Response
		<p>skills needed to plan and oversee adaptive management will exist in the Implementation Office and on the Adaptive Management Team, and whether the capacity to conduct the monitoring and analysis needed for adaptive management will be available. Because conditions in the Delta and responses to BDCP actions may change quickly, the adaptive-management process must be nimble and flexible, yet the organizational structure may delay rather than expedite needed adjustments. Although the Draft BDCP has an extensive listing of performance measures linked to its Biological Goals and Objectives, the measures needed to evaluate actions and make adjustments are not addressed substantively in the DEIR/DEIS. Neither are there any indications of the criteria that might be used to establish "trigger points" at which adaptive management procedures would be initiated. This becomes particularly problematic if certain species are benefitting from actions and others are doing worse.</p> <p>Because BDCP actions will not likely play out as planned, it may be useful to view them as planned experiments or hypotheses to be tested. Consequently, it would be prudent to have contingency plans generally outlined before discovering that actions are not working as expected. Yet contingency plans are rarely mentioned in the documents we reviewed. We are not yet convinced that the process of actually doing adaptive management (rather than creating an organizational infrastructure for it) has received the thoughtful development it requires, given its central role in implementing BDCP and ensuring that impacts and benefits balance. Consequently, we have substantial misgivings about how well the proposed adaptive management process, as proposed, will actually function as a key component of BDCP.</p>	<p>Section 3.6.4.4, Chapter 3.</p> <p>Please note that the draft, Adaptive Management Framework for the California Water Fix and Current Biological Opinions on the coordinated operations of the Central Valley and State Water Projects, is under development (described below) and outlines the ongoing adaptive management of operation of the Central Valley Project (CVP) and State Water Project (SWP) including future implementation and operation of the California WaterFix (CWF).</p> <p>The Delta Reform Act of 2009 identified adaptive management as the desired approach to reduce the ecological uncertainty associated with the management of the Sacramento-San Joaquin Delta system. The Federal and State water operations agencies [Bureau of Reclamation and Department of Water Resources] and the State and federal fisheries agencies [US Fish and Wildlife Service, National Marine Fisheries Service and the California Department of Fish and Wildlife agree that adaptive management is the approach best suited to improving the management of the Delta and its resources.</p> <p>Together, the agencies have committed to ongoing adaptive management under the current Biological Opinions of the combined operations of the Central Valley Project and State Water Project, as well as the effects of future operations under California WaterFix (CWF). The Adaptive Management Framework for the California Water Fix and Current Biological Opinions on the coordinated operations of the Central Valley and State Water Projects serves to set forth the Adaptive Management Framework by which the agencies will operate to reduce uncertainty and improve the performance of Central Valley water operations under the current Biological Opinions and CWF. The Adaptive Management Framework for the California Water Fix and Current Biological Opinions on the coordinated operations of the Central Valley and State Water Projects also further highlights significant new investments in related research, monitoring and modeling needed to support this management effort.</p> <p>The Delta Science Program has particular expertise and experience organizing and facilitating independent scientific reviews. It also has primary responsibility for developing and implementing the Delta Science Plan. The Delta Science Program is expected to support California WaterFix in the review of monitoring and research methods and results, and to provide technical support to the adaptive management process. The agencies have initiated and will continue consultation with the Delta Stewardship Council and the Delta Science Program regarding development of an adaptive management plan for long-term operations of the CVP and SWP as well as a robust science program to implement the adaptive management plan.</p>
1448	64	<p>[From ATT 1]</p> <p>Risks are not modeled or fully evaluated. There are risks with almost every action proposed as part of BDCP. These risks can interact and cascade, with potentially major consequences. Risk assessment and decision theory can be used to assign probabilities, uncertainties, and magnitudes to various risks. Such tools could help evaluate which aspects of BDCP are most vulnerable to high-consequence risks and aid in preparing contingency plans. We found no indications that the available scientific approaches to risk assessment were used to any great extent in the development of BDCP. Given the concerns over uncertainty and the proposed adaptive-management plan, it would be worthwhile to consider incorporating structured decision-making into the process. We provide some useful references in Appendix A [ATT 2] in the section 'Tools for decision making.'</p>	<p>Various approaches may be used in the Adaptive Management and Monitoring Process to assess the potential for risk issues to arise during project implementation or for determining how to change make project changes during project operations.</p> <p>The proposed project was developed using the best available information about the ecological conditions in the Delta. If a BDCP alternative is chosen, the adaptive management program will address, through targeted research and monitoring, uncertainties about the effectiveness of mitigation measures over time. The results of monitoring and research efforts, as well as lessons learned from restoration projects will be used to assess progress toward achieving the biological goals and objectives and gauge the effectiveness of the conservation strategy. Extensive monitoring and research programs are currently in place in the Delta; these efforts will be enhanced through the additional monitoring and research actions performed under the proposed project. The adaptive management and monitoring program is intended to reduce the level of uncertainty about what makes covered species abundance increase or decrease over time through a structured process that incorporates continually improved scientific understanding into decisions related to implementing the conservation strategy.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	65	<p>[From ATT 1]</p> <p>Descriptions of the alternative conveyance structures, operations, and environmental impacts do not facilitate informative comparisons. A central purpose of an EIR/EIS is to clearly describe the alternative options -- in this case, water-conveyance operations -- and their relative impacts. In the DEIR/DEIS, each alternative is examined separately in great detail, in a consistent manner. However, because no overall framework is provided to draw together the specifics of the alternatives in a clear way, it is difficult to compare alternatives. Consequently, it is challenging to develop a rigorous assessment of the relative strengths and weaknesses of the alternatives, as we discuss in the section labeled 'Clarity' in Appendix A [ATT 2]. Moreover, each alternative is influenced by the areas of concern we have noted above. Treating all alternatives in exactly the same way ignores the reality that these factors affect the alternatives and conclusions about their impacts in different ways, further confounding comparisons</p>	<p>The size and complexity of these draft documents reflect an unprecedented effort to analyze a proposed project under both state and federal laws for habitat conservation plans along with 18 alternatives. The documents reflect seven years of collaboration, responses to requests for additional information, careful thought, accumulation of the latest scientific information, and thorough analyses needed to develop and conduct an environmental review of a project that impacts the Delta estuary and water supplies for million Californians. As such, these draft documents necessarily address numerous competing interests in the Delta and throughout the State.</p> <p>Although the science and analyses that support the draft BDCP and the 2013 DEIR/EIS, 2015 RDEIR/SDEIS, and the Final EIR/EIS is complex, the Lead Agencies have made every attempt to present the information in plain language and in a clear format with emphasis on the information that is useful to the public, agencies, and decision-makers. To help address this issue, the Final EIR/EIS includes a summary comparison of impacts in text and graphic form in the Executive Summary and individual resource chapters which more easily allows readers compare impacts across all alternatives. The summary tables were developed to help readers identify the major changes and provide a reference guide to the information contained in each chapter. More information on the ways in which the document was made accessible for meaningful public review is provided in Master Response 38.</p> <p>Keeping figures separate from the text of the chapters ensures that the file size of the chapter and the file size of the figures pdf are manageable and can be downloaded from the website DVD at a reasonable speed using standard home internet service.</p>
1448	66	<p>[From ATT 1]</p> <p>Relation to the Findings of the BDCP Effects Analysis Panel Review:</p> <p>In March 2014, the Delta Science Program released the final report of Phase 3 of an Independent Panel's review of Chapter 5 (Effects Analysis) of the Draft BDCP, dealing with the analysis of potential ecosystem effects of BDCP actions. This review was released after we had completed an interim draft of our findings. The Independent Panel's review was narrower and deeper than ours, dealing with a single (lengthy) chapter rather than the entire DEIR/DEIS and relevant parts of the Draft BDCP documents.</p> <p>We have reviewed the report of the Independent Review Panel and concur with their findings. Here, we note several important areas of agreement in the reviews. In particular, the reviewed documents:</p> <ul style="list-style-type: none"> <li>* Do not adequately convey the sources and effects of uncertainties. Although significant uncertainties were included in technical appendices of the Draft BDCP, they were not adequately addressed in Chapter 5. In particular, the critical uncertainties associated with the presumed beneficial effects of tidal wetland restoration were not addressed;</li> <li>* Do not include clear statements of critical assumptions underlying many of the proposed actions and their consequences;</li> <li>* Characterize adaptive management as the default solution to unresolved issues and uncertainties, without a clear description of how adaptive management will actually be implemented or how it is tied to monitoring;</li> <li>* Fail to recognize that habitat restoration is a lengthy process with uncertain results and timing;</li> </ul>	<p>The Lead Agencies used the best available science throughout the effects analysis. The use of specific scientific data and findings was often vetted with fisheries managers to ensure it was the best available. A variety of data were obtained for the proposed project process: quantitative data from peer-reviewed published literature on topics specific to the Plan Area; peer-reviewed published literature outside the Plan Area but on topics relevant to the proposed project; unpublished quantitative data from within the Plan Area and from outside of the Plan Area; qualitative data or personal communication with topical experts; and expert opinion if no other sources were available.</p> <p>A full description of the methodology of the Net Effects analysis, including justification for the qualitative approach, can be found in Chapter 5, Section 5.2.7.10, Approach for Determining Net Effects on Covered Fish Species, and Section 5.5, Effects on Covered Fish. As indicated in Section 5.2.7.10, "The [BDCP net effects] conclusions represent qualitative judgments of the effects of the BDCP that are grounded in the detailed quantitative and qualitative analyses in the appendices... BDCP net effects conclusions are necessarily qualitative and synthesize results from the more detailed (and often quantitative) analyses found in the appendices to this chapter. While qualitative, the net effects conclusions are derived from a transparent and structured approach. This approach is based on conceptual models that describe the logic and assumptions embedded within the effects analysis."</p> <p>For more information regarding the collaborative science and adaptive management program please see Chapter 3 of the FEIR/EIS.</p> <p>For more information regarding feasibility of restoration and acreage targets please see The Final EIR/EIS Appendix 3G.</p> <p>For more information regarding reliance on tidal restoration please also see Master Response 5.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<ul style="list-style-type: none"> <li>* Present modeling results without thorough sensitivity analyses or consideration of a range of possible scenarios;</li> <li>* Partition the Delta into separate pieces (e.g., covered species) without also considering linkages and the broader spatial and temporal dynamics of the Delta as a system;</li> <li>* Use a flawed analysis to determine net effects. Although a semi-quantitative approach is used initially, the final analysis uses professional judgment to assess net effects. As such, it is a "working hypothesis," although this is not acknowledged throughout the document; and</li> <li>* Present a massive amount of detailed information in a poorly organized and synthesized fashion with no clear and concise summaries, making it difficult to evaluate and compare the consequences of proposed BDCP implementation alternatives.</li> </ul>	
1448	67	<p>[From ATT 1]</p> <p>Develop adaptive institutional, regulatory, scientific, human resource, and financial capacities. The ability to adapt implementation to changing conditions is the most important need for BDCP. It is implausible to expect that the Delta's future will occur exactly as assumed in any DEIR/DEIS analyses. Without the institutional, regulatory, legal, scientific, human resource, and financial capacities to adapt, BDCP will be unable to achieve its stated objectives. Broadly collaborative yet decisive governance is essential. While it may be premature to establish a framework for collaboration before BDCP is underway, it is not too early to begin planning. At this time, there is little in the Draft BDCP or the DEIR/DEIS to suggest how the many individual agencies, each with narrow responsibilities and its own mandates and agendas, will be integrated to conduct the effective research, integrative monitoring, modeling, and adaptive management needed to implement BDCP. Experience with the Interagency Ecological Program (IEP), however, shows it can be done.</p>	Please see response to Comment 1448-63.
1448	68	<p>[From ATT 1]</p> <p>Integrate BDCP science with the Delta Science Plan. The science for BDCP must be clearly linked to the many related scientific problems of managing the Delta, and this scientific capability must be widely perceived as being independent and transparent. Science that is fragmented and partitioned among entities and interests is open to advocacy, which is unlikely to improve conditions in the Delta and will ultimately work against long-term adaptation and the interests of the state and stakeholders. Most of the major science activities must be broadly collaborative. If Delta management is to be guided by science, then science will need to be integrated and effectively communicated. The "One Delta, One Science" foundation of the Delta Science Plan provides a detailed roadmap for achieving this integration. Care should be taken to ensure that the organization and implementation of research, data management, modeling, and monitoring as parts of BDCP are closely meshed with the Delta Science Plan.</p>	Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. The BDCP was developed over seven years in collaboration with agencies, independent scientists, stakeholders and the Delta Science Panel. Chapter 10 of the BDCP describes the role of independent science input in the development of the BDCP. Chapters 6 and 7 of the BDCP describe the governance and implementation structure of the BDCP which includes a robust adaptive management program that will work closely with the implementation office to coordinate with agencies such as the Delta Stewardship Council, Delta Science Program, Delta Conservancy, local governments, Delta Protection Commission flood control agencies and other public agencies.
1448	69	<p>[From ATT 1]</p> <p>Initiate pilot restoration actions as soon as possible. Pilot restoration actions (and other projects to address critical uncertainties) should be initiated as soon as possible, within a scientific framework that will allow BDCP and others to test, refine, and improve the effectiveness of restoration. Some studies that are already underway can be incorporated into BDCP once (or if) it is permitted; other studies being planned could benefit by addressing needs identified in the Draft BDCP or DEIR/DEIS. Current and planned habitat</p>	The comment does not raise any environmental issue related to the 2015 REDIR/SDEIS or the 2013 DEIR/EIS. Please note that the BDCP is on longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP.

DEIRS Ltr#	Cmt#	Comment	Response
		restoration projects in the Delta should be aligned as much as possible with the priorities identified in BDCP and the Delta Plan. This approach can reduce uncertainty and costs over the duration of the project and advance the early application of adaptive management.	
1448	70	<p>[From ATT 1]</p> <p>Use risk-based decision analysis to gain useful insights. A risk-based decision analysis of alternatives that includes some major contingencies would provide a more rigorous basis for structuring the document and developing a preferred alternative(s) for BDCP. A risk-based decision framework could be used to explore how potential adjustments in, for example, the size and placement of habitat restorations or the capacity of the Delta conveyance facility might reflect opportunities or problems likely to arise in the future. Such analyses could explicitly incorporate uncertainty into the comparisons of alternatives, while assessing other decisions about BDCP actions. Several tools are available (see Appendix A [ATT 2]); although these may not be perfectly suited to issues in the Delta, they do provide helpful ways of evaluating relative risks.</p>	Please see comment 1448-64.
1448	71	<p>[From ATT 1]</p> <p>Learn from the current drought. The current California drought presents a powerful example of the need for federal, state, and local agencies and stakeholders to collaborate in managing a complex and changing problem in the face of multiple objectives and stresses. In other words, adaptive management. There will be lessons about challenges and solutions; these lessons should be incorporated into the further development of the adaptive management process and organization in BDCP.</p>	For additional information regarding how drought conditions were considered, please refer to Master Response 47.
1448	72	<p>[From ATT 1]</p> <p>Improvements in the BDCP DEIR/DEIS Document to Enhance Understanding:</p> <p>An EIR/EIS is a major document intended to inform policy-makers and the public about the beneficial and detrimental consequences of alternative project actions, including a reasonable no action alternative. The DEIR/DEIS provides an exhausting wealth of information about the Delta and the likely impacts of the proposed alternatives. However, this wealth of information and data is not organized in a way that can usefully inform difficult public and policy discussions. Some improvements for the final document are suggested below; additional details for individual chapters appear in Appendix B [ATT 3].</p> <ol style="list-style-type: none"> <li>1. Include meaningful summaries for each chapter. Each chapter should begin with a sharply focused summary of the main points, conclusions, and important unresolved issues and uncertainties. We specifically note that the "Highlights" document does not do this and cannot be thought of as a substitute for a scientific summary.</li> <li>2. Provide a clear and concise comparison of water-conveyance alternatives. The DEIR/DEIS is intended to guide the selection of alternatives based on performance and consequences. The Executive Summary should focus on guiding the reader through a concise presentation of the alternatives, describing the process of selecting a preferred alternative, and evaluating the relative impacts of alternatives on major Plan objectives and operations and on the physical, biological, sociological, and economic resources of the Delta.</li> <li>3. Clarify performance indicators. Inclusion of clearly defined performance indicators for BDCP actions and trigger points for adaptive management action in both the chapter texts</li> </ol>	<p>Please see the response to Comment 1448-65.</p> <p>It is important to also note that the BDCP and associated EIR/EIS are regulatory documents intended to satisfy the requirements of the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA) and the California Natural Community Conservation Plan Act (NCCPA) and has been prepared in compliance with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). Specific direction and guidance on the format, organization and content of these documents is provided by those agencies that oversee the implementation of the acts listed above.</p> <ol style="list-style-type: none"> <li>1. Impact summaries were added to each chapter of the 2015 RDEIR/SDEIS and the Final EIR/EIS. The summaries are located at the beginning of each resource chapter and focus on the major issues addresses within that chapter.</li> <li>2. In addition to the comparison of alternatives summary added to each EIR/EIS resource chapter, impact summaries have been added to the Executive Summary. These include a discussion of the intensity of impacts between alternatives supported by impact summary tables.</li> <li>3. Chapter 3 of the BDCP clearly describes the Biological Goals and Objectives which serve as the benchmarks by which plan success will be measured. Biological Objectives are specific, measurable, achievable, relevant and time-bound. Chapter 3 also describes the Adaptive Management Process and monitoring and research that would be conducted to evaluate how well the plan is meeting the objectives and the process for making management changes in order to ensure the overall goals of the plan are being met.</li> <li>4. Uncertainties regarding the expected outcomes of the BDCP on the covered species are included in</li> </ol>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>and the Executive Summary would help to focus a discussion and comparison of alternatives and would greatly improve the usefulness of the document. Without understanding how performance will be assessed, it will be difficult to determine what qualifies as "success"(or "failure").</p> <p>4. Incorporate uncertainties into conclusions. Presentation and discussion of the results of major analyses should include some indication of the uncertainty of those results. For quantitative and model-based analyses, this could include likely upper and lower bounds as well as an average or central tendency. For other analyses, a qualitative assessment of relative uncertainty or confidence in the results would be useful. A discussion of the implications of these uncertainties on any conclusions or comparisons and possible actions to reduce uncertainty is necessary for managing expectations and building trust.</p> <p>5. Bolster and consolidate the support framework for adaptive management. As currently described (only in the Plan; there is no description in the DEIR/DEIS), the adaptive management process will be difficult to implement in terms of financial and scientific support, institutional authority, or regulatory flexibility. It is critical that the management, regulation, and science supporting adaptive management for BDCP be integrated within a larger framework for adaptive management for the Delta. The DEIR/DEIS would benefit from a concise discussion of how the approaches to adaptive management described in the Draft BDCP, the Delta Plan, and the Delta Science Plan could be blended into an effective and comprehensible framework.</p> <p>6. Identify and list important assumptions in each chapter. Although many assumptions may be covered in appendices, the most important assumptions and their implications should be specifically listed and discussed in the main chapter texts, especially where the results of analyses are presented. This is done in some instances, but the treatment of assumptions is inconsistent. The most critical assumptions should be highlighted, perhaps in chapter summaries.</p> <p>7. Consider appropriate time frames for permitting BDCP actions. There are many uncertainties in BDCP actions, their consequences, and the use of adaptive management to adjust practices when necessary. Consequently, it would be appropriate for permits to include explicit intermediate milestones and opportunities for interim evaluation and correction within the 50-year time period of BDCP.</p> <p>8. Spell out the details of programmatic Conservation Measures. Currently, CM1 (water conveyance alternatives) is treated at a project level in the DEIR/DEIS, whereas the other Conservation Measures are dealt with at a less detailed program level. Additional detail should be provided, specifying ranges of possibilities or approximate actions wherever possible. This will enhance evaluations of the effectiveness and consequences of the Conservation Measures and the ability of benefits in program-level measures (CM2-CM22) to counterbalance any negative effects of the project-level CM1.</p>	<p>Chapter 5 of the BDCP.</p> <p>5. The discussion of adaptive management in the Final EIR/EIS has been updated and expanded. The discussion is located in Chapter 3 Alternatives, Section 3.2.3.3 Adaptive Management and Monitoring Program.</p> <p>6. Assumptions used in the environmental analysis can be found in each of the resource area chapters, Chapter 5-30, in the section titled, Methods for Analysis. Other important information regarding the overall context for the analysis is found within Chapters 5-10 in the Affected Environment and Regulatory Setting sections. The Lead Agencies believe the assumptions identified for each resource analysis are of the level of detail needed for the reader to understand the steps followed to conduct the impact analysis.</p> <p>7. The commenter’s recommendation that the permits include intermediate milestones and opportunities for interim evaluation are acknowledged. The application for permits under the BDCP included a 50-year permit term. Issuance of the permits is at the discretion of the permitting agencies. However, it should be noted that the BDCP is no longer the preferred alternative. The proposed project, Alternative 4A seeks a much shorter permit term.</p> <p>8. The nature of a programmatic environmental review is to capture at a high level the potential alternatives and impacts of those alternatives. By its nature, program-level analysis does not contain the same level of detail as project-level analysis. Project-level analysis and program-level analysis each serve different purposes and Lead Agencies are afforded discretion to craft an EIR or EIS as project-level, program-level, or both, depending on circumstances. In fact, it is a common practice under both CEQA and NEPA for agencies to combine project-level and program-level review in a single document. More information regarding the appropriateness and sufficiency of the program- and project-level environmental document is provided in Master Response 2. Also see Master Response 5 for more information regarding the specificity of the conservation measures.</p>
1448	73	<p>[ATT 2:]</p> <p>Appendix A -- Responses of the Delta Independent Science Board to charge questions provided by the Delta Stewardship Council.</p>	<p>Please refer to comment letter 1448, responses 74 through 105.</p>
1448	74	<p>[From ATT 2]</p> <p>Are the project objectives and purpose clearly articulated, to enable the identification of a</p>	<p>As stated in Chapter 2, Project Objectives and Purpose and Need, of this Final EIR/EIS, DWR’s fundamental purpose in planning the proposed project is to make physical and operational improvements to the SWP/CVP system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>reasonable range of alternatives?</p> <p>DEIR/DEIS Chapter 2 clearly articulates overall objectives and relates them to challenges to meeting the coequal goals. The statements of purpose address CEQA and NEPA requirements. Subsequent sections discuss ecosystems, water supply, and water quality. Supporting documents include primers on the Delta and water exported from it (Appendix 1A), potential risks from earthquakes and climate change (Appendix 3E), expected consequences of reducing exports to areas south of the Delta (Appendix 5B), and background on how the alternatives were developed (Plan, Appendix 3A).</p> <p>Chapter 2 could frame water supplies more broadly to help show whether the range of alternative actions is "reasonable." For example, water exports from the Delta could be described as part of a portfolio of actions that include water conservation, reoperation, water markets, alternative conveyance, wastewater reuse, water storage, desalination, and regional self sufficiency. Citation could be made to the Delta Plan (2013), the California Water Action Plan (2013), and "Scarcity: the challenges of water and environmental management in the Delta and beyond," in National Research Council (2012, p. 29-46), as well as the "portfolio-based proposal" in DEIR/DEIS Appendix 3.11.1.1.</p>	<p>and CVP south of the Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations. The Lead Agencies believe that the project objectives and statement of purpose and need comply with CEQA and NEPA, respectively, in that they are sufficiently broad to have allowed for the evaluation of a reasonable range of project alternatives. The range of alternatives evaluated in the EIR/EIS is sufficient to foster informed decision-making and public participation. For additional detail on why the project objectives and purpose are legally sufficient and enable identification of a reasonable range of alternatives, please see Master Response 3.</p> <p>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 carried over into the EIR/EIS, including the NRDC Portfolio-Based Proposal, Congressman Garamendi's Water Plan, and other similar concepts that would require actions that are beyond the scope of the BDCP/CWF. Please see Master Response 4 regarding the selection of alternatives analyzed.</p> <p>Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the BDCP/CWF. Appendix 1C, Water Demand Management, EIR/EIS, describes conservation, water use efficiency, and other sources of water supply including desalination. While these elements are not proposed as part of the proposed project, the Lead Agencies recognize that they are important tools in managing California's water resources. For more information regarding water demand management please see Master Response 6.</p> <p>The BDCP/CWF is not expected to singularly address California's water supply future. The proposed project is one component, among many, of the California Water Action Plan. The California Water Plan evaluates different combinations of regional and statewide resources management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. Follow the California Water Plan here: <a href="http://www.waterplan.water.ca.gov/">http://www.waterplan.water.ca.gov/</a>.</p> <p>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.</p>
1448	75	<p>[From ATT 2]</p> <p>Are the alternatives clearly defined?</p> <p>DEIR/DEIS Chapter 3 contains detailed descriptions of action alternatives, and the meaning of "no action" is clarified by information in Appendix 3D, "Defining Existing Conditions, No Action Alternative, No Project Alternative, and Cumulative Impact Conditions." The "Highlights of the EIR/EIS brochure" [Footnote 4: Highlights+of+the+Draft+EIR/EIS+12-9-B.pdf, available at <a href="http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftEIR/EIS.aspx">http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftEIR/EIS.aspx</a>] offers a generalized guide to the action alternatives.</p> <p>The DEIR/DEIS could identify the preferred CEQA alternative more clearly in several respects:</p> <p>* How strongly preferred is Alternative 4 if the eventual project is not required to resemble</p>	<p>Final EIR/EIS Section 3.1.1 "Identification of a Preferred Alternative" and Section 3.2.4 "Development of the California WaterFix" provide background information on the process of how the preferred alternative was selected.</p> <p>Information on the Alternative 4A operations is provided in Final EIR/EIS Section 3.3.1 "Overview of Water Conveyance Facility Components".</p> <p>Alternative 4A, the new preferred alternative, no longer contains a decision tree.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>it (Chapter 3, p. 3-4; Highlights Brochure sidebar, p. 7)?</p> <p>* "As of this EIR/EIS, the federal Lead Agencies have not identified a Preferred Alternative for the purposes of NEPA" (p. 3-3). Please explain fully.</p> <p>* The reasoning that led to the preference for Alternative 4 could be brought forward from Chapter 31. Section 31.3 is far more informative than are its more prominently placed alternatives: a brief explanation in Chapter 3 (p. 3-3), a summary of an announcement by state and federal officials (p. ES-22), and descriptions that emphasize the screening process developed and used (DEIR/DEIS Chapter 3 and Appendix 3A; Plan Appendix 3A and Chapter 9).</p> <p>* The DEIR/DEIS blurs the most distinctive element of Alternative 4: the decision tree with four operational branches of Scenario H. The decisions are to be governed by research, but no plans for this research are presented (See Chapter 3 comments in Appendix B [ATT 3]). In its description of alternatives, Chapter 3 defers first mention of any of the four operation plans by name until a footnote on page 3-67, and a table on page 3-208 defines them in obscure shorthand. The Highlights Brochure cites H1, H2, H3, and H4 (p. 20) but does so without defining them (p. 10).</p>	
1448	76	[ATT 2: Att 1] All readers, especially decision-makers and the broader public, need graphics that provide informative summaries at a glance, and which are linked to detailed tabular comparisons, as in this diagram.	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.
1448	77	<p>[From ATT 2]</p> <p>From a scientific perspective, does the EIR evaluate a reasonable range of potentially feasible alternatives that would reduce or eliminate significant impacts of the project and obtain most of the basic project objectives and purpose? If potentially feasible alternatives are not fully evaluated, is a clear rationale provided as to why not? Are there potentially feasible alternatives that would reduce or eliminate significant impacts of the project and obtain most of the basic project objectives that should have been considered (and either rejected or fully evaluated) but were not?</p>	<p>Please see the response to Comment 1448-74.</p> <p>For more information regarding whether significant and unavoidable impacts have been mitigated to the fullest extent possible, please see Master Response 10.</p>
1448	78	<p>[From ATT 2]</p> <p>Are the alternatives studied in adequate detail to differentiate outcomes among the alternatives?</p> <p>Overall, the DEIR/DEIS offers a level of detail that overwhelms more than it discerns. Much of this detail is unavoidable, given the large matrix of alternatives and impacts, the complexity of many of the scientific issues, and the associated uncertainties. The solution requires greater clarity in presentation (p. 7).</p> <p>We extended the charge question on differentiating outcomes to include whether the analyses are thorough. We found the analyses less than thorough in three respects: they treat water-conveyance facilities more specifically than habitat restoration; they mostly neglect impacts on San Francisco Bay, Delta levees, and south-of-Delta agriculture; and they make little if any use of risk-based decision analysis.</p>	<p>Please see the response to Comment 1448-65 regarding the level of detail and complexity of the analysis and what has been done to provide more clarity to readers.</p> <p>The DEIR/EIS recognized that CM1 was evaluated in greater detail than the other BDCP conservation measures. The evaluation of the CM1 was for CEQA and NEPA purposes conducted at the project level as a result of the project design, construction detail, and operational detail available at the time the impact analysis contained in the DEIR/EIS was conducted. The DEIR/EIS, did indicate that the assessment of the impacts of implementing the remaining conservation measures was conducted at the program level and that additional environmental compliance documentation may be required before these conservation measures were fully implemented.</p> <p>In response to public comments, RDEIR/SDEIS Chapter 8 Water Quality and Chapter 11 Fish and Aquatic Resources were expanded to include a discussion of downstream impacts on those resources.</p> <p>Impacts on Delta levees as a result of construction of the action alternatives were discussed in various chapters (Chapter 6, Surface Water; Chapter 9, Geology and Seismicity; Chapter 19, Transportation).</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>Additionally, a new appendix, Appendix 6A, was added in the Final EIR/EIS and includes additional information on the effects of the water conveyance facilities on flood protection within the Delta.</p> <p>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. With regards to beneficial use of water, please see Master Response 34.</p> <p>Regarding risk-based decision analysis, please see the response to Comment 1448-64.</p>
1448	79	<p>[From ATT 2]</p> <p>Program vs. project:</p> <p>The DEIR/DEIS makes clear that concurrent actions receive different levels of analysis (p. ES-4 to ES-5; 1-13 to 1-14; 4-2). The concurrent actions include construction of new north Delta diversion and conveyance facilities (Conservation Measure 1) and "near-term" acquisition and restoration of natural communities (Conservation Measures 3-10) (DEIR/DEIS, p. 3-21; Draft BDCP, p. 6-3). Conservation Measure 1 receives both program-level and project-level assessment, whereas the other actions only receive program-level assessment, which is less rigorous by definition.</p> <p>The DEIR/DEIS offers several explanations for the different levels of analysis: the BDCP is to be managed adaptively; few sites of ecosystem restoration have been selected; restoration is still "at a conceptual level" of design; and project-level analysis of habitat restoration is to be carried out as the restoration efforts progress (DEIR/DEIS p. 4-2). Still, the effects of recent marsh restorations in the Delta and Suisun Marsh could help test the benefits of habitat restoration that the DEIR/DEIS assumes in concluding that a net impact is beneficial under NEPA or a less than significant under CEQA (e.g., Chapter 11, p. 3023).</p>	<p>Please see Master Response 2 regarding the combination of project level and program level analysis. Each of the resource chapters includes a section which specifically discusses the impacts of concurrent implementation of actions (construction of the water conveyance facilities in addition to early implementation mitigation restoration).</p> <p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>Alternatives 4A, 2D, and 5A have been evaluated in a project-level of detail in both the RDEIR/SDEIS and Final EIR/EIS.</p>
1448	80	<p>[From ATT 2]</p> <p>Effects of altered Delta outflows on San Pablo Bay and San Francisco Bay: DEIR/DEIS section 4.2.1.2 dismisses impacts to San Francisco Bay with hardly any justification, as noted in our comments on Chapter 4 (Appendix B [ATT 3]). The Initial BDCP Responses, in row 3, include the beginnings of what could be a helpful discussion of this basic question, one that many are sure to ask. Row 3 does not consider the likely impacts of altered sediment delivery, however.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>Chapter 11 of the EIR/EIS was revised to include a robust discussion of the potential effects on the bays downstream of the Delta, relevant to both operations and the habitat restoration proposed for some alternatives.</p>
1448	81	<p>[From ATT 2]</p> <p>Effects of and on levees: Although the DEIR/DEIS cites the threat of levee failures as a justification for new pipelines or canals, the reviewed documents offer no detailed analysis of how levee failures could affect the various alternatives, or of how the alternatives may affect the economics of levee maintenance. We found no part of the DEIR/DEIS, or of the Draft BDCP, that relates Delta levees to the BDCP in more than a piecemeal fashion. We discuss these concerns in our review of Chapter 9 (Appendix B [ATT 3]).</p> <p>It can be argued that CEQA guidelines do not identify levees as resources; that BDCP is not a flood-control project; and that levee failure is too speculative for analysis. However, few</p>	<p>While 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, 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, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies and Section 9.1.1.4.2 Earthquake Ground Shaking in Chapter 9 of the Final EIR/EIS.</p> <p>According to the Delta Risk Management Strategy report published by DWR in 2009, there is a one percent annual probability that ground shaking will exceed 0.15 g near the western edge of the Delta. This level of ground motion could induce liquefaction in Delta levees, thereby causing a breach. A moderate to strong earthquake could cause simultaneous levee failures on several Delta islands, which would result in island</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Delta facilities are more important to its current functions than are its levees, and levee failure has happened too often (and the threat of future failures is invoked too much) to be excluded from thorough analysis in the DEIR/DEIS.</p>	<p>flooding with resultant island flooding. In 2002, the Working Group on California Earthquake Probabilities estimated that an earthquake of magnitude 6.7 or greater has a 62 percent probability of occurring in the San Francisco Bay Area before 2032, and could cause 20 or more islands to flood at the same time.</p> <p>The potential impact to each alternative from a seismic event would depend on a wide variety of factors impacting levee stability in the Delta and has therefore been discussed in several locations within the EIR – Chapters 4, 5, 6, 29 and Appendices 3E, 5B. Additionally, a new appendix, Appendix 6A, was added in the Final EIR/EIS and includes additional information on the effects of the water conveyance facilities on flood protection within the Delta.</p> <p>Chapter 9 of the 2013 BDCP Draft EIR/EIS and Appendix A of the RDEIR/SDEIS describes the geology and seismicity of the study area. Based on a review of the last 20 years of precast tunnel lining seismic performance histories, it can be concluded that little or no damage to precast tunnel lining was observed for major earthquakes around the world. Based on preliminary data, it is anticipated that the Delta tunnels can be designed to withstand anticipated seismic loads. Design-level geotechnical studies would be conducted to assess site-specific hazards and appropriate mitigation measures would be implemented. Impact GEO- 1 and GEO-7 discusses the possibility of loss or damage resulting from strong seismic activity during construction and operation of water conveyance features. For more information regarding tunnel design please see the 2013 Conceptual Engineering Report.</p> <p>Please see Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies, of the Public Draft EIR/EIS for discussion of potential consequences of an earthquake to exports under a No Action scenario.</p> <p>The proposed project does not purport to protect existing levees from seismic ground shaking. Although the proposed project is not intended to provide enhanced flood protection, it does intend to reduce the vulnerability of the water delivery system by making it less reliant upon the Delta levee system (and associated risks thereto). Further, the proposed project does not envision a change in the state’s flood protection policies or programs. For more information on levee stability and seismic risk please see Master Response 16.</p> <p>With regard to the economics of levee maintenance, levee maintenance is the responsibility of the maintaining agency – whether it is the local Reclamation District or a State Maintenance Area. A discussion of maintenance associated with BDCP can be found in the Bay Delta Conservation Plan (Chapter 4, Section 4.2.1.2.10, Maintenance and Monitoring Activities, BDCP and Section 4.2.3.9.6, Levee Maintenance, BDCP).</p> <p>Levee maintenance also is discussed in Appendix 6A of the Final EIR/EIS.</p>
1448	82	<p>[From ATT 2]</p> <p>Effects on agriculture: We found little or no discussion of how increased reliability of water exports will affect applications of fertilizer and pesticides, salt accumulation in the San Joaquin and Tulare basins, and water quality of agricultural runoff in the service areas of the Central Valley Project and the State Water Project. The Initial BDCP Responses pointed us to DEIR/DEIS Chapter 30, sections 30.3.2.4 and 30.3.4.1, which do not appear to extend into environmental effects. As with levee failure, the plausible impacts of these effects go beyond mere speculation. Enough is known to bracket and assess a range of possible outcomes</p>	<p>As mentioned in the response to Comment 1448-78, Chapter 8 Water Quality was expanded to include a discussion of downstream impacts on those resources.</p> <p>The focus of the assessment of impacts on agriculture was on the direct and indirect impacts on agriculture attributable to constructing the water conveyance facilities and for the BDCP alternatives implementing the other conservation measure. For that reason, the EIR/EIS did not include an assessment of changes in agricultural production in the San Joaquin or Sacramento Valleys.</p> <p>The issue of crops and water use is beyond the scope of the proposed project. As discussed in Chapter 30 Growth Inducement and Other Indirect Effects it is difficult to make a determination how agricultural producers respond to changes in the availability and cost of water. As an example, as described in Chapter 7 Groundwater, it is modeling results suggest that changes in the availability of surface water would result, in some cases, in increases in groundwater pumping which would offset those losses. The Lead Agencies believe that conducting an assessment of changes in agricultural production in a geographic area as broad as the San</p>

DEIRS Ltr#	Cmt#	Comment	Response
			Joaquin Valley would be speculative. For more information regarding agricultural impacts and associated mitigation measures please see Chapter 14 of the FEIR/EIS.
1448	83	<p>[From ATT 2]</p> <p>A risk-based decision analysis of alternatives that includes major contingencies would provide a more rigorous basis for structuring the document and refining a preferred alternative, or multiple preferred alternatives, for the BDCP. A risk-based decision framework could be used to explore future opportunities or problems that might arise from potential adjustments in, for example, the size and placement of habitat restorations or the capacity of the Delta conveyance facility. Such analyses could explicitly incorporate uncertainty into the comparisons of alternatives, while assessing other decisions about BDCP actions. The analyses could help allay concerns about overall uncertainty and about the proposed plans for adaptive management. Precedents can be found in Colorado River management and other complex adaptive management programs.</p> <p>A response to this concern confirms that "there has been limited use of formal risk assessment and decision support tools in BDCP" (Initial BDCP Responses, row 7, page 8) [Footnote 5: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/ISB-Comment-Form-040114-final.pdf</a>] The response concludes with a request for "specific suggestions about tools that may be available." Relevant reports include Allen et al. (2011), Burgman (2005), Gartner et al. (2008), Harwell et al. (2010), Lund et al. (2008), Lyons et al. (2008), Martinet et al. (2009), Regan et al. (2005), Runge et al. (2011), Suddeth et al. (2010), and Thompson et al. (2013).</p>	To satisfy the requirements of CEQA and NEPA, the EIR/EIS must include a reasonable range of alternatives that would meet the purpose and need and all or most of the project's objectives. To this end, the DEIR/EIS evaluated the potential impacts of 15 action alternatives and one no action alternative which was later modified to include three additional alternatives (RDEIR/SDEIS Alternatives 4A, 2D, and 5A) and a no action alternative at the early long term, which will provide decision makers with sufficient basis by which to compare alternatives. More information on how the alternatives were selected is provided in Master Response 4.
1448	84	<p>[From ATT 2]</p> <p>Assessed impacts and their comparisons:</p> <p>Overall, are the analyses reasonable and scientifically defensible? How clearly are the roll-up comparisons among alternatives conveyed in the text, figures and tables?</p> <p>Reasonableness and scientific defensibility:</p> <p>Please see the section below, headed "Best available science" (p. 12).</p> <p>Clarity:</p> <p>Overall accessibility to the public and decision-makers: The immensity of the DEIR/DEIS impedes thoughtful comparison of its findings about the impacts of the no-action and action alternatives. Much of the draft contains excellent writing, understandable analysis, and cross-references among its various parts. Nevertheless, the draft suffers from a paucity of analytical summaries, synthesis graphics (e.g., p. 5 above), lists of assumptions, and navigational aids that would enable readers to make strategic, well-informed decisions about the alternatives presented. Federal law provides grounds for expecting such clarity in an impact assessment: "Environmental impact statements shall be written...so that decision-makers and the public can readily understand them" (Council on Environmental Quality [Section] 1502.8).</p> <p>It might be argued that, given its length and complexity, there simply was not enough time for the draft to be made readily understandable. This sounds penny-wise and pound-foolish. Our calls for greater clarity began in June 2012 [Footnote 6:</p>	<p>Although the science and analyses that support the BDCP/CWF and EIR/EIS is complex, the Lead Agencies have made every attempt to present the information in plain language and in a clear format with emphasis on the information that is useful to the public, agencies, and decision makers. The summaries in the Executive Summary and the resource chapters allow the public, agencies, and decision makers to more easily compare impacts across alternatives and determine the relative intensity of impacts. For the more complex assessments, including water quality and aquatics, the impact summary was expanded to aid readers in understanding the results of the assessments. Additional information addressing the length of the EIR/EIS and the ways in which the EIR/EIS and supporting information was made accessible for public review is provided in Master Response 38.</p> <p>It is important to note that the EIR/EIS is a public disclosure document intended to satisfy the requirements the California Environmental Quality Act and the National Environmental Policy Act.</p> <p>Since the Draft EIR/EIS, a discussion of Microcystis has been added in both Chapter 8 Water Quality and Chapter 25 Public Health of the EIR/EIS. Background information on Microcystis is provided in section 8.1.3.18 and section 25.1.1.4 of the water quality and public health chapters of the EIR/EIS, respectively. In addition, these chapters also provide an overview of the methods used to assess the impacts of Microcystis resulting from operating the proposed water conveyance facilities at sections 8.3.1.6 and 25.3.1.3. Water quality impacts of Microcystis are disclosed at Impact WQ-32. Public health impacts of Microcystis are disclosed at Impact PH-8 and Impact PH-9. Please also see Master Response 14 regarding water quality.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p><a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/DISB_Letter_to_Jmeral_and_DHoffmanFloerke_061212.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/DISB_Letter_to_Jmeral_and_DHoffmanFloerke_061212.pdf</a>] and continued in comments on the 2013 Administrative EIR/EIS. [Footnote 7: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/DSC_Letter_on_BDCP_Review.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/DSC_Letter_on_BDCP_Review.pdf</a>, p. 10-11]</p> <p>The available summaries include a table of impacts in the Executive Summary (Table ES-9) and chapter synopses in the DEIR/DEIS Highlights Brochure (footnote, p. A-4). These summaries, while welcome, fall short of making the draft understandable and lack qualifying statements. The rather cryptic table of impacts (Table ES-9) notably lacks caveats about differing degrees of uncertainty. Most of the chapter synopses in the Highlights document offer more background than analysis.</p> <p>Justification for the preferred alternative: The DEIR/DEIS summarizes its case for the preferred CEQA alternative but buries this summary in section 31.3. A readily understandable report would contain an up-front, well-illustrated summary that lays out the main arguments for (and against) the preferred alternative by comparing it against other options -- the No-Action Alternative, the through-Delta channel corridors, the east and west canals, an isolated tunnel, and dual tunnels of various capacities.</p> <p>The comparison needs to include visual aids that help the reader visualize the main expected consequences of the various alternatives and relate these consequences to the co-equal goals. The prototype on page 5 illustrates how graphics can compare alternatives more efficiently and quantitatively than do text and tables alone. This kind of diagram should also represent expected major effects on ecosystems and species, and should express uncertainties in the plotted estimates.</p> <p>Chapter summaries: Useful chapter summaries in the DEIR/DEIS are limited largely to its longest chapters (11 and 12). The Executive Summary provides an overview comparison among alternatives (section ES-9). The Executive Summary also provides a lengthy tabular summary of impacts, but the table is cryptic and graphics are lacking (p. ES-61 to ES-132). The DEIR/DEIS Highlights Brochure summarizes chapters unevenly, in most cases with more emphasis on description than on analysis. The Draft BDCP's prodigious Effects Analysis lacks a summary that goes beyond describing the chapter's contents (Draft BDCP section 5.1).</p> <p>The DEIR/DEIS thus offers few of the summaries needed by decision-makers or by the public at large. The summaries should approach, in level of detail, the sections that begin the climate appendices to the Effects Analysis (Draft BDCP part 5A). The summaries would also proceed not just impact by impact, as done well in the chapter on Terrestrial Biological Resources (p. 12-5 to 12-31), but by alternatives (for instance, no-action vs. actions, and certain kinds of actions vs. other kinds of actions).</p> <p>The BDCP documents should incorporate the best available features of scientific communications. Nearly every scientific journal requires articles to begin with a well-written summary or abstract that lays out the main findings and their broader implications. For example, each abstract at the annual workshop of the Interagency Ecological Program includes a "Statement of Relevance" that puts the science in context.</p> <p>Navigational aids: The DEIR/DEIS includes related parts of the Draft BDCP. This extension is footnoted on front matter of the DEIR/DEIS (p. ES-3, 1-2, and 3-3) and is clarified by cross-references to the Draft BDCP. However, the section "EIR/EIS Organization" (p. 1-31 to 1-35) describes the DEIR/DEIS as being self-contained, as does the DEIR/DEIS Highlights</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Document (on its p. 5 and 6), and the helpful 145-page index posted in December 2013 covers the DEIR/DEIS only.</p> <p>The DEIR/DEIS scarcely mentions the public health and ecological problems associated with potential toxicity from the blue-green alga <i>Microcystis</i>. The reader must go to the Draft BDCP to find details about <i>Microcystis</i> toxicity and discussion of most of its potential environmental effects (Appendix B [ATT 3], review of Chapter 25).</p>	
1448	85	<p>[From ATT 2]</p> <p>Does the environmental impact analysis utilize appropriate evaluation methods? Were tools/analyses appropriate and described adequately?</p> <p>In the Effects Analysis in the Draft BDCP's Chapter 5, the semi-quantitative results for each aquatic species are tabulated (e.g. Figure 5.5.1-5 for delta smelt), but the final assessment of overall net effects is a qualitative interpretation of the tabulated effects. This analysis is highly uncertain because the combined importance of all effects was based on a subjective analysis of the attribute scores conducted by one set of experts. "Experts," however, can include a broad range of perspectives and experiences; another group of experts might well reach a different conclusion (Appendix B [ATT 3], Chapter 11 review).</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>This comment addresses the analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative. For additional detail on the primary issues being raised with regard to the BDCP please see Master Response 6.</p> <p>A full description of the methodology of the Net Effects analysis, including justification for the qualitative approach, can be found in Chapter 5, Section 5.2.7.10, Approach for Determining Net Effects on Covered Fish Species, and Section 5.5, Effects on Covered Fish. As indicated in Section 5.2.7.10, "The [BDCP net effects] conclusions represent qualitative judgments of the effects of the BDCP that are grounded in the detailed quantitative and qualitative analyses in the appendices. BDCP net effects conclusions are necessarily qualitative and synthesize results from the more detailed (and often quantitative) analyses found in the appendices to this chapter. While qualitative, the net effects conclusions are derived from a transparent and structured approach. This approach is based on conceptual models that describe the logic and assumptions embedded within the effects analysis."</p>
1448	86	<p>[From ATT 2]</p> <p>Does the environmental impact analysis utilize appropriate evaluation methods? Were tools/analyses appropriate and described adequately?</p> <p>The hydrodynamic modeling appears to presuppose that any and all failed island levees would be quickly repaired. A more realistic approach would take cues from recent levee failures that have not been repaired. Simulations that include newly flooded islands may require three-dimensional modeling, but the results could be usefully applied to analysis of how levee failures would affect the various alternatives. At a minimum, where hydrodynamic modeling is premised on an optimistic assumption about levee repairs, that assumption should be stated prominently, and attending uncertainty should be carried forward into impact assessments.</p>	<p>CALSIM modeling did not include island flooding scenarios in the future because such assumptions would be based heavily on speculation. CEQA requires analysis of reasonably foreseeable future conditions. The Lead Agencies have used robust science, state of the art procedures, and an array of complex models to explore, to the extent possible, a range of reasonably foreseeable future conditions. For more information on events that could result in levee failures and island flooding in the future, please see Appendix 3E and 6A in the Final EIR/EIS.</p>
1448	87	<p>[From ATT 2]</p> <p>Does the environmental impact analysis utilize appropriate evaluation methods? Were tools/analyses appropriate and described adequately?</p> <p>The surface water modeling neglects interactions with ground water. While the repertoire of models employed appears acceptable for most cases, the reasoning of their selection ought to be concisely mentioned, given the large number of such models available for analyses. The limitations and assumptions of the models also should be noted.</p>	<p>The surface water and groundwater models were selected in a detailed process during initial phases of the preparation of the Draft BDCP EIR/EIS. The analytical tools needed to be able to analyze the water resources in a consistent manner over the entire Central Valley, be publically available, and peer reviewed. The CALSIM II, DSM2, and CVHM models met these requirements and were used in the EIR/EIS analyses. In the EIR/EIS, the surface water and groundwater models are used in an interactive form to project the differences in conditions under the Alternatives and the Existing Conditions and the No Action Alternative. As described in Sections A.2.1 and A.3.1 of Appendix 5A, Section A, Modeling Methodology, the CALSIM II model includes limited interactive logical processes between surface water and groundwater in the Sacramento Valley. As described in Section 7.A.3 of Appendix 7A, Groundwater Model Documentation, output from CALSIM II is used as input values for the CVHM groundwater model; and the CVHM model has an interactive process between groundwater and surface water.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	88	<p>[From ATT 2]</p> <p>Does the environmental impact analysis utilize appropriate evaluation methods? Were tools/analyses appropriate and described adequately?</p> <p>The air-quality modeling excludes photochemical effects or any type of air quality modeling although earlier discussions greatly focus on photochemical pollutants and their transport.</p>	<p>The air quality analysis utilizes standard analysis methods and software recommended and accepted by the U.S. Environmental Protection Agency (EPA), California Air Resources Board (ARB), and all four Plan Area air districts (Sacramento Metropolitan Air Quality Management District, Yolo-Solano Air Quality Management District, San Joaquin Valley Air Pollution Control District, and Bay Area Air Quality Management District). Appendix 22A, Air Quality Analysis Assumptions, provides a detailed description of the models, equations, and methods used to quantify emissions, whereas Appendix 22B, Air Quality Assumptions, provides an exhaust list of the analysis assumptions. Methods specific to the health risk assessment (HRA) are described in Appendix 22C, Health Risk Assessment. Please also refer to Chapter 22, Section 22.3.1 for a summary of the evaluation methods.</p> <p>Consistent with accepted standard practice, ozone impacts were evaluated by quantifying emissions of reactive organic gases (ROG) and nitrogen oxides (NOx), which are precursors to the formation of ozone. As discussed in Chapter 22, Section 22.1.2.1, ozone is a regional pollutant that is formed by a photochemical reaction in the atmosphere. Accordingly, ambient ozone concentrations can only be predicted using regional photochemical models that account for all sources of precursors, which is beyond the scope of a project-level environmental document.</p> <p>As described further in the Final EIR/EIS, the Plan Area air districts have adopted thresholds of significance for ROG and/or NOx to assist the region in attaining the federal and state ozone standards. The mass emissions thresholds also account for expected criteria air pollutant contributions from downwind air basins (see California Air Resources Board 2011d in the Administrative Record for the Draft EIR/EIS). Accordingly, the ROG and NOx thresholds can be used in lieu of complex photochemical modeling to identify projects that could result in significant secondary ozone formation that could impede regional attainment of the state and federal ozone standards. Photochemical modeling is therefore not conducted for the project as a detailed assessment of ROG and NOx emissions relative to adopted air district thresholds is performed in Chapter 22, Air Quality.</p>
1448	89	<p>[From ATT 2]</p> <p>Does the environmental impact analysis utilize appropriate evaluation methods? Were tools/analyses appropriate and described adequately?</p> <p>For aquatic resources, inadequate attention was given to species interactions and food webs, particularly for non-covered species such as invasive clams</p>	<p>Master Response 30 provides an overview of the modeling conducted for the EIR/EIS and CEQA and NEPA compliance.</p> <p>It is unclear in what fashion it would be possible to analyze how the effects of the alternatives could be analyzed in the context of assessing invasive species, given that the identity of future invasive species and their environmental requirements are unknown. The public draft BDCP (incorporated into the EIR/S by reference) analyzed effects on invasive species such as Potamocorbula and Egeria (see Appendix 5.F and Chapter 5), and the California WaterFix BA submitted in August 2016 analyzed effects on the foodweb through entrainment of phytoplankton carbon at the NDD, with the latter also assessing effects to Southern Resident Killer Whales as an ESA-listed species. The uncertainty in foodweb benefits from extensive tidal restoration under BDCP alternatives has been acknowledged; please also see Master Response 5.</p>
1448	90	<p>[From ATT 2]</p> <p>How well is uncertainty addressed and communicated?</p> <p>Uncertainty is difficult to address and communicate for such a complex and dynamic series of actions. However, without some specific and balanced discussion of the general order of magnitude of error or uncertainty in major results, it is difficult for readers to make informed judgments about the various alternative actions.</p> <p>Uncertainty is addressed and communicated more in the Draft BDCP than in the DEIR/DEIS, where conclusions are often stated without adequately acknowledging uncertainties or discussing how the project might prepare for or respond to a variety of outcomes. In some instances, uncertainties are used as an excuse not to assess possible outcomes of an action</p>	<p>In the case of the EIR/EIS, where there is uncertainty, a worst case scenario has been evaluated and the impacts reflected accordingly. For example, if there is uncertainty regarding the number of truck trips needed during construction for air quality analysis, a range was predicted and the worst case was chosen for analysis. Thus, the impact conclusions in the EIR/EIS are conservative assessments.</p> <p>Given the complexity and long duration of the BDCP and CWF, as well as the sheer size of the BDCP planning area, the Lead Agencies have acknowledged the existence of some uncertainty with respect to particular categories of impacts. In light of the substantive mandate of CEQA and the related importance of identifying impacts as either significant or less than significant, DWR, as CEQA lead agency, made efforts to characterize all of the environmental impacts addressed in the EIR/EIS. The federal Lead Agencies have the discretion under NEPA to not make a significance finding if they believe not enough information is available to make a</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>or use certain models (e.g. fish life cycle and bioenergetics models); in many other instances, uncertainties have not been carried forward as caveats to conclusions about impacts.</p> <p>The DEIR/DEIS needs to address uncertainties more forthrightly so that scientific validity can be better assessed and stakeholder expectations can be better bounded. It may be possible, for instance, to assign a relative confidence level (such as A, B, or C) to many of the impacts listed in Table ES-9.</p> <p>Greater care is also needed in conveying uncertainty about net effects. The issue here is whether the benefits of one Conservation Measure will counterbalance negative impacts of another Conservation Measure. In many instances, net effects are difficult to estimate reliably because of uncertainties in the magnitude and time-dependency of the individual effects. In many instances, it is even difficult to determine whether the effects of a conservation measure will be positive or negative.</p>	<p>finding. In the DEIR/EIS, the federal Lead Agencies deferred making a significance finding for some of the impacts on aquatic resources. Subsequently, the RDEIR/SDEIS and Final EIR/EIS were updated to include NEPA findings for all impacts.</p> <p>As a Habitat Conservation Plan prepared under the federal Endangered Species Act and a Natural Community Conservation Plan prepared under the Natural Community Conservation Planning Act, the BDCP included mechanisms that addressed and responded to the uncertainty regarding certain impacts.</p> <p>Moreover, to address the level of scientific and commercial data underlying the BDCP, the length of time necessary to implement and achieve the benefits of the BDCP, and the extent to which the BDCP incorporates adaptive management strategies, the BDCP alternatives were evaluated at two levels of specificity in the EIR/EIS. There was sufficient information available to analyze the CM1 elements of the BDCP alternatives at a project level of detail. Design information for the restoration and conservation strategies for aquatic and terrestrial habitat and other stressor reduction measures in CM2–CM21, however, was presented at a conceptual level and the locations for restoration and preservation actions within the conservation zones were not been specifically identified. Accordingly, the analyses in the EIR/EIS addressed the effects of typical construction, operation, and maintenance activities that would be undertaken for implementation of CM2–CM21 at a program-level of analysis, describing what environmental effects may occur in future project phases.</p> <p>The preferred alternative includes the water conveyance facilities (CM1) and mitigation to reduce the significance of environmental impacts, all of which were evaluated at the project level in the in RDEIR/SDEIS and FEIR/EIS.</p>
1448	91	<p>[From ATT 2]</p> <p>Do the analyses describe sensitivity of conclusions to assumptions and uncertainty and how possible conflicting data and analyses are interpreted?</p> <p>There is some discussion of the sensitivity of conclusions to assumptions and uncertainty in the Draft BDCP and associated appendices, but that is not carried over into the DEIR/DEIS. Given the complexity of actions being proposed, the abundance of data, and the multitude of analysis techniques available, quantification of uncertainties will be difficult, but some estimates would be helpful. A simple formal decision analysis would likely help organize the problem and provide a framework for separating more from less important uncertainties and their effects on the relative likely performance of alternatives.</p> <p>Many of the analyses need to spell out underlying assumptions in an easily identified format. In addition, where the assumptions are weak, the implications of this weakness ought to be mentioned. Bulleted lists of key assumptions could clarify:</p> <ul style="list-style-type: none"> <li>* Error propagation in the hydrodynamic models (e.g., errors of initial and boundary conditions used for DSM2 and CALSIM II, errors from exclusion of ground-water interactions in the model, and errors from assumptions about locations of habitat restoration projects)</li> <li>* Major limitations of the models used and conclusions reached</li> <li>* Sensitivity of model results to an assumed configuration of restoration projects</li> <li>* Assumptions about reservoir operations in the hydrodynamic models</li> <li>* Assumptions about continued existence of some of the most subsidized and least reliable</li> </ul>	<p>The primary purpose of the environmental review process is to disclose the proposed action and potential impacts associated with that action. To do this, the analysis contained in the EIR/EIS uses the most conservative estimates when determining potential effects. By using a conservative approach, uncertainties were adequately captured as potential impacts. For example, cultural and archeological impacts are assumed to be significant and unavoidable simply because there is no way to rule out the presence of cultural resources until construction begins. Assumptions used in the environmental analysis can be found in each of the resource area chapters, Chapter 5-30, in the section titled, Methods for Analysis. Other important information regarding the overall context for the analysis is found within Chapters 5-10 in the Affected Environment and Regulatory Setting sections. The BDCP/CWF alternatives are complex and as such required detailed evaluation. In addition, CEQA and NEPA require that the Lead Agencies evaluate the alternatives in an objective and unbiased manner.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Delta islands</p> <p>* Assumptions about how adaptive management is likely to play out.</p> <p>Places where bulleted, annotated lists of key assumptions would be helpful include:</p> <p>* Chapter 6: DSM2 used for salinity-flow analysis is a one-dimensional model having inherent limitations in simulating open water areas, flow in bends and small channel, inlet/outlets and three-dimensional turbulent mixing, particularly with sea level decimeters higher than today's.</p> <p>* Chapter 11: The implicit assumption of no interactions among the covered species as well as other abundance species such as the invasive clams weakens species-specific conclusions.</p> <p>* Chapter 22: The best practice is to evaluate air-quality models used with existing data to document the uncertainties, but such procedures are either not followed or left undocumented.</p> <p>* Chapter 23: The models used for noise analysis do not include the nocturnal atmospheric boundary layer effects, which surely will skew the inferences made.</p>	
1448	92	<p>[From ATT 2]</p> <p>Is best available science employed in the environmental analysis of project alternatives and their effects?</p> <p>DEIR/DEIS Chapters 5 to 30 vary in scientific rigor, scientific understanding, inclusion of relevant research findings, and citation of relevant reports. The chapters on Air Quality (Chapter 22) and Mineral Resources (Chapter 26), for instance, appear more robust scientifically than those on Geology (Chapter 9) and Public Health (Chapter 25) (details, Appendix B [ATT 3]).</p> <p>Each chapter and appendix needs a date stamp that describes when and how thoroughly it was last updated. Some of the impact assessments presented are several years out of date, as judged from the references cited (e.g. DEIR/DEIS Chapters 9, 10, and 12; Draft BDCP Appendices 3B and 5E). For instance, projections of tidal-marsh response to sea-level rise appear several years out of date (Appendix B [ATT 3], Chapter 12 review, tidal-marsh sidebar).</p>	<p>In many cases the type of quantitative or qualitative data available may varied between resources. The models, references and analytical tools and methods described in the "Methods for Analysis" section in chapters 5-30 represent the best available science, with consensus from the Lead Agencies' expert staff and consultants at the times the methods were chosen.</p>
1448	93	<p>[From ATT 2]</p> <p>Are assumptions used in modeling and for analytical purposes clearly articulated and reasonable considering the complexity and current scientific understanding?</p> <p>Many of the analyses need to spell out underlying assumptions in an easily identified format.</p>	<p>Final EIR/EIS Chapter 4 Section 4.2.3 Methods for Analysis and Chapters 5-30 include a description of the impact assessment methodologies employed to identify and assess the potential environmental impacts that may result from implementing the project alternatives. The models, assumptions, and limitations of analysis are described in each EIR/EIS resource chapter. In some cases, additional information about the models and assumptions is provided in an appendix to the chapter. The models and tools used in the EIR/EIS analysis reflect consensus among lead agencies' expert staff and consultants at the time the impact assessment was conducted.</p>
1448	94	<p>[From ATT 2]</p> <p>How well is the adaptive management strategy described and are the stated goals achievable?</p>	<p>Please see the response to Comment 1448-63.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Description of adaptive management:</p> <p>Adaptive management is described in Section 3.6 as a three-phase process containing 9 steps. The overall characterization of adaptive management is consistent with standard works on the subject and with the treatment of adaptive management in the Delta Plan. Section 3.6 also describes issues in designing a robust adaptive management experiment, as well as the pitfalls in implementing an adaptive management experiment. The section clearly describes adaptive management and some of the issues that arise in trying to implement it.</p> <p>Adaptive Management Team:</p> <p>Although adequate as a description of adaptive management, the process described in Section 3.6 is not a strategy for implementation. In the Draft BDCP, the details of design and implementation of adaptive management are left to a future Adaptive Management Team, to be chaired by a Science Manager. The Science Manager is a new position established as part of the Implementation Office responsible for achieving the goals of the BDCP. The Adaptive Management Team is to be comprised of managers because, the Plan argues, adaptive management is fundamentally a management activity. We (Delta Stewardship Council) agree that the Adaptive Management Team should be comprised of managers because buy-in by managers is important to the success of adaptive management experiments. However, adaptive management is not part of the toolbox or the experience of most resource managers. Adaptive management experiments are like clinical trials in medicine -- they have requirements for scientific insight and objective validity, planning, execution, time lines, and information gathering that differ from ordinary resource management.</p> <p>Given the complexity of the scientific questions and uncertainties associated with implementing BDCP and the importance of adaptive management to successful implementation, the Science Manager must be well versed in the design and application of adaptive management and have the ability to interpret this way of implementing and managing conservation actions to the Adaptive Management Team. It will also be important for the Science Manager to consult with the community of experts in adaptive management and to draw from the experience of practitioners involved in other large-scale adaptive management programs, nationally and globally. Most of all, the Science Manager must know when it is appropriate to use adaptive management and when it is not and realize expectations of what is and what is not achievable. Experience in design and implementation of adaptive management is not one of the qualifications of the Science Manager listed in Chapter 7 -- but it should be.</p> <p>Adaptive-management experiments:</p> <p>No specific goals are stated for adaptive management beyond its basic purposes of assisting managers to manage uncertainty, to learn about the systems they are managing through the management actions that they implement, and to adjust actions when appropriate. Because no specific adaptive management programs are described, it is not possible to determine whether the Plan will benefit from its use. The BDCP recognizes that adaptive management has failed in other situations for a variety of reasons, including failure to plan and model adaptive experiments properly, failure to implement adaptive management plans, failure to ensure adequate funding, failure to follow through with effective monitoring and scientific evaluation of adaptive experiments, and failure to coordinate planning and implementation among scientists, stakeholders, and managers (Walters 2007,</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Scarlett 2013). The Draft BDCP includes measures to prevent some of these failures. However, until a culture of adaptive management is developed in the participating agencies, implementation of the BDCP is likely to be thwarted by the kinds of obstacles that Walters (1997, 2007) and Allen and Gunderson (2011) describe.</p> <p>Conducting adaptive management and designing robust management experiments will require a working set of models that link conservation actions to desired outcomes through species or ecosystem dynamics. The BDCP has employed a broad range of models in its Effects Analysis (described in Draft BDCP Chapter 5 and its appendices). However, it is not clear that these models are available or even suitable for designing adaptive-management experiments. For example, habitat suitability models are probably not sufficient on their own. It was not clear to us whether the Draft BDCP intends the Conservation Measures to be implemented as experiments, which is in actuality the heart of the adaptive management process. Instead, it appeared that uncertainties would be dealt with primarily through targeted research projects. It is important to frame adaptive management as experiments that provide opportunities to reduce uncertainty about subsequent restoration actions.</p> <p>Assuming that the BDCP will, in at least some instances, implement Conservation Measures as experiments, it is important to have an objective way to decide when conducting such experiments makes sense. The Plan acknowledges that adaptive experimentation may not always be desirable but does not offer a clear approach to deciding whether to experiment or not. Because adaptive experimentation requires resources, one way to assess the benefits of a particular experiment is to compare the cost of conducting the experiment against the value of the information that will be gained from the experiment. If the value of the incremental reduction in uncertainty likely to result from an experiment is small relative to the cost of the experiment, it may make sense not to conduct the experiment but to frame adaptive management as an observational study supported by monitoring. Although it remains important to acknowledge the uncertainty, it is also important to recognize that the benefits of reducing uncertainty do not always justify the costs of experimentation.</p> <p>In some instances (which may be commonplace in the Delta), adaptive experimentation may not be possible: conservation actions may be confounded with one another; control over drivers of change may be lacking; or physical, legal, financial, or social factors may constrain, individually or collectively, the range of options that can be explored. In such circumstances, other approaches to implementation may be better than adaptive management. Several such situations and possible alternative approaches are discussed by Williams et al. (2009) and Allen and Gunderson (2011).</p> <p>Still other issues will likely affect the application of adaptive management in the Delta, many of them stemming from the complexity of the BDCP and the potential for confounding and conflict among objectives, actions, and outcomes. Some Conservation Measures may benefit one species but may harm another. And although progress towards biological goals is a means to assess the effectiveness of a Conservation Measure, there also need to be triggers to reverse negative impacts. These complications reinforce the need for the Science Manager to have a firm grasp of the potential and pitfalls of adaptive management and an appreciation of continually emerging approaches to managing complex systems.</p>	
1448	95	<p>[From ATT 2]</p> <p>Is the proposed monitoring adequate to evaluate if the goals and objectives are being achieved?</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>As a point of clarification, monitoring for compliance with regulations not related to the BDCP permits – such as compliance with water quality standards – is not addressed by the BDCP monitoring program. Rather, it is</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>BDCP identifies three kinds of monitoring: compliance monitoring, effectiveness monitoring, and status and trends monitoring. Although this is a logical way of classifying monitoring activities, it does not necessarily mesh well with adaptive management. Adaptive management is designed to generate information that will clarify uncertainties in understanding the dynamics and responses of species and ecosystems to management actions. In some cases, the required monitoring might not fit into any one of the three categories.</p> <p>Compliance monitoring includes monitoring for regulatory compliance and compliance with design standards for Conservation Measures. Potential compliance monitoring actions for each conservation measure are listed in Table 3D-1. Monitoring of design-standard compliance is fairly straightforward, being dictated by specifications in a Conservation Measure. Monitoring for regulatory compliance can be more complex as can, for example, monitoring to ensure compliance with flow or water-quality design criteria. As the design criteria and outcomes for most Conservation Measures are not yet developed, it is difficult to say whether the compliance monitoring actions listed in Table 3D-1 are both necessary and sufficient.</p> <p>Effectiveness monitoring and status and trends monitoring are combined in Appendix 3D and potential monitoring actions for each Conservation Measure are listed in Table 3D-2 of the Appendix. In the preamble to Table 3D-2, it is stated that "Precise details of each of the effectiveness monitoring actions are not presented here and will be developed and then periodically updated through the adaptive management and monitoring program." Consequently, it is difficult to comment on the adequacy of the proposed monitoring actions at this time. However, Table 3D-2 does not provide any meaningful clues as to how the proposed monitoring will tie into any adaptive management experiments. Without explicit linkages between monitoring and the adaptive management practices it is intended to support, it is difficult to see how adaptive management can really be achieved.</p> <p>Section 3.4 of the Draft BDCP discusses each of the 22 Conservation Measures in turn and repeats some of the potential compliance and effects monitoring actions identified in Tables 3D-1 and 3D-2. In addition, for some Conservation Measures, section 3.4 provides a table of "key uncertainties" and suggested research projects to address them. Because uncertainty is central to the impetus to adopt adaptive management, we examined section 3.4 for indications of how adaptive management would be used to address the key uncertainties. We found several peculiarities in the treatment of key uncertainties.</p> <ol style="list-style-type: none"> <li>1. Key uncertainties are identified for only 8 of the 22 Conservation Measures. For the others, the Chapter specifically states that no key uncertainties (or needed research) were identified. Given the high uncertainty associated with all of the Conservation Measures, we find this statement insufficient.</li> <li>2. Even where key uncertainties are identified, they seem to misrepresent the broad range of uncertainties inherent in a Conservation Measure. For example, only two key uncertainties are identified for CM-2, Yolo Bypass Fishery Enhancement: (a) the effectiveness of Yolo Bypass modifications, and (b) the effects of increased frequency and duration of flooding in the bypass on the health and vigor of riparian vegetation. Uncertainty (a) is vague and, in our view, does not in any sense capture the extent and variety of uncertainties inherent in a major change in hydrology, floodplain inundation, and habitat configuration, and in its effects within and beyond the Bypass. Uncertainty (b) depends on the determination of "health and vigor of riparian vegetation," which are largely</li> </ol>	<p>addressed in a separate document, the EIR's Mitigation Monitoring and Reporting Plan.</p> <p>Substantial revisions to the BDCP adaptive management, monitoring and research programs have been made since the Draft BDCP, largely in response to input from third-party reviewers and from the fish and wildlife agencies. The revisions state monitoring and research actions in considerably greater detail than was available at the time of the December 2013 Draft BDCP. The revisions also provide detail on a number of adaptive management processes, some of which could be called "experiments" although their primary purpose is to advance the conservation strategy and they generally do not use a traditional control/intervention experimental design.</p> <p>We disagree that there is high uncertainty associated with all of the conservation measures. Conservation Measure 3, for instance, deals with the process of assembling and tracking the status of a conservation reserve system. The mechanics of this exercise are very well understood, having been implemented in other HCPs for periods of as much as several decades, and we see no key uncertainties here. Similarly, CM14 simply continues an ongoing dissolved oxygen enhancement project that has been thoroughly studied and monitored for several years, and though uncertainties remain, they are not "key" – confidence is high that the measure will succeed as proposed, with only relatively minor changes needed to achieve at best moderate improvements. CM19, too, simply funds the ongoing process of retrofitting old or nonfunctional stormwater treatment systems, and the technology required to do so, as well as its effectiveness, is well established and understood. Nonetheless, the number of identified key uncertainties has increased since release of the Draft BDCP, and they are stated in considerably greater detail, including identification of potential research studies and appropriate working partners for those studies.</p> <p>Commenter states "Key uncertainties that are identified are all to be addressed through targeted research projects rather than being incorporated into the adaptive management program." This is a misleading statement. Collection of data and performance of experiments are not the entirety of adaptive management, but are important steps in the adaptive management process, as described in BDCP Section 3.6.3.4 Nine-Step Plan. Therefore ALL monitoring and research proposed under BDCP produce data and results available for use by the adaptive management program. Whether they are actually used to evaluate an adaptive management action, however, is subject to determination by the Adaptive Management Team or a subcommittee thereof tasked with addressing a given problem (as noted in Table 3.6-1, that "problem" falls into one of four classes: review of a biological objective, change of a conservation measure, response to a changed circumstance, or modification of plan implementation strategy). Parenthetically, the strategy to just let managers try new things is one of the reasons why adaptive management is usually a failure. If "new things" are not implemented in the context of a scientific process, then they are not likely to be accurately measured and the outcomes are not likely to be effectively communicated. Therefore research, i.e. application of the scientific method with reporting of the results, is the appropriate avenue for testing of an adaptive response.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>subjective terms.</p> <p>3. Key uncertainties that are identified are all to be addressed through targeted research projects rather than being incorporated into the adaptive management program. Although it may be more efficient to address some uncertainties through targeted research, many could be more effectively addressed in the context of a proper adaptive management design. This possibility does not seem to be considered in the Draft BDCP. A principal strength of adaptive management is that it allows managers to design their day-to-day management actions to provide critical information on key uncertainties. The BDCP does not appear to take advantage of this strength. Perhaps the responsibilities of the Adaptive Management Team are to include such design considerations. This would be appropriate but, if so, the text should reflect this responsibility. This concern applies not only to the design of adaptive management experiments but also to the clarification of key uncertainties.</p> <p>4. Another benefit of incorporating uncertainties into a broader adaptive management plan is that individual uncertainties and outcomes can be linked to one another. The Delta is an interconnected system, and actions in one region are affected by actions in other regions. Although targeted research will often be the best option, it will be important to embed these efforts in a broad and holistic adaptive-management framework to address the interconnectedness.</p> <p>Although the Draft BDCP does not appear to make effective use of an adaptive management process, the monitoring and research activities described may still be sufficient to measure progress toward achieving the BDCP objectives. Given how the Draft BDCP is structured, however, it is difficult to determine if this is the case. In assessing the suitability of monitoring, there is a logical flow of relationships from conservation objectives, to actions to achieve those objectives, to expected outcomes from the actions, to monitoring to detect those outcomes, and then to evaluating criteria for success or failure and finally to making adjustments as needed. These components do not seem to be associated in this way anywhere in the Draft BDCP, even though its Chapter 3 describes the necessary variables. In Table 1 below [see ATT 2: att 2] we have combined some information from two different tables to illustrate the relationship between objectives, actions, outcomes, and monitoring for CM-4 (Tidal Natural Communities Restoration). A similar assessment could be done for other Conservation Measures.</p>	
1448	96	[ATT 2: Att 2] Table 1. Examples of biological objectives, how a Conservation Measure advances those objectives, proposed monitoring actions, metrics to be measured during monitoring, and the proposed criteria for success.	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."
1448	97	<p>[From ATT 2]</p> <p>This example table [see ATT 2: att2] illustrates the logical connections among conservation objectives, restoration actions, anticipated outcomes, and proposed monitoring. Perhaps at this stage in the planning that is the best one can expect. At a more detailed level, however, a multitude of questions remains. Consider Objective L2.5, "Maintain or increase the diversity of spawning, rearing, and migration conditions for native fish species in support of life-history diversity." Without questioning whether this objective is meaningful as a way to strengthen the viability of covered fish species, knowing whether one has achieved the objective depends on knowing the current diversity of spawning, rearing, and migration conditions for native fishes (what are the metrics for these attributes of habitat?), knowing</p>	<p>The cited examples consider landscape-scale goals, which by their nature cannot be explicitly specified because their implementation will vary from site to site. That is part of why there are also natural-community-scale goals, and why there are species-specific goals; these permit specification of desired outcomes at smaller spatial scales. For instance, Objective L2.5 is not intended to support covered fish species, but rather to broadly support native fish species, in the interest of helping to establish restoration sites that are optimized for the needs of native species and that have resilience comparable to the types of native natural communities that have largely been lost in the Delta. The habitat needs of covered fish species, on the other hand, are explicitly addressed in the species-specific objectives, which have been established for each one of the 11 covered fish species.</p> <p>The Adaptive Management Team does not have authority to modify the biological goals. Those can only be</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>that this diversity of habitat supports life-history diversity (what are the metrics of life-history diversity?) and knowing that restoring tidal natural communities will increase habitat diversity for native species in ways that do, indeed, strengthen life-history diversity.</p> <p>Similar comments could be made about the objectives to create networks of dendritic channels in restored tidal marshes and to enhance plankton production to provide food for covered fish species. Is measuring the presence of dendritic networks sufficient or should the amount (or minimum amount on an absolute or percentage basis) of sinuous networks be the goal? Similarly, will the presence of plankton and invertebrates provide enough information to assess success? It may be better to have benchmarks (e.g., 20% increase over some period of time). It will also be important to consider the composition of the plankton and invertebrate assemblages because organisms are not equal in their food value.</p> <p>The proposed monitoring touches only superficially on these objectives. Our (Delta Stewardship Council's) purpose in pointing out these complexities is not to nit-pick about Conservation Measures but to illustrate that the objectives are more nuanced and the potential outcomes more complex than suggested by the proposed monitoring. At this stage, we cannot say whether the proposed monitoring is necessary and sufficient to evaluate whether the goals and objectives are being achieved. We assume that the Adaptive Management Team will further refine the goals and objectives. Such refinement, and the validation of monitoring actions, would be greatly strengthened if the models linking objectives to outcomes were more clearly presented. Ultimately, the monitoring needs to determine how well the 22 Conservation Measures combined affect the health and productivity of the covered species.</p>	<p>modified by a Plan amendment. The AMT does have the authority to recommend modifying biological objectives, but only in response to improved data or understanding that alters the conceptual model underlying the objective; see the Rationale statement for each objective for an explanation of that conceptual model.</p> <p>For most species and natural communities, the conceptual models are narrative. More explicit graphical conceptual models are presented in a few cases, such as in the effects analysis for Delta smelt; see Section 5.2 Methods for a thorough explanation of the use of models in BDCP. It is expected, though, that over time, more explicit models – first conceptual, later numerical – will be developed to support management of each of the covered species and natural communities treated in BDCP. Development of these models will require many years of work and much more information than is currently available about these species. BDCP monitoring and research actions are designed, in part, to provide the needed information.</p>
1448	98	<p>[From ATT 2]</p> <p>Are the data management, analysis, reporting, and decision-making processes adequate to create a defensible and transparent implementation of adaptive management?</p> <p>Decision-making:</p> <p>In the Draft BDCP, sections 3.6.4 and 7.3.4 address issues of data management, analysis, and reporting. The proposed administrative structure for BDCP is hierarchical. At the top, providing oversight and dispute resolution, is the "Authorized Entity Group" consisting of representatives of DWR, Reclamation, and Water Contractors. State and federal fish and wildlife agencies will participate in a "Permit Oversight Group," which will ensure regulatory compliance with Draft BDCP authorizations. Implementation of the Draft BDCP, including adaptive management, monitoring, and research, will be the responsibility of a newly created Implementation Office headed by a Program Manager who will report to the Authorized Entity Group. A key individual in the Implementation Office will be the Science Manager, who will report to the Program Manager and will have responsibility for guiding and facilitating adaptive management, monitoring, and research. In this capacity, the Science Manager will chair an Adaptive Management Team. The Adaptive Management Team will include representatives of DWR, Reclamation, CVP and SWP water contractors, California Department of Fish and Wildlife, U.S. Fish and Wildlife Services, and National Marine Fisheries Service. The IEP Lead Scientist, the Delta Science Program Lead Scientist, and the Science and Research Director of NOAA Fisheries' Southwest Fisheries Science Center are to be nonvoting members of the Team.</p> <p>The Adaptive Management Team will take the lead in developing a framework for monitoring and will enlist the assistance of the Interagency Ecological Program (IEP) in</p>	Please see the response to Comment 1448-63.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>implementing the program. The Science Manager and the Adaptive Management Team will develop and implement a process for compiling, evaluating, and synthesizing the results of monitoring and will prepare a plan to maintain databases of monitoring and synthesis results. The Adaptive Management Team will also manage the BDCP research program in coordination with IEP and the Delta Science Program. The Team will identify research priorities and will administer a process to select and coordinate the researchers who will be involved in the program. In addition, the Adaptive Management Team will be responsible for the compilation and synthesis of the results of studies and analyses undertaken by other organizations that are assisting in the implementation of the Draft BDCP. The Science Manager will ensure that BDCP science activities, reporting, and reviews are coordinated with other science activities being conducted in the Delta. Based on these analyses, the Adaptive Management Team will recommend to the Program Manager any necessary changes in the Draft BDCP or the Conservation Measures.</p> <p>Overall, this decision-making arrangement does not seem to bring enough authority and resources for adaptive management to be implemented decisively and in a timely way. With this structure, each cycle of adaptive management would probably occur very slowly, if at all.</p> <p>Data management:</p> <p>This proposed administrative structure centralizes in the Adaptive Management Team and the Science Manager the key administrative decisions regarding adaptive management, monitoring and research, data management, analysis, and development of recommendations concerning science-based modification to the BDCP. If the individuals involved have the appropriate skills and the independence needed to critically evaluate project effectiveness, and if provisions are made to link data management and data bases with existing relevant data bases (both in-house and external to the main agencies involved in BDCP), then the centralized system should be effective. The BDCP envisions making use of the science synthesis approaches developed in the Delta Science Plan and working with the Delta Science Program to assemble, analyze, and synthesize the large volume of data that will be accumulated. We endorse this approach. We also support ensuring that the BDCP data are publically available so outsiders can make their own analyses.</p> <p>Large volumes of data will be generated as BDCP is implemented, but BDCP is only one of many activities in the Delta that will be generating voluminous scientific data. A distinguished panel found that as of 2012, "science efforts related to the Delta are performed by multiple entities with multiple agendas and without an overarching plan for coordinating data management and information sharing" (National Research Council, 2012). Goals of the Delta Science Plan include coordinated data management and sharing among agencies involved in Delta science. The BDCP's scientific work should be tightly integrated with the Delta Science Program to ensure that science and data management for the BDCP follow the "One Delta, One Science" concept, which will provide benefits to all parties, particularly regarding the credibility and transparency of scientific work overall.</p> <p>It may be difficult to ensure that the appropriate skill sets are present in the Implementation Office. We have already noted that the listed qualifications for the Science Manager do not include expertise in adaptive management. Because this is a new position, this shortcoming is easily corrected. However, personnel for the Implementation Office, which will provide the staff to manage the databases, analyses, modeling, etc., will be drawn from existing staff in DWR and other state agencies. The BDCP needs a staffing plan</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>that dovetails with the need to strengthen the agencies' capabilities in field observations, data management, modeling, and synthesis.</p> <p>Timing:</p> <p>In a key role not identified in the documents, the Science Manager and Adaptive Management Team should identify the goals and objectives for monitoring, the desired outcomes, and an adaptive framework for evaluating when outcomes have been met. In Table 3.E-2, Effectiveness Monitoring Actions are described, for example, and in some cases the timing and duration for monitoring are described. Without knowing the response rates of the system, or how different restoration actions and climate change will interact with the desired outcomes, it does not seem feasible to establish a specific timeframe. Rather, the described timeframes should be viewed as initial guides that will be revised depending upon outcomes, since it may take more (or less) time for outcomes to be realized.</p> <p>Adaptive-management decisions often must be made quickly, yet implementing the full 9-step adaptive management process can be ponderously slow, especially when encased in a hierarchical organizational structure. There is the potential to exacerbate a science-policy conflict: scientists often want to obtain deeper knowledge about complex details, whereas managers and policy-makers are interested in reaching decisions about which actions to take and where best to allocate resources (the "more research" vs. "just do it" conflict). Consideration should be given to how to make adaptive management flexible and nimble, yet still scientifically rigorous.</p> <p>Adaptive management will need to keep pace with change in the Delta. One strategy is to use model projections of future conditions to anticipate how practices might need to change to fit future conditions-"anticipative" adaptive management. Vlieg and Zandvoort (2013) have contrasted this approach, which is practiced in the Rhine-Meuse Delta in the Netherlands, with the "reactive" adaptive management proposed for the Delta, suggesting that a hybrid of the two approaches might be best. Because the details of adaptive management in BDCP have yet to be developed, there is an opportunity to consider these ideas.</p> <p>Collaboration:</p> <p>Although the Draft BDCP acknowledges the need to coordinate adaptive management with the Delta Science Program, it largely ignores the framework for adaptive management developed in the Delta Plan and (especially) the Delta Science Plan. Instead, an operational structure is described that is almost entirely within the BDCP governance organization, as outlined in Chapter 7 of the Plan. This contrasts with a growing recognition of the need to engage a wide array of people and entities in a truly "collaborative adaptive management" (Susskind et al. 2012, Scarlett 2013). A Collaborative Science and Adaptive Management Program (CSAMP) and Collaborative Adaptive Management Team (CAMT) were formed in mid-2013 to develop a robust science and adaptive management program, primarily to inform the implementation of the current Biological Opinions applicable to the Delta. [Footnote 8: <a href="http://deltacouncil.ca.gov/sites/default/files/documents/files/Item_7_Attach_1_CAMT%20Progress%20Report%20Version%206_0%20140207.pdf">http://deltacouncil.ca.gov/sites/default/files/documents/files/Item_7_Attach_1_CAMT%20Progress%20Report%20Version%206_0%20140207.pdf</a>] Although these groups were formed too recently to be included in the Draft BDCP documents, their relations to the adaptive management structure proposed for BDCP should be included in the Final documents.</p>	

DEIRS Ltr#	Cmt#	Comment	Response
1448	99	<p>[From ATT 2]</p> <p>Funding for adaptive management can also become a contentious issue (Walters 2007). The Plan (Chapter 8) identifies a budget on the order of \$500 million for monitoring (both compliance and effectiveness monitoring) and an additional ca. \$400 million for research (Tables 8-30 and 8-31). No funding is specifically earmarked for adaptive management in the Plan. This is appropriate, as adaptive management should be an integral part of planning and implementation for all the Conservation Measures, not a separate activity. However, adaptive management planning and implementation cost more than traditional management, both in personnel and capital expenditure, as synthesis and changes in management must be actually and routinely implemented. It is not clear that these extra costs were included in the budget for the Implementation Office. Chapter 3 identifies a separate "supplemental adaptive management fund" of at least \$450 million (section 3.4.23.5) that could be accessed if other resources are insufficient or cannot be accessed to support an adaptive change in Conservation Measures. Apparently, these funds are not available, however, for routine costs of management. The budgets presented in Tables 8-30 and 8-31 were based on estimated staff and resources required to undertake the monitoring and research actions listed in the Plan plus an additional \$140 million to cover monitoring and research needs not identified in the Plan. How the supplemental adaptive management fund budget was determined is not clear.</p> <p>Although the budget for monitoring and research is substantial, it is actually small compared with BDCP's total cost. Even a budget of this size could easily be exhausted by the multitude of possible monitoring and experimental actions for each Conservation Measure. The Draft BDCP has identified a broad range of possible monitoring and research actions related to the Conservation Measures. But the Draft BDCP also acknowledges that these will need to be reconsidered as the detailed implementation plans develop. The Adaptive Management Team will have the difficult task of determining how to allocate the inevitably limited resources for monitoring and research. Difficult trade-offs are inevitable, highlighting the need to develop an objective, rigorous, and transparent process for prioritizing monitoring and research activities.</p> <p>A great deal of planning and evaluation will be required during the early years of implementation. We envision a need for further analyses to clarify conservation actions and how to fit these into an adaptive management program, pilot testing of some conservation actions, negotiations for land acquisition, and many other tasks necessary to finalize the conservation program. This suggests a front-loading of activity in the Implementation Office. However, on an annualized basis the budget for the Implementation Office does not differ much across the 50-year term of the project. We suggest evaluating whether additional funds should be allocated for up-front planning and evaluation, including development of suitable interagency data, modeling, and monitoring capabilities.</p>	<p>Please see the response to Comment 1448-63.</p>
1448	100	<p>[From ATT 2]</p> <p>Monitoring and adaptive management are proposed to evaluate whether conservation actions are achieving their intended objectives. What if things do not go as planned? The history of ecological restoration shows that restoration projects rarely have exactly the intended consequences in the expected time frame. Section 3.4.3.4.2 in the Draft BDCP states that contingency measures will be developed for site-specific conservation actions to be implemented in the event that success criteria are not met. However, the Draft BDCP also states that these contingency measures differ from adaptive management because</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>Commenter seems to state that contingency plans are built into the conservation measures, which is true, but then to conclude that there is no room for contingencies in the adaptive management process.</p> <p>The contingencies specified in the conservation measures address the capacity to achieve the relevant biological objectives (see the final subsection of each conservation measure, titled Consistency With the Biological Goals and Objectives, for a description). Those contingencies are thus part of the conservation measure, and are also part of the adaptive management process. If a conservation measure implements a</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>they are site-specific and targeted at meeting success criteria. Similar contingency plans are mentioned for other Conservation Measures throughout Section 3.4. There will inevitably be situations, however, in which the adjustments are not possible or incur too great a cost or where there is a large-scale failure of restored habitat to function as anticipated: what happens then?</p> <p>Given the complexity and the high stakes of many of the actions to be undertaken in BDCP, it would seem prudent to have contingency plans and action thresholds at least generally outlined before discovering that things are not working as planned. There is no mention of contingency plans in Section 3.6, which describes adaptive management. Contingency planning is not mentioned in Draft BDCP Chapters 6 and 7 (Plan Implementation and Implementation Structure) nor in the DEIR/DEIS. The Draft BDCP should build contingency plans into the adaptive management process.</p>	<p>contingency and still achieves its biological objectives, then adaptive management can still be used to modify the conservation measure to reduce the likelihood of having to implement contingencies, or can be used to modify the contingency response to be more effective. If the conservation measure implements a contingency and thereby fails to achieve a biological objective, then the adaptive management response has similar options. Regardless, the contingency is part of adaptive management.</p> <p>Two conservation measures have been modified to incorporate a contingency that involves an explicit adaptive management process. CM1 has been modified to more clearly explain the use of research, monitoring, and adaptive management to achieve resolution of the Decision Trees. CM4 has been modified to initially focus tidal restoration in the north and west portions of the Plan Area, and to only begin tidal restoration in the South Delta when, via an adaptive management process, it has been established that such restoration would have a high probability of success.</p>
1448	101	<p>[From ATT 2]</p> <p>Steps toward adaptive management in Appendix 3G:</p> <p>1. Page 3, lines 32-37: "An equally important purpose of this memorandum is to introduce a simple deterministic, stage-based life cycle approach to define BDCP objectives, periodically review and update them, and monitor progress toward achieving the intermediate and final Cohort Replacement Rate (CRR) milestones...it is imperative to establish interim objectives in order to guide monitoring and the management decision making process in the near term." Without using the term, this statement outlines the beginnings of an Adaptive Management Program. Page 6 goes on to list general assumptions and then introduces the models to be used. Uncertainty is discussed in the Introduction as well.</p> <p>2. Page 8, lines 25-27: "Where species-specific data were available they were used directly. More often, this will not be the case and adjustments were made based on how different life history characteristics would be expected to influence survival." This is followed by assumptions, by data from other areas that lend support to the assumptions, and by statement of future challenges in model modification. This is probably the best that can be done under the circumstances. The approach seems to fit into the early steps of the adaptive management process.</p> <p>3. Page 11, lines 9-13: "There are several other factors that might be considered in further defining or revising these Interim Survival Objectives, including scaled objectives based on wet and dry years. However, at this point we are reluctant to more finely define or scale survival objectives until additional species-specific survival estimates are collected over a range of hydrologic conditions. However, as new information becomes available, the potential to define wet and dry year expectations should be revisited." Again, this statement both acknowledges and contributes to the adaptive management process. Likewise, climate change is presented as an uncertainty issue in terms of future annual variability scenarios.</p> <p>Broad questions:</p> <p>1. What strategies for funding and oversight of monitoring and adaptive management will best promote credibility and independence in the science supporting adaptive management?</p> <p>2. What kinds of management actions will be subject to adaptive adjustment? Are both</p>	<p>Please see response to Comment 1448-63.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>operations and habitat Conservation Measures subject to adaptive management?</p> <p>3. What future conditions are likely to prompt adaptation? The draft mentions sea-level rise and changes in Delta outflow requirements. Other futures worth considering include the flooding of additional subsided islands, requirements for upstream reservoirs to release cold water, tightened water-quality standards for byproducts of disinfection, and salinity regulation for Delta and south-of-Delta agriculture.</p> <p>4. Will requiring the Adaptive Management Team to reach consensus be unrealistic and lead to delays or inaction?</p> <p>Other remarks on Draft BDCP Chapter 3:</p> <p>1. The interaction between the Adaptive Management Team and the Implementation Team is critical for the success of the 9-step adaptive management process described in section 3.6.3.4. More details should be provided about how these two teams will interact in actually doing adaptive management.</p> <p>2. In section 3.6.3.5.4 it is stated, "The adaptive management and decision-making processes described in this section do not apply to these real-time operations." How will this limitation affect the adaptive management plan as a whole?</p> <p>3. Appendix 3E-7, lines 6-8: "Precise details of each of the effectiveness monitoring actions are not presented here and will be developed and then periodically updated through the adaptive management and monitoring program (Section 3.6)." In terms of effectiveness monitoring, this is not an unexpected response. Some specific monitoring actions are mentioned in Table 3E-2 but these are general and often repetitive.</p> <p>4. Research questions in Table 3E-3 are broad, and in some cases somewhat repetitive in terms of data already being collected in the Delta (which would require reanalysis or a meta-analysis). The document acknowledges that these will be modified over time.</p>	
1448	102	<p>[From ATT 2]</p> <p>Scientific basis and clarity:</p> <p>1. Comment on the scientific basis and clarity related to the EIR/EIS conclusions:</p> <p>Issues of clarity are considered above, under "Completeness, structure, and effectiveness of presentation" (p. 4-7), and in our overview. The responses below, on the scientific basis for the conclusions, draw on the resource-chapter reviews in Appendix B [ATT 3], to which we refer the reader for details.</p> <p>Freshwater flows:</p> <p>The review and analysis of the range of flow criteria, rates of diversion, and any other operational criteria required to satisfy the criteria for approval of a natural community conservation plan as provided in subdivision (a) of Section 2820 of the Fish and Game Code, and other operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries under a reasonable range of hydrologic conditions, which will identify the remaining water available for export and other beneficial uses.</p> <p>DEIR/DEIS Chapter 5 examines the changes in surface water operations and deliveries that</p>	<p>Due to the large volume of model results used in the comparison of alternatives to the Existing Conditions and the No Action Alternative, this information was summarized in Tables 5-4 through 5-9, located at the end of Chapter 5, Water Supply; and in Appendix 5A, Section C, Model Results. The range of water deliveries for SWP and CVP water contractors and water delivered by the SWP and CVP to other water users are presented for long-term and dry/critical dry conditions in Tables C13 -1 to C13-25 in Appendix 5A, Section C; and the range of deliveries are shown in Figures C13-1 through C13-13. Please see response to Comment 1448-65 regarding clarity in presentation of the document.</p> <p>The No Action Alternative includes reasonable and foreseeable projected conditions for the Year 2060. However, it would be speculative to include undefined operational criteria in the No Action Alternative, including DWR, Reclamation, and regulatory agencies responses to climate change, sea level rise, or future regulatory changes. However, the Draft BDCP EIR/EIS comparison of conditions under Alternatives 1 through 9 and under the Existing Conditions and the No Action Alternative are analyzed as incremental differences and not absolute values. Therefore, if other future conditions were include in the No Action Alternative, they also would be included in Alternatives 1 through 9; and based upon analyses of several climate change assumptions for this EIR/EIS, it is anticipated that the incremental differences between alternatives would be similar to those presented in the Draft BDCP EIR/EIS. The Water Supply analyses presented in Chapter 5 of the Draft BDCP EIR/EIS only presents changes in water supply conditions. Consideration of socioeconomic conditions, including water supply costs, are considered in Chapter 16, Socioeconomics.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>would likely accompany each of the project alternatives. For each alternative, results for Delta outflow, exports, project deliveries (north and south of the Delta), and major surface reservoir storage are presented. The modeling approach uses CALSIM II, with additional temperature and Delta flow and salinity modeling, for a particular climate change scenario (sea level rise and climate warming), averaging a wide range of potential climate warming scenarios for conditions around the year 2060.</p> <p>The analysis of this complex problem for a wide range of alternatives is inherently difficult and potentially confusing. The analysis presented is more advanced than is typically seen for project evaluation in employing climate change scenarios. This implies some uncertainties, as system operating rules and environmental regulations are likely to change as well with climate. The modeling results are reasonably good, though unavoidably imperfect. However, the model results are overwhelming in quantity, not well summarized, and insufficiently linked to interpretation. An explicit comparison of the range of water deliveries for major user locations (project and non-project) over the range of wet and dry conditions would be valuable.</p> <p>Chapter 5 provides little comparative summary of impacts on water supply. This shortcoming limits the ability of this analysis-filled chapter to contribute to thoughtful discussion and comparison of the alternatives. There seems to be little difference between 6,000 cubic feet per second [cfs] and 9,000 cfs alternatives, presented, though deliveries for the 3,000 cfs tunnel capacity are much less. Much of the difference among alternatives seems likely to be driven as much or more by operating and regulatory policies than by infrastructure capacities. This should be a topic of meaningful discussion.</p> <p>The major analytical problem is the gap between CALSIM-II modeling of the water supply system and actual operations. The State Water Project and Central Valley Project account for only a part of the water management decisions and impacts in this vast system. DWR and U.S. Bureau of Reclamation modeling has improved considerably in recent decades but remains centered on the SWP and CVP. This limited modeling therefore largely ignores or oversimplifies most water management decisions in California, which are those taken by local and regional governments and water users. The limited modeling thus seems inadequate for impact analysis of a system governed largely by local agencies</p> <p>Related to this problem is the continuing evolution of the CALSIM model and its variants. MBK modeling presented to us in the January 2014 meeting of the Delta Independent Science Board highlighted differences in results that reflect both model evolution and modeler judgment. The MBK results (which still remain unpublished and proprietary) also highlighted the complicating effects of operational decisions and of the regulations that govern them. (Delays in making these results public are interfering in the ability to consider these results.) According to Mount et al. (2013), current regulations would limit flexibility for operations of dual facilities.</p>	<p>The primary reason that changes in tunnel capacities do not result in major changes in Delta exports is because reductions in the use of North Delta intakes results in an increased use of the South Delta intakes, except under Alternative 6 which does not include South Delta intakes, as shown in Figures 5-17 through 5-19. Annual export conditions under the Existing Conditions, No Action Alternative, and Alternatives 1 through 9 are summarized in Tables 5-4 through 5-9. As described in the comment, changes in operating rules results in the primary differences between the No Action Alternative and Alternatives 1 through 9.</p> <p>Please refer to Master Response 30 regarding the modeling approach and availability of newer versions of the models.</p>
1448	103	<p>[From ATT 2]</p> <p>Climate change:</p> <p>The potential effects of climate change (including possible sea level rise up to 55 inches), and possible changes in total precipitation and runoff patterns on the conveyance alternatives and habitat restoration activities considered in the EIR.</p> <p>The reviewed documents explicitly consider how climate change may affect water supply</p>	<p>Please refer to Master Response 19 for additional information on how the EIR/EIS addresses uncertainty.</p> <p>Modeling performed for the EIR/EIS considered a range of climate projections at 2025 and 2060 to bracket the uncertainty in the future CVP/SWP operations with and without the BDCP/CWF. This sensitivity analysis was documented in the Appendix 5A. Based on the findings from this sensitivity analysis the impact determinations EIR/EIS Alternatives were limited to one climate projection.</p> <p>With respect to any changes to existing policies (system operations, levee maintenance, regulations, demands etc.) that may be a result of climate change, they were not included in the EIR/EIS modeling</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>and ecosystems, and how the proposed Conservation Measures may act to lessen these effects. However, the likelihood and magnitude of these effects and of the associated uncertainties need to be stated or addressed more clearly in several respects: synergistic effects triggered by climate change; changes in frequency and impacts of extreme events and extreme conditions; and the range of plausible impacts on the effectiveness of the Conservation Measures (review of Chapter 29 and tidal-marsh sidebar in review of Chapter 12). There will be considerable uncertainty as to how water system operations, levee maintenance, environmental regulations, and water demands will react to climate change. In all areas, considerable changes should be expected, although the exact responses are now unavoidably uncertain.</p>	<p>considering the speculative nature of such changes.</p> <p>Therefore, the No Action Alternative only includes reasonable and foreseeable projected conditions for the Year 2060. It would be speculative to include undefined operational criteria in the No Action Alternative, including DWR, Reclamation, and regulatory agencies responses to climate change, sea level rise, or future regulatory changes. However, the Draft BDCP EIR/EIS comparison of conditions under Alternatives 1 through 9 and under the Existing Conditions and the No Action Alternative are analyzed as incremental differences and not absolute values. Therefore, if other future conditions were include in the No Action Alternative, they also would be included in Alternatives 1 through 9; and based upon analyses of several climate change assumptions for this EIR/EIS, it is anticipated that the incremental differences between alternatives would be similar to those presented in the Draft BDCP EIR/EIS.</p>
1448	104	<p>[From ATT 2]</p> <p>Fish and aquatic resources:</p> <p>The potential effects on migratory fish and aquatic resources.</p> <p>Please see our Appendix B [ATT 3] for a detailed review of DEIR/DEIS Chapter 11. Concerns expressed there include:</p> <ol style="list-style-type: none"> <li>1. The chapter needs to consider impacts from an ecosystem perspective. The existing analysis by Conservation Measures and individual species, although perhaps necessary, neglects the co-equal goal of ecosystem health. Success will depend on a fully functioning system, and therefore on analyses that incorporate integration and interaction across species, within a species, and across regions.</li> <li>2. Positive and timely benefits of habitat restoration are highly uncertain. Failure to realize these benefits will invalidate the final conclusion of no net negative effect.</li> <li>3. Full life cycles receive too little attention, as do effects of flow on entrainment.</li> <li>4. The qualitative nature of the effects analysis aligns its results more with "hypotheses" than with "conclusions" or "predictions."</li> <li>5. Uncertainty in the analyses needs to be carried forward, underlying assumptions need to be stated more explicitly, and hypotheses need to be distinguished more clearly from conclusions.</li> <li>6. Adaptive management of migratory fish and aquatic resources will require a well-planned and comprehensive program of research and monitoring that will target causality and test hypotheses in the Draft BDCP. The decision-tree process is not adequately described.</li> </ol>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. The preferred alternative, 4A, does not include a decision tree or large scale restoration, but does include an adaptive management process intended to target specific questions relative to proposed Delta operations. Instead, the Proposed Project includes habitat restoration necessary to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). The EIR/EIS is organized in a typical fashion by alternative and by species to ensure that all significant impacts are identified and described. To the extent that ecosystem-level information is pertinent to a specific species, that information has been incorporated into the analysis. Additionally, where tools are available to do so, the analysis incorporates various life stages or geographic areas over the same life stage (i.e., salmonid migration effects). Quantitative analytical tools were used extensively across all species. The EIR/EIS also includes an improved description of the methods used to conduct the analysis, including a description of the limitations of each model used.</p>
1448	105	<p>[From ATT 2]</p> <p>Water quality:</p> <p>The potential effects of each Delta conveyance alternative on Delta water quality:</p> <p>The DEIR/DEIS analyzes all Delta conveyance alternatives for their potential impacts on water quality. The analyses generally conclude that the different alternatives would not alter water quality appreciably, for most constituents of concern. Our review of Chapter 8</p>	<p>This comment raises four concerns, which are addressed separately below.</p> <ol style="list-style-type: none"> <li>1. The data sets compiled for the setting and assessment were selected based on availability, scope of analyses addressed, locations addressed, and period of record. Use of data sets with non-detect data points is, itself, telling in the likelihood for the analyses to be present at or above concentrations that would be adverse to beneficial uses.</li> <li>2.Regarding modeling uncertainty and climate change, text has been added to Section 8.3.1.1, Models Used and Their Linkages, and Quantitative Assessment within Section 8.3.1.3, Plan Area, of Chapter 8, Water Quality, describing validation of the models used for the assessment, and modeling limitations and</li> </ol>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>describes concerns about these findings, including:</p> <ol style="list-style-type: none"> <li>1. Some of the analyses hinge on comparison of data from different environmental monitoring programs that differ vastly in limits of detection. The DEIR/DEIS draws conclusions that are likely incorrect because they are based on non-detects of analytes.</li> <li>2. The models used to estimate changes in water quality are likely to have uncertainty, particularly under future conditions with more complex hydrodynamics due to climate change and likely changes in Delta levees.</li> <li>3. The chapter relies on existing water quality guidelines to determine ecological harm. Such guidelines are increasingly recognized as being inadequate to protect against loss of ecosystem function.</li> <li>4. The chapter ignores water-quality impacts of providing a more reliable water supply for agriculture. While the DEIR/DEIS does consider economic benefits to agriculture, the consequences to water quality of increased use of fertilizers and pesticides have not been considered. Surprisingly, there seems to be no quantification or comparison of the effects of project alternatives on salt exports to the West side of the San Joaquin Valley.</li> </ol>	<p>uncertainty. The assessment addresses the effects of climate change, as noted on page 8-130 of the DEIR/EIS, lines 3133. All alternatives presented in the DEIR/EIS were assessed at the late long-term timeframe (2060). Additional details regarding climate change in the modeling is provided in Appendix 5A.</p> <ol style="list-style-type: none"> <li>3. The water quality assessment relied, in part, on current water quality criteria/objectives for making conclusions about impacts of the alternatives, or other current scientific information in the absence of criteria/objectives, as this represents the best ability from which to make determinations regarding effects of water quality changes on beneficial uses.</li> <li>4. The Pesticides subsection of Section 8.3.1.7, Constituent-Specific Considerations, details the numerous factors that can and will affect future pesticide use and levels in receiving waters of the affected environment, and notes that pesticide use will continue to be dynamic. Thus, there is no certainty that a more reliable water supply for agriculture will contribute to higher pesticide application rates or higher concentrations in receiving waters. Concluding the fertilizer use would increase relative to Existing Conditions is similarly speculative. Regarding salts in the San Joaquin Valley, the impact analyses for boron (Impact WQ-3), chloride (Impact WQ-7), and EC (Impact WQ-11) concluded that there would be a lowering of these constituent levels in the water exported from the Delta, and thus the San Joaquin River may see a lowering of these constituent levels as well.</li> </ol>
1448	106	<p>[ATT 3:]</p> <p>Appendix B -- Comments by the Delta Independent Science Board on individual chapters of the BDCP Draft Environmental Impact Report/Environmental Impact Statement.</p>	<p>Please refer to comment letter 1448, responses 110 through.</p>
1448	107	<p>[ATT 3: Att 1] Table 1. Organized summary of alternatives for Sacramento-San Joaquin Delta exports.</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>
1448	108	<p>[ATT 3: Att 2] Figure 1: Conveyance alignments for alternatives 1-8 for Sacramento-San Joaquin Delta exports. [needs redrafting]</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>
1448	109	<p>[ATT 3: Att 3] Table 2. Summary comparison of conservation component acreages and variations among the Alternatives (after Table ES-8 and Section 3.6.2)</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>
1448	110	<p>[From ATT 3]</p> <p>Operating polices:</p> <p>The operational scenarios are described briefly below and in more detail in Section 3.6.4.2, North Delta and South Delta Water Conveyance Operational Criteria.</p> <p>* Scenario A (Alternatives 1A, 1B, 1C, and 3) includes most No Action objectives for South Delta exports and required Delta outflow, new criteria for North Delta diversion bypass flows, and assumed operations of the proposed Fremont Weir (notch) during high Sacramento River (SR) flows; this scenario does not include Fall X2 objectives or the San Joaquin River (SJR) inflow/export ratio. Depending upon the time of year, the minimum bypass flow ranges from 5,000 to over 15,000 cfs. Different North Delta diversion capacities influence the volume of pumping from the South Delta and overall Delta operations.</p> <p>* Scenario B (Alternatives 2A, 2B, and 2C) include the Fall X2 criteria, but not the SJR</p>	<p>Information presented in this comment is consistent with information presented in Chapter 3, Description of Alternatives, in the Draft BDCP EIR/EIS; except for the sixth item under "Diversion restrictions include:" The reference to the State Water Board's evaluation of "additional operational rules that would require Delta outflow to be a specified percentage of monthly unimpaired flow" is not a specific diversion restriction considered in the EIR/EIS alternatives. Rather the results of the 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem report were used to inform subsequent operational criteria included in Alternative 8.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>inflow/export ratio. Scenario B would also include less negative Old and Middle Rivers (OMR) flow limits, and an operable barrier at the head of Old River. All other No Action rules apply, and the north Delta intake bypass rules are as under Scenario A.</p> <p>* Scenario C (Alternative 5) incorporates all the No Action rules and the north Delta intake bypass flow rules are as under Scenario A. The north Delta operations were limited because of a single 3,000 cfs intake on the Sacramento River.</p> <p>* Scenario D (Alternatives 6) eliminates use of south Delta intakes and uses only the same north Delta intake bypass flow rules as Scenario A. Existing south Delta export rules would not apply, including the E/I ratio. All the No Action outflow rules apply.</p> <p>* Scenario E (Alternative 7) modified Scenario A criteria for bypass flows, Fremont Weir gate operations, Rio Vista minimum flows, Delta outflow, and south Delta export operations.</p> <p>* Scenario F (Alternative 8) modifies Scenario E to include specific Delta outflow criteria and cold water pool management criteria for specific reservoirs.</p> <p>* Scenario G is similar to Scenario A, but is modified to conform to the conveyance as separate surface corridors for Alternative 9, without north Delta intakes. Instead, water continues to flow by gravity from the SR into two existing channels, Delta Cross Channel and Georgiana Slough, without North Delta Diversion Bypass Flow Criteria and Operations for Delta Water Quality and Residence Time. The Delta Cross Channel and Georgiana Slough gates would open only under higher flow conditions, with operable barriers on the Mokelumne River system as well.</p> <p>Diversions restrictions include:</p> <ol style="list-style-type: none"> <li>1) 2009 NMFS BiOp: San Joaquin River inflow/export ratio that limits combined exports based on the SJR inflows in April and May. Limits on reverse OMR flow in December-June of many years (adaptively managed based on fish monitoring).</li> <li>2) Minimum monthly Delta outflows specified in D-1641 for each month, depending on the water year type (i.e., runoff conditions).</li> <li>3) Maximum salinity objectives specified in D-1641 for each month or period for water users.</li> <li>4) Spring X2 location objectives introduced in the 1995 Water Quality Control Plan. X2, specified by month and (unimpaired) runoff in the previous month.</li> <li>5) 2008 USFWS BiOp included an outflow requirement for September- November of wet and above normal water year types. Fall X2 rule requires X2 at or downstream of Collinsville in above normal years and downstream of Chipps Island in wet years.</li> <li>6) State Water Board has recently explored additional operational rules that would require Delta outflow to be a specified percentage of monthly unimpaired flow.</li> <li>7) North Delta bypass flows: July-September 5,000 cfs, October-November 7,000 cfs in all years. December-June allow bypass flows to increase with river inflow. Low-level pumping of 6% of the river flow would be allowed most of the time, but major diversions could not begin until the SR flow exceeds a specified threshold.</li> </ol>	

DEIRS Ltr#	Cmt#	Comment	Response
1448	111	<p>[From ATT 3]</p> <p>In-Delta barriers:</p> <p>The existing South Delta Temporary Barriers Project consists of seasonal installation and removal of three temporary rock barriers in Middle River near Victoria Canal, Old River near Tracy, and Grant Line Canal near Tracy Boulevard Bridge. These rock barriers are designed to act as flow-control structures, trapping tidal waters behind them following high tide. These barriers improve water levels and circulation for local South Delta farmers. A fourth barrier, installed at the head of Old River at the divergence from the San Joaquin River (SJR), is designed to improve migration conditions for salmon originating in the SJR watershed during adult and juvenile migrations, which occur annually in the fall and spring, respectively. In the fall, the head of Old River barrier improves downstream dissolved oxygen conditions; during the spring, the barrier is intended to prevent downstream migrating salmon smolts in the SJR from entering Old River. In 2009 and 2010, DWR installed and operated a nonphysical barrier at the head of Old River as an Alternative to the spring rock barrier at this location. The nonphysical barrier uses underwater bubbles, light, and sounds as a behavioral deterrent and tests the effectiveness of excluding outmigrating smolts from entering the South Delta via Old River without having to physically block the flow of water into the channel with a rock structure. In the future, DWR may install and operate the nonphysical barrier at the head of Old River as an Alternative to the spring rock barrier.</p>	<p>The comment does not raise any environmental issues related to the 2013 DEIR/EIS or 2015 RDEIR/SDEIS. Environmental Commitment 16: Nonphysical Fish Barrier would be implemented to address effects related to survival of out-migrating juvenile salmonids by installing a nonphysical barrier at Georgiana Slough to redirect fish away from channels and river reaches in which survival is lower than in alternate routes. Implementation of this action would be consistent with the revised description of CM16 (see Appendix 11F, Substantive BDCP Revisions); however, for the purposes of Alternatives 4A, 2D and 5A, this action would be applied only to Georgiana Slough. This commitment would mitigate for effects on salmonid survival associated with operation of north Delta intakes and associated flows.</p>
1448	112	<p>[From ATT 3]</p> <p>Alternative 9 is a unique through-Delta Alternative with four separate flow corridors:(1) the north Delta separate water supply corridor that conveys water from the Sacramento River (SR) to Middle River; (2) the south Delta separate water supply corridor along Middle River and Victoria Canal that conveys water from the San Joaquin River (SJR) to Clifton Court Forebay; (3) the San Joaquin separate fish movement corridor that provides flow for fish migration from the upper SJR to the lower SJR downstream of Franks Tract; and (4) the Mokelumne separate fish movement corridor that diverts from the Mokelumne River through Lost Slough and Meadows Slough to the SR. Two fish-screened intakes would be constructed: one each at the Delta Cross Channel and Georgiana Slough. Once in the channel, water would flow south through the Mokelumne River and SJR to Middle River and Victoria Canal, which would be dredged to accommodate increased volumes of water. Along the way, diverted water would be guided by operable barriers. Water flowing through Victoria Canal would lead into two new canal segments and pass under two existing watercourses through culvert siphons, eventually reaching Clifton Court Forebay.</p> <p>Alternative 9 includes the following water conveyance-related facilities:</p> <ul style="list-style-type: none"> <li>* Operable barriers on the Mokelumne River near Lost Slough, Snodgrass Slough near the Mokelumne River, extension of Meadows Slough to the SR, and installation of an operable barrier on Meadows Slough. These facilities would provide a path for fish migration from the Mokelumne and Cosumnes Rivers through Lost Slough and Meadows Slough to the SR, except during flood flows.</li> <li>* On-bank diversions with fish screens at the Delta Cross Channel and Georgiana Slough.</li> <li>* A boat lock and channel at the diversion structure at Georgiana Slough.</li> </ul>	<p>The comment does not raise any issues with the environmental related to the 2013 DEIR/EIS or 2015 RDEIR/SDEIS but summarizes the analysis of Alternative 9.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<ul style="list-style-type: none"> <li>* An operable barrier at Threemile Slough to reduce salinity in the SJR during low Delta outflow and potentially to reduce fish movement from the SR to the SJR.</li> <li>* Operable barriers along Middle River at Connection Slough, Railroad Cut, Woodward Canal, and immediately downstream of Victoria Canal to isolate Middle River from Old River. Dredging would occur at each of these locations.</li> <li>* Dredging along Middle River from Mildred Island to Victoria Canal and along Victoria Canal for a siphon to provide gravity flow into Clifton Court Forebay.</li> <li>* Expansion and extension, through dredging, of Victoria Canal under West Canal, across Coney Island, and under Old River to Clifton Court Forebay.</li> <li>* An Intertie Canal with a control gate between Clifton Court Forebay and the Tracy Fish Facility.</li> <li>* Closure of the Clifton Court Forebay inlet gate from Old River except during flood flows.</li> <li>* Closure of channel between Old River and the Tracy Fish Facility except during flood flows.</li> <li>* Closure would include channel modification to allow continued access to River's End Marina from Old River.</li> <li>* Operable barriers along the SJR separate fish movement corridor at the upstream confluence of Old River and the SJR (head of Old River), Fisherman's Cut at False River, and Franks Tract to isolate Old River (San Joaquin River separate fish movement corridor) from the SJR.</li> <li>* A pumping plant on the SJR at the head of Old River to convey additional flows with organic material into Old River.</li> <li>* A pumping plant on Middle River upstream of Victoria.</li> </ul>	
1448	113	[ATT 3: Att 4] Table 3. Comparison of Operational Rules under Draft BDCP Operational Scenarios and Alternatives (after Table ES-7).	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.
1448	114	<p>[From ATT 3]</p> <p>The BDCP Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) leaves the key question of how the altered outflows would affect fish for Alternative 4 open. It proposes a ten-year research program that is to provide, upon completion of the new conveyance, "the fall and spring outflow criteria that are required to achieve the conservation objectives of the Draft BDCP for delta smelt and longfin smelt and to promote supply objectives of the Draft BDCP" (page 3-207). Six other species of concern (e.g., salmon) are not considered in the evaluation of spring and fall outflows, and the criteria for delta smelt may not be the same criteria as for longfin smelt. The proposed program would evaluate various combinations of operational spring and fall flows, some of which are expected to have adverse impacts on fish if restoration is not effective (e.g., DEIR/DEIS 11-1293, 11-1296, 11-1297). Appropriate questions to be answered by the studies and competing hypotheses are stated, but we found little basis for judging the program's</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>The research program described by commenter is no longer proposed.</p> <p>The Lead Agencies will make the final decisions regarding the selection of an alternative (and therefore, an operational scenario) for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see Section 4.1.2, Description of Alternative 4A, RDEIR/SDEIS for additional information on Proposed Project operations.</p> <p>Please see Master Response 28 for more information regarding the adequacy of operational scenarios and Master Response 5 regarding compliance with ESA.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		adequacy and prospects. Missing elements include: (1) description of the scientific approach and monitoring to be used, (2) assessment of the range of year types (extremely wet to extremely dry) required for success, (3) consideration of which restored habitats will need to be functioning to test the hypothesis that additional habitat and improved food resources will benefit fish as much as would enhanced spring and fall outflows, (4) criteria that will be used to make the decision on which outflows will be required (e.g., a threshold population size that needs to be achieved), and (5) the outflows that will be required if the research program does not provide a definitive answer.	For more information regarding modeling results comparison of the Final EIR/EIS Alternative 2D, 4A, and 5A to the RDEIR/SDEIS please see Appendix 5F.
1448	115	<p>[From ATT 3]</p> <p>CHAPTER 4: APPROACH TO THE ENVIRONMENTAL ANALYSIS</p> <p>I. Overall Assessment</p> <p>The chapter does an adequate job of explaining the approach taken in the environmental analysis. However, the final assessment of net positive or no negative effect shown in the DEIR/DEIS is highly uncertain.</p> <p>II. Scope</p> <p>This chapter describes the approach to the environmental analysis. It provides a clear description of the difference between CEQA and NEPA baselines.</p> <p>III. Quality of Analysis</p> <p>Three geographic regions are considered in this chapter: upstream of the Delta, the legal Delta, and the State Water Project (SWP) and Central Valley Project (CVP) service areas. Areas downstream of the Delta (i.e., San Francisco Bay) were not included even though the National Research Council (NRC) scientific review specifically stated that this area should be included. Adequate justification for lack of consideration of impacts to San Francisco Bay was not provided in this chapter or elsewhere in the document, although there are potential impacts. For example, the expected reduction in sediment supply has the potential impacts of: 1) tidal marshes in the Bay could be less resilient to sea level rise, and 2) increased water clarity in the Bay could render it more responsive to nutrient inputs.</p> <p>The chapter clarifies that the habitat restoration measures proposed are given only program level analysis for several reasons. Yet because of the uncertainty in location, implementation, and effectiveness of proposed restoration actions, the positive impacts of those actions that were considered as part of the DEIR/DEIS are highly uncertain</p>	The comment does not raise any environmental issues related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.
1448	116	<p>[From ATT 3]</p> <p>CHAPTER 5: WATER SUPPLY</p> <p>I. Overall Assessment</p> <p>The lack of a comparative summary and an interpretation of results are the chapter's greatest weaknesses. The near-absence of a systematic comparison and discussion greatly reduces the ability of this analysis-filled chapter to contribute to thoughtful discussion and comparison of Alternatives. Since almost all of these water exports are to support the economic activities of agriculture and urban water needs, an explicit comparison of these economic impacts would provide information needed to evaluate the overall impact of the</p>	<p>Due to the large volume of model results used in the comparison of alternatives to the Existing Conditions and the No Action Alternative, this information was summarized in Tables 5-4 through 5-9, located at the end of Chapter 5, Water Supply; and in Appendix 5A, Section C, Model Results. The range of water deliveries for SWP and CVP water contractors and water delivered by the SWP and CVP to other water users are presented for long-term and dry/critical dry conditions in Tables C13 -1 to C13-25 in Appendix 5A, Section C; and the range of deliveries are shown in Figures C13-1 through C13-13. The EIR/EIS analysis assumes no change in water rights deliveries to non-SWP and non-CVP water contractors between the future No Action Alternative and Alternatives 1 through 9 conditions.</p> <p>The No Action Alternative includes reasonable and foreseeable projected conditions for the Year 2060. However, it would be speculative to include undefined operational criteria in the No Action Alternative,</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Alternatives.</p> <p>There seems to be little difference between the 6 kcfs and 9 kcfs Alternatives. Deliveries for the 3 kcfs tunnel capacity are much less. However, much of the difference among Alternatives seems likely to be driven as much or more by operating and regulatory policies than by infrastructure capacities. This makes it imperative that project operating policies be explored as systematically as the range of physical capacities.</p> <p>II. Scope</p> <p>This chapter examines the changes in surface water operations and deliveries that would likely accompany each of the project Alternatives. A mercifully brief overview of California's water resources begins the chapter, followed by overviews of the SWP and CVP projects, other local projects in the Delta, and the regulatory and water rights setting. For each Alternative, results for Delta outflow, exports, project deliveries (North and South of the Delta), and major surface reservoir storage are presented. The modeling approach employed CALSIM II, with additional temperature and Delta flow and salinity modeling, for a particular climate change scenario (sea level rise and climate warming), averaging a wide range of potential climate warming scenarios for projected 2060 conditions. This analysis approach is of a fairly typical nature, with the exception of more seriously addressing climate and sea level changes.</p> <p>The analysis of this highly complex problem for a wide range of Alternatives is inherently difficult and potentially confusing. The amount of model results presented is overwhelming, but there seems to be little effort to set these numbers to a story. It is a bit like an orchestra playing a symphony without a conductor and with the sheets of music sometimes shuffled. The notes are all there and mostly well-played individually, but the experience is less than satisfying. An explicit comparison of the range of water deliveries for major user locations (project and non-project) over the range of wet and dry conditions would be valuable.</p> <p>III. Quality of Analysis</p> <p>The major analytical problem is the gap between CALSIM modeling of the system and actual operations. The SWP and CVP projects represented in CALSIM are only a small part of the water management decisions and impacts in this vast system. DWR and U.S. Bureau of Reclamation modeling has improved considerably in recent decades, but remains CVP and SWP centric, largely ignoring or oversimplifying most water management decisions in California taken by local and regional governments and water users. This is adequate for simple SWP and CVP project analysis, but seems inadequate for statewide impact analysis of a system where the operations and decisions of local agencies have major consequences-conjunctive use, water conservation, market transfers, reuse, local reservoir operations, etc. Local agencies are likely to have more ability to adapt and interact with the CVP and SWP than is indicated in the modeling of this chapter.</p> <p>To this problem, the continuing evolution of the CALSIM model and its many variants over time must be added. As shown by the results of the MBK modeling presented at a Delta Independent Science Board (ISB) meeting in January 2014, there will be differences in results reflecting both model evolution and different professional judgments in modeling complex systems -and these technical differences will likely be worth millions of dollars to different individual stakeholders.</p> <p>A final problem is the continuing evolution of environmental and water regulations. Current</p>	<p>including DWR, Reclamation, and regulatory agencies responses to climate change, sea level rise, or future regulatory changes. However, the Draft BDCP EIR/EIS comparison of conditions under Alternatives 1 through 9 and under the Existing Conditions and the No Action Alternative are analyzed as incremental differences and not absolute values. Therefore, if other future conditions were include in the No Action Alternative, they also would be included in Alternatives 1 through 9; and based upon analyses of several climate change assumptions for this EIR/EIS, it is anticipated that the incremental differences between alternatives would be similar to those presented in the Draft BDCP EIR/EIS. The Water Supply analyses presented in Chapter 5 of the Draft BDCP EIR/EIS only presents changes in water supply conditions. Consideration of socioeconomic conditions, including water supply costs, are considered in Chapter 16, Socioeconomics.</p> <p>The primary reason that changes in tunnel capacities do not result in major changes in Delta exports is because reductions in the use of North Delta intakes results in an increased use of the South Delta intakes, except under Alternative 6 which does not include South Delta intakes, as shown in Figures 5-17 through 5-19. Annual export conditions under the Existing Conditions, No Action Alternative, and Alternatives 1 through 9 are summarized in Tables 5-4 through 5-9. As described in the comment, changes in operating rules results in the primary differences between the No Action Alternative and Alternatives 1 through 9.</p> <p>The terms "WS-1" and "WS-2" on page 5-67 refer to the numbering system for the impacts considered in Chapter 5 (e.g., Water Supply Impact Number 1 is referenced as WS-1).</p> <p>Tables 5-4 through 5-9 are located at the end of Chapter 5. Tables 5-7 through 5-9 present the results of Alternatives 4H1 through 4H4. The EIR/EIS did not specifically analyze a separate "Alternative 4."</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>regulations allow relatively little flexibility for operations of dual facilities (a point made by Mount et al. 2013). But, as demonstrated by changes in the last decade, these regulations can change dramatically over decadal periods. It seems a bit cheeky to prognosticate environmental regulations so far into the future.</p> <p>Overall, there are both value and limits to our ability to estimate and compare the performance of Alternatives, for water supply and in many other regards. Many uncertainties are inherent in estimating and comparing the performance of diverse Alternatives for a complex and ever-changing system far into the future, or even today. We should not quest for certainty in such estimates and comparisons. Even as we try to narrow uncertainties, we should also organize Alternatives, institutions and decision-making to adapt as conditions change.</p> <p>A simple illustration of the uncertainty inherent in this system is our inability to estimate the mean annual flow of the Sacramento River (SR) (a major driver of system performance). Over 84 years of record, the average SR flow is 22 million acre-ft (maf)/year, with the standard deviation of annual flow from this sample being about 10 maf/yr. This means that our estimate of the mean annual flow of California's largest river in terms of flow has a standard deviation of almost 1.1 maf, meaning that there is a 32% chance that the "true" SR mean flow is less than 20.9 maf/yr or above 23.1 maf/yr (means are normally distributed). (This reliability decreases if runoff is non-stationary.) Considering the value of water in California, this unavoidable uncertainty is easily worth hundreds of millions of dollars a year to water users.</p> <p>Some lessons from the presented results seem to be that:</p> <ul style="list-style-type: none"> <li>* The delivery reliability and difference between a 6 kcfs and 9 kcfs tunnel capacities are not large. However, 3 kcfs tunnel capacity delivers much less. (Figures 5-30 to 5-36). It would be useful to overlay annual exports for No Action, Existing Conditions, and Alternatives 3, 4, 5, 8, 9.</li> <li>* Operating rules, and by extension regulatory framework, might make more difference in water deliveries than tunnel capacity.</li> </ul> <p>Minor points:</p> <ul style="list-style-type: none"> <li>* Page 67, what is WS-1 and WS-2?</li> <li>* Where are Tables 5-4 through 5-9 results for Alternative 4?</li> </ul>	
1448	117	<p>[From ATT 3]</p> <p>CHAPTER 6: SURFACE WATER</p> <p>I. Overall Assessment</p> <p>Overall, the chapter is innocuous and uses canonical tools, and standard inference methods. The reason for selection of particular tools over select alternatives is not identified. Significant potential impacts are predicted for many Draft BDCP Alternatives under categories SW 4-6, and mitigation measures are proposed. It is not clear why a determination has not been made on the impacts of reverse flow conditions in Old and Middle Rivers under Draft BDCP Alternatives, although Chapter 6 lays out many of the</p>	<p>The surface water and groundwater models were selected in a detailed process during initial phases of the preparation of the Draft BDCP EIR/EIS. The analytical tools needed to be able to analyze the water resources in a consistent manner over the entire Central Valley, be publically available, and peer reviewed. The CALSIM II and DSM2 models met these requirements and were used in the EIR/EIS analyses.</p> <p>The potential Old and Middle River flow changes are presented under SW-3, including NEPA and CEQA effects. However, the actual effects of these changes are related to comparison to water quality standards (as presented in Chapter 8, Water Quality), and to aquatic resources (as presented in Chapter 11, Fisheries and Aquatic Resources), as described on page 6-58 of the Draft BDCP EIR/EIS.</p> <p>The results of the impact analysis for all resources considered in the Draft BDCP EIR/EIS are summarized in Table ES-8 in the Executive Summary, as indicated in the comment.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>impacts for each Alternative; a clarification is needed.</p> <p>The existing summaries of Chapter 6 are limited to tabular entries in the Executive Summary and brief text in the Highlights Brochure. The table identifies nine surface-water impacts (pages ES-61 and ES-62), and the Highlights text offers four bulleted paragraphs (page 21 of Draft BDCP_highlights.pdf).</p> <p>Like most of the DEIR/DEIS, Chapter 6 still lacks an informative summary of expected impacts of the No-Action and action Alternatives. It contains no up-front analysis that succinctly compares the Alternatives: No-Action vs. Actions, certain kinds of actions vs. other kinds of actions. It also offers no summary by impact, in contrast with Chapter 12 (Terrestrial Biology; pages 12-5 to 12-31). Chapter 6 still needs a cogent analysis of how the preferred Alternative (Alternative 4) compares to other Alternatives in terms of effects on, and effects of, surface water.</p> <p>II. Scope</p> <p>This chapter deals with environmental consequences of potential surface water changes from disturbances introduced by Draft BDCP conveyance and related facilities [CM1], operational facilities, conservation components [CM 2-22], and restored areas. The area examined is thought to be the most affected by SWP/CVP water supply operations and/or habitat restoration in the Delta and Suisun Marsh Restoration Opportunity Areas. Surface water in the Delta, upstream areas and in-export areas also will be affected by climate change and present/future projects. The changes affect the risks of floods, flow patterns, drainage, surface-ground water interactions, and streams. The construction of facilities as proposed by the Draft BDCP would occur in the Sacramento River/San Joaquin River (SR/SJR) basins, and the changes to SWP/CVP operations will affect the flow in the Delta and upstream. Surface water of many SJR and SR tributaries, as well as surrounding hydrologic basins, where conveyance features are located (pipes and canal systems) are unaffected. For each Draft BDCP Alternative, nine impacts are analyzed, and in some cases, mitigation measures are identified to reduce adverse impacts on run-off patterns, drainage, sedimentation, flooding, potential exposure, and risks to people or structures. The No-Action Alternative also is considered.</p>	
1448	118	<p>[From ATT 3]</p> <p>Surface hydraulics in the Draft BDCP area are complex, and are determined by circulation, transport, and mixing in Delta waters. The hydraulic network consists of over 700 miles of tidally influenced channels and sloughs, water supply facilities and about 18,000 diversions and 1,115 miles of (project and non-project) levees. The major forcing includes freshwater flow into the Delta, tidal input from the Pacific (as high as 600,000 cfs) and operation of water supply facilities. Sacramento River and Yolo bypass waters are the primary contributors, and move south and westward, followed by the San Joaquin River (SJR), which flows from the south. Pumping slows or reverses the flows that would naturally go north and west in the SJR ([Section] 5, [Section] 6 and [Section] 8). Operation of hydraulics structures has important tasks, including: elevating water surfaces for diversions, preventing fish from entering canals, and changing of circulation patterns.</p> <p>Amongst a myriad of impacts possible, the most critical ones have been identified for the analysis. For example, SWP/CVP reservoir storage and related changes to flood potential, peak monthly flow in SR and SJR, and reverse flows in Old and Middle River as a result of changing hydraulic characteristics are considered. The existing conditions are compared</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIR or the 2013 DEIR/EIS. It should be noted that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP.</p> <p>Alternative 4A is also characterized by a shorter planning horizon. The impacts occurring under Alternative 4A as well as Alternatives 2D and 5A were evaluated at the Early Long-Term timeframe as opposed to the BDCP alternatives being evaluated at the Late Long-Term timeframe.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>with the year 2060 scenarios of No-Action/No-project and Draft BDCP Alternatives with sea level rise and climate change (CEQA comparisons). Also compared are 2060 model conditions with Draft BDCP Alternatives that include climate change and No-Action Alternatives with climate change only (NEPA comparisons). The surface water resources have been evaluated at the project level when sufficient details are available; otherwise, it resorts to programmatic level analysis.</p> <p>The Effects Analysis (Ch. 5 of the Draft BDCP) assumes reasonable thresholds to identify adverse effects under NEPA or a significant impact under CEQA, based on the number of months the reservoir is close to the flood storage capacity and peak monthly flows. Nine impacts (SW 1 to SW 9) have been established and analyzed, and the results are placed in the framework of CEQA and NEPA effects.</p>	
1448	119	<p>[From ATT 3]</p> <p>Quality of Analysis:</p> <p>Commonplace modeling tools are used (CALSIM II together with ANN; DSM2 for water quality and particle tracking; CVHM hydrologic model), which are described in Appendix 5A. Also included therein are modeling assumptions, input parameters, and additional information. Impacts [SW 1-9] for each Alternative are addressed in a rigorous way. We offer the following comments for consideration:</p> <ul style="list-style-type: none"> <li>- The chapter involves a comprehensive and laborious study, and has identified a wide range of impacts covering storage issues related to flood potential, peak monthly flows and flow reversals at critical locations. Related issues such as water quality, fish and aquatic resources and agricultural resources are addressed in other chapters. The inferences are almost entirely based on model outputs, but the reader is left to guess the uncertainties and how uncertainties affect these inferences, which are expressed in terms of 'no impact' and 'less than significant impact' etc. Uncertainties of complex models of the sort used here can be unacceptably high, model calibrations leave much to be desired (see Kimmerer et al. San Francisco Estuary &amp; Watershed Sc., Feb 2008), and inter-comparisons of different models are scarce (NRC 2012). Some recent references to model testing, if available, may help. CALSIM III has better capabilities for ground water-surface water interactions and disaggregation of demand units, and it would be useful to know whether the conclusions made would change if it is used.</li> <li>- Flow-salinity relationships in Delta are evaluated using DSM2, which is linked to the neural network ANN to evaluate whether certain salinity requirements are met. The training of ANN is based on the current data, and the relationships so obtained may not be applicable to future scenarios with modified flow structures. In addition, DSM2 is a one-dimensional model and has inherent limitations in simulating open water areas, flow in bends, and small channels, as well as inlet/outlets. The Delta circulation patterns, which are strongly influenced by horizontal mixing, diversions, and freshwater input, therefore may not be adequately simulated by the modeling system used.</li> <li>- Tidal energy coming from outside the Golden Gate is another limited resource in the development of habitat in the Delta and its larger estuary. A major effect of many of the proposed habitat restoration activities (as well as potential island failures in the future) is likely to be the changes in tidal amplitude and mixing. This will affect the suitability of certain characteristics for restoration. It will reduce mixing of inland and coastal waters and</li> </ul>	<p>The CALSIM II is a prospective modeling tool, not a predictive model; and is used to compare alternatives, and not a predictive model to identify absolute values. Therefore, the Draft EIR/EIS impact analysis compares the results for conditions under the action alternatives to conditions under the Existing Conditions and the No Action Alternative. The CALSIM II model results cannot be used to predict absolute values; therefore, identification of specific uncertainty ranges would not be appropriate.</p> <p>The surface water models were selected in a detailed process during initial phases of the preparation of the Draft EIR/EIS. The analytical tools needed to be able to analyze the water resources in a consistent manner over the entire Central Valley, be publically available, and peer reviewed. The CALSIM II and DSM2 models met these requirements and were used in the EIR/EIS analyses. CALSIM III is not completely developed and peer reviewed at this time; therefore, it was not used in the EIR/EIS.</p> <p>The limitations related to the use of DSM2, CALSIM II, and ANN are discussed in Appendix 5A, Modeling Technical Appendix, including Section D, Additional Modeling Information, Part D.5.</p> <p>Changes in tidal amplitude and mixing with the introduction of wetlands restoration are discussed in Appendix 5A, Modeling Technical Appendix, including Section D, Additional Modeling Information, Part D.6.</p> <p>As described in Section 3.3.2.2. of Chapter 3, Description of Alternatives, of the Draft EIR/EIS, the adaptive management and monitoring program would use new information and insight gained during the implementation of the Preferred Alternative to develop and subsequently implement alternative strategies to achieve the biological goals and objectives. It is possible that some of the conservation measures will not achieve their expected outcomes, while others will produce better results than expected. The adaptive management process describes how changes to the conservation measures will be made to improve the effectiveness of the proposed project over time. However, details of the adaptive management strategies will not be developed until portions of the proposed project are implemented.</p> <p>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 local agencies responses to climate change, sea level rise, or future regulatory changes. Future changes in local agency 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 BDCP EIR/EIS. Therefore, if other future operations were included 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 BDCP EIR/EIS.</p> <p>More detailed modeling efforts, such as HEC-RAS models, were not utilized in the preparation of the Draft</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>high-tide related flooding in the Delta. This aspect needs further consideration.</p> <ul style="list-style-type: none"> <li>- Little is mentioned about the role of adaptive management, although development of hypotheses within the framework of complex Draft BDCP Alternatives would be difficult. Any information in this regard can be helpful.</li> <li>- It is assumed that the Alternatives would modify the operations of SWP/CVP facilities but not the facilities owned and operated by other water rights holders. Thus, the surface waters of many SR and SJR tributaries are assumed to be unaffected ([Section] 6.3.1). Naturally, one would expect changes to the modus operandi of other owners in response to potential changes due to Draft BDCP Alternatives. Similarly, changes in flow regulations for environmental and water quality objectives into the distant future are not examined or discussed (and would be difficult to examine). No analysis or statement regarding such feedback is given.</li> <li>- It was determined that estimating peak flows in a sub-monthly time step based on monthly flows of CALSIM II would not be reliable for flood risk analysis. Can HEC-ResSim or other modeling systems with higher temporal resolution be used in this regard?</li> <li>- The list of communities subject to flooding does not include Bethel Island, a community of a few thousand on a fairly deeply subsided island (page 6-21).</li> <li>- Chapter 6 considers how the Draft BDCP and its Alternatives may affect levees. It provides a lucid summary of levees as essential and vulnerable in flood control (pages 6-11 to 6-18). It also analyzes potential near-term damage to levees from construction of water-conveyance facilities (impact SW-7) and from creation of subtidal habitat (SW-8). Other parts of the DEIR/DEIS consider how Delta levees affect other resources. Levees are described as vital to water supplies under current conditions (pages 5-61 to 5-64; pages 3E-16 to 3E-18). By corollary, levees remain important under most of the action Alternatives, both for water supplies and for ecosystem restoration. A comprehensive levee chapter would bring these issues together. Its summary would compare Alternatives by their expectable effects on levee maintenance, not just during and soon after construction, but also on a 50-year timescale.</li> </ul>	<p>BDCP EIR/EIS because accurate bathymetric details were being developed by DWR at the time of the analysis; and detailed design criteria for intake structures had not been developed. Generally, a detailed analysis considering changes in surface water elevations is conducted during design phase for projects along the rivers because the State and federal permitting agencies do not allow substantial changes in peak flows or changes in flood risks.</p> <p>The listing of communities subject to 1 percent annual chance of flooding has been modified in the Final EIS to include the community of Bethel Island.</p> <p>Levee maintenance is assumed to continue in the No Action Alternative in a similar manner as to ongoing management policy and management practices. It is assumed that the same level of management would continue into the future with specific practices for areas that include restored wetlands or intake structures as described under Chapter 6, Surface Water; Chapter 9, Geology and Seismicity; and Chapter 10, Soils. A summary of all changes under these resources is included for each alternative in Table ES-8 in the Executive Summary.</p>
1448	120	<p>[From ATT 3]</p> <p>CHAPTER 7: GROUNDWATER</p> <p>I. Overall Assessment</p> <p>The most insightful aspect of this chapter is the likely effect of changes in Delta water deliveries on overdraft in the San Joaquin and Tulare basins. However, these results are not summarized and presented in a way that facilitates the thoughtful use of these results in comparing Alternatives. Peripheral canal Alternatives, where unlined, can significantly increase local groundwater levels in some areas, and decrease them in other areas (Figure 7-13). This also is examined with modeling results. Much of the results are based on modeling analysis.</p> <p>The modeling analysis of these groundwater impacts itself seems largely adequate, although the awkward and partial summary of results in a comparative format seems to miss the opportunity to inform on major relevant impacts. Salinity results and impacts are not</p>	<p>Groundwater quality analysis, including potential changes in salinity, under Alternatives 1 through 9 as compared to the Existing Conditions and the No Action Alternative are analyzed qualitatively because adequate data was not consistently available for the entire San Joaquin Valley. It is anticipated that the salinity in the applied water from the Delta to irrigated lands in the San Joaquin Valley would be less than under the Existing Conditions and the No Action Alternative, as shown in Table EC-10 in Appendix 8H, Electric Conductivity.</p> <p>The results of the impact analysis related to groundwater are presented in a comparative manner in Table ES-8 in the Executive Summary.</p> <p>The two Central Valley wide groundwater flow models, CVHM and C2VSim, differ in their structure, simulation period, and input assumptions. CVHM was used for the EIR/EIS groundwater impact analysis because it provides higher resolution (both in horizontal grid spacing and vertical layering – 10 layers versus 3 layers) and has undergone a more robust calibration. A peer review of these models was led by CWEMF (California Water Environment Modeling Forum) and developed by renowned groundwater scientists in 2013. The findings indicate that both C2VSim and CVHM are valid models for the evaluation of water resources planning and impact studies in the Central Valley. Therefore, while differences in model forecast</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>reported.</p> <p>Absence of a comparative summary and interpretation of results are the chapter's greatest weaknesses. The near-absence of systematic comparison and discussion reduces the ability of this analysis-filled chapter to contribute to thoughtful discussion and comparison of Alternatives.</p> <p>II. Scope</p> <p>The chapter examines the effects of project Alternatives on groundwater in the Delta and in the southern Central Valley. Construction impacts on local groundwater are expected due to tunnel and canal construction and modeling results are presented on these issues.</p> <p>The impacts of Alternatives on groundwater elevations within and south of the Delta are fairly well examined. However, there seems to be no comparison of the Alternatives in terms of likely changes in groundwater quality south of the Delta. The salinity of agricultural lands south of the Delta seems likely to be affected by the total salt load of water exported to this region. These salt loads are not presented or compared, even though modeling results appear to exist with the required outputs for this calculation. Other studies have found that changes in salt loads from changes in Delta operations and Alternatives could have considerable impact on agricultural land and profitability in the southern Central Valley (Medellin, et. at., 2008).</p> <p>III. Quality of Analysis</p> <p>The modeling is based on the USGS CVHM model. It would be useful to have a short discussion of uncertainty in this model's results, and a comparison with the state's C2VSIM model of Central Valley groundwater, which is also commonly employed. Both models are quite a bit better than their forebears are, and for this purpose, they seem likely to show qualitatively similar results.</p> <p>Alternatives that reduce total water exports are likely to encourage additional overdraft in the large water project service areas. This could be substantial and almost equivalent to the amount of export reduction (Chu 2012). The DEIR/DEIS notes this, and has done modeling studies of it, but does not appear to present quantitative estimates of this effect -only the reduction in exports (Table 7-7 [ATT 3: att 5]). The analysis of differences in declines in groundwater levels in the southern Central Valley for different Alternatives should be more systematically and quantitatively presented.</p> <p>The Alternatives are not expected to produce great long-term groundwater changes in the Delta. The largest effects seem likely to be localized from project construction.</p> <p>An unlined canal (e.g., peripheral canal) might well have widespread waterlogging on lands near the right-of way.</p> <p>Additional inundation of habitat, either permanent or seasonal, could increase groundwater seepage problems for local subsided islands. This seems likely to decline with time due to pore clogging. Experiences with ship channel dredging in the Delta might provide some lessons and data on this.</p>	<p>exist, CVHM is a more robust tool to support the EIR/EIS impact analysis.</p> <p>The quantitative results of changes in the groundwater conditions under Alternatives 1 through 9 as compared to the Existing Conditions and the No Action Alternative are presented in Figures 7-6 through 7-37.</p> <p>As indicated in GW-6 impact analysis for Alternatives 1 through 9, the potential for seepage would be determined in the future when the locations of wetlands restoration are identified. At that time, analysis of site-specific conditions would be analyzed, as described in Chapter 3, Description of Alternatives. Depending upon the soils at specific sites, the potential for seepage on to adjacent lands could occur due to pore clogging or soil consolidation. The analysis in the EIR/EIS assumes a "worst-case" analysis to develop a range of mitigation measures.</p>
1448	121	<p>[From ATT 3]</p> <p>[Chapter 7] Page 7-3, line 38: "Groundwater modeling studies of the Sacramento Valley</p>	<p>The statement addresses the interconnection between groundwater recharge rates and surface infiltration in the Sacramento Valley. The section cited in the comment indicates that in the upper part of their reaches,</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>suggest that, on average, the flux of groundwater discharging to the rivers is approximately equal to the quantity of water that leaks from streams to recharge the aquifer system. The studies suggest that in average years, stream recharge and aquifer recharge are each about 800,000 AF per year (Glenn Colusa Irrigation District and the Natural Heritage Institute 2010)." This cannot possibly be, unless the basin is overdrafting. Most of the Sacramento Valley generally is in rough balance, so the recharge from streams and surface infiltration roughly equals aquifer pumping and groundwater discharge to rivers. Recent C2VSIM modeling for TNC shows quite different results, with much more stream loss to aquifers in recent decades to supply basing aquifer pumping.</p>	<p>tributaries to the Sacramento River are "losing" and in some instances regain those loses near the tributaries confluences with the Sacramento River. It is estimated that this natural exchanges totals 800,000 acre feet per year based on the referenced report</p> <p>It should be noted that the focus of the groundwater analysis included in the EIR/EIS was on the Delta and CVP/SWP export areas because it is not anticipated that groundwater resources would be substantially impacted in the Sacramento Valley.</p> <p>As indicated in the text cited in this comment, the groundwater would be in balance because the stream recharge and the aquifer recharge are approximately equal. With respect to the C2VSIM study referenced in the comment, The Nature Conservancy is continuing with those studies to further define the groundwater. Therefore, the cited references represent some of the most recent completed studies in this portion of the Sacramento Valley.</p>
1448	122	<p>[From ATT 3]</p> <p>[Chapter 7] Page 7-10. "Total dissolved solids varies more widely in the Eastern San Joaquin Sub-basin, ranging between 50 and 3,520 mg/L. The high salinity of groundwater is attributed to poor-quality groundwater intrusion from the Delta caused by the decline of groundwater levels. This saline groundwater front has been particularly apparent in the Stockton area since the 1970s (San Joaquin County Flood Control and Water Conservation District 2008). Ongoing studies are attempting to identify the source or sources of chloride in groundwater along a line extending from Manteca to the northern side of Stockton. Initial concern was that long-term overdraft conditions in the eastern portion of the sub-basin were enabling more saline water from the Delta to migrate inland. Other possible sources include upward movement of deeper saline formation water and agricultural practices (U.S. Geological Survey 2006a)."</p> <p>This seems misleading. The cited USGS report indicates that the salinity coming into groundwater is of marine origin, probably from the time when the surrounding sediments were formed. Given that sea water has not come nearly this far into the basin in recent geologic time, these are likely from ancient salt deposits, not tied to current or recent surface water management. The document later mentions (page 7-12) saline groundwater in shallow aquifers (&lt;100 ft) under the central Delta. This should be mostly peat deposits laid down in the last 6,000 years. Where would these salts come from? The sea level has been rising for over 10,000 years and salt water has rarely, if ever, intruded into these aquifers during this time. Some saline drainage from agricultural operations might be possible.</p>	<p>The text cited in the comment discusses that the salinity could be caused by several sources, including: (1) sea water intrusion from the Delta (which could occur during drier periods), (2) upward movement of saline water (from geologic formations of marine origin, and (3) agricultural practices. The analysis does not attempt to determine site-specific sources throughout the Delta because that data is not well-documented over time on a consistent basis. Therefore, the groundwater analysis is qualitative for the EIR/EIS.</p> <p>BDCP EIR/EIS Alternative 4 H4 modeling is consistent with the description and assumptions of the HOS. As noted in the assumptions the additional upstream releases required to meet the enhanced spring outflow was assumed to be outside of the COA accounting and would be met through releases from Oroville. Chapter 11, Fish and Aquatic resources analyzed the impacts to the cold water pool and its effects to the fisheries.</p>
1448	123	<p>[ATT 3: Att 5] Table 7-7. Long-Term State Water Project and Central Valley Project Deliveries to Hydrological Regions Located South of the Delta (TAF/year)</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the comment referencing the attachment or the Final EIR/EIS."</p>
1448	124	<p>[From ATT 3]</p> <p>Overall Assessment:</p> <p>As noted for other chapters in the DEIR/DEIS, a concise and informative summary of the chapter would be extremely useful to readers and reviewers. This chapter, covering water quality impacts of the different Alternatives, is not very informative because of its reliance on a few modeling approaches, most notably CALSIM and DSR2, without an explanation of the limitations of these models. There is a noted lack of emphasis on validating model</p>	<p>In section 8.3.1.1, Models Used and Their Linkages, the text states that "Input assumption details for each scenario modeled are provided in Appendix 5A." This appendix includes the validation studies that have been performed on DSM2, and discusses the uncertainty associated with it, especially with regards to sea level rise and restoration areas (see Appendix 5A, Section D, Attachment 4). Text has been added to Section 8.3.1.1, Models Used and Their Linkages, and "Quantitative Assessments" within Section 8.3.1.3, Plan Area, of Chapter 8, Water Quality, describing validation of the models used for the assessment, and modeling limitations and uncertainty. To provide context for electrical conductivity and chloride compliance results, a description of how CALSIM and DSM2 were used to conduct this analysis was necessary.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		outputs with observational data, as well as a lack of any presentation or discussion of the uncertainties associated with the models. It is also unclear whether the models were run under likely scenarios of future conditions in the Delta (e.g., changing precipitation patterns, decreased snow pack, changes in timing and amount of freshwater delivery, higher temperatures, etc.).	Chapter 3 includes a description of the scenarios for which the model was run. The assumptions included in the various model runs are also summarized in section 8.3.2.2, Comparisons, in which climate change and sea level rise assumptions (the future conditions that the reviewers seem to be alluding to) are listed.  The assessment addresses the effects of climate change, as noted on page 8-130 of the DEIR/EIS, lines 31–33. BDCP Alternatives 1–9 presented in the DEIR/EIS were assessed at the Late Long-Term timeframe (2060) and CWF Alternatives 4A, 2D, and 5A were evaluated at the Early Long-Term timeframe (2025) Additional details regarding climate change in the modeling is provided in Appendix 5A.
1448	125	[From ATT 3]  This chapter [Chapter 8] covers the environmental setting and potential impacts of the different Draft BDCP Alternatives on water quality in the Delta as well as upstream of the Delta. It does not cover impacts downstream of the Delta, even though that was a specific recommendation of the National Research Council.	Chapter 8 Water Quality of the RDIER/SDIES and Final EIR/EIS has been expanded to include a discussion of downstream impacts on water quality. Section 8.3.1.8 San Francisco Bay has been added to the chapter and includes a discussion of a range of water quality constituents including ammonia, nitrate, phosphorus, mercury, and selenium. Water quality Impact 34 has been added to the impact discussions for each alternative.  The Final EIR/EIS analyzes all alternatives and each alternative now includes the assessment of downstream water quality impacts.
1448	126	[From ATT 3]  Numerous constituents that can compromise water quality are covered, but it is difficult to tell which constituents are covered [in Chapter 8] without reading the document in its entirety. For example, polycyclic aromatic hydrocarbons (PAHs) are covered in Section 8.2.3.14, but are not listed in Tables 8.1, 8.2, 8.3, 8.4, or 8.5. The reasons for including some constituents in those tables, but not others, are not clear.	Table 8-1 is a list of designated beneficial uses identified in the Sacramento-San Joaquin, San Francisco, Central Coast, Los Angeles, and San Diego Basin Plans, thus it does not contain a list of constituents. Table 8-2 is a list of CWA Section 303(d) listed constituents in the Delta, hence, only those constituents are in the table. Table 8-3 is a list of ongoing TMDLs, hence, only those constituents are listed. Table 8-4 is a list of CWA Section 303(d) listed constituents in the south-of-Delta export areas, hence, only those constituents are in the table. Since PAHs are not 303(d) listed and do not have active TMDLs in any of the areas summarized in the tables mentioned, they are not included in Tables 8-2 through 8-4. This, however, does not mean that no concern exists with regards to these constituents. Thus, the environmental setting with regards to PAHs is described. PAHs are listed in Table 8-5, along with receptors affected. Appendix 8C, Screening Analysis, provides the rationale for the constituents carried forward for detailed assessment in Chapter 8.
1448	127	[From ATT 3]  Temperature is specifically noted as being covered in Chapter 11, rather than in this chapter [Chapter 8], but it seems sensible to include temperature impacts, or at least a summary of temperature impacts, in this chapter specifically dealing with water quality issues.	Because temperature primarily affects aquatic life beneficial uses, and has effects on aquatic life that are not fully protected by existing State and Federal water quality criteria, most of the effects of temperature changes on aquatic life are best described by fish biologists. Where temperature may have an effect on a water quality parameter (e.g., dissolved oxygen, Microcystis), it is addressed in Chapter 8. Please also see Master Response 14, water quality.
1448	128	[From ATT 3]  This chapter [Chapter 8] does not cover ancillary effects of the Draft BDCP on water quality. Notably, an increase in water reliability may well result in altered agricultural practices, to include changes in crops, with associated changes in pesticide and fertilizer applications. That is a notable omission.	While it is true that an increase in water supply reliability could impact cropping patterns, it is unknown to what extent this would occur. Even if a change in cropping patterns could be predicted, estimating changes in the application of agricultural-related chemicals, runoff, and resulting impacts on water quality would be speculative.  The Final EIR/EIS analyzes all alternatives and each alternative now includes the assessment of downstream water quality impacts.
1448	129	[From ATT 3]  There is a general lack of knowledge displayed by the authors of this chapter [Chapter 8] about certain water quality constituents. This was most obvious in sections covering dioxins, polycyclic aromatic hydrocarbons (PAHs), and emerging pollutants [more correctly called contaminants of emerging concern (CECs)]. Nomenclature and descriptions of these classes of compounds are often incorrect, sometimes egregiously so. For example, polychlorinated biphenyls (PCBs) are incorrectly classified as a subset of dioxins, and then statements are	The sentence referenced with regard to PCBs and dioxins was meant to refer to “dioxins and dioxin-like compounds”, which does include PCBs, but the “and dioxin-like compounds” was inadvertently left out. The commenter is correct that an error was made with regards to PCBs and PCB mixtures. While PAHs sourced to spills and leakages of oil and gas can and do influence ecosystems at the local level, the discussion in this section is meant to set the stage for the regional assessment of PAHs for this project. In this context, the dominant pathway of PAHs to the Delta region is dry and mostly wet deposition of airborne PAHs that are sourced to combustion.

DEIRS Ltr#	Cmt#	Comment	Response
		made about dioxins that are incorrectly extrapolated to PCBs. Moreover, the authors do not seem to know the difference between commercial PCB mixtures (e.g. Aroclor® 1254 or 1260) and individual PCB congeners (e.g. PCB-126), listing these disparate substances as PCB-1254, PCB-1260, and PCB-126. PAHs are specified as being derived from combustion products, ignoring the very large portion of PAHs coming into ecosystems as a result of spills and leakage of petroleum and its refined products, such as gasoline and diesel fuels. Very optimistic descriptions of CECs and their removal from wastewater by wastewater treatment plants are given, but no acknowledgment is made of many other CECs that are shown to be highly recalcitrant to such removals. Such demonstrations of unfamiliarity with the subjects covered do not engender confidence in the analysis.	The statements referenced with regard to CECs are made specific to EDCs, not CECs generally. The commenter is correct, however, that the sentences seemed to imply that WWTPs effectively remove all EDCs, which is not the case. It should be noted that this section is only describing the environmental setting of these constituents in the Delta, and does not contain assessment of these constituents. Further discussion and assessment of these constituents is included in Appendix 8C, Screening Analysis.  A sentence was added to Section 8.1.3.14, Polycyclic Aromatic Hydrocarbons, acknowledging the stated source of PAHs. Clarifying edits have also been made to Section 8.1.3.5, Dioxins, Furans, and Polychlorinated Biphenyls, and Section 8.1.3.8, Emerging Pollutants: Endocrine-Disrupting Compounds, Pharmaceutical and Personal Care Products, and Nitrosamines.
1448	130	[From ATT 3]  For the discussion of carbon, it is recommended that carbon should be separated into its dissolved and particulate forms for consideration of water quality impacts and implications for Delta organisms. Dissolved organic carbon (DOC) is the form most likely to react with chloride and bromide and result in formation of disinfection by-products. Hence, emphasis was placed on DOC in this chapter. However, the chapter overlooks the role of carbon as a "master" ecosystem variable and the fact that dissolved and particulate forms cycle differently. DOC is mostly cycled through the microbial food web and is not typically transferred to upper trophic levels. In contrast, particulate organic carbon (POC) is comprised of microalgae as well as detritus from the watershed, marshes, and aquatic environment. POC is utilized as a "food source" for primary consumers, so this energy is transferred to higher trophic levels.	As the commenters state, DOC was the primary carbon constituent addressed because of its relationship to formation of disinfection by-products. It was also primarily assessed because 1) 85-90% of Delta TOC is DOC (as opposed to POC, as described in the Organic Carbon section of Section 8.3.1.7, Constituent-Specific Considerations), 2) a calibrated and validated model exists to predict DOC concentrations throughout the Delta (DSM2), and 3) the predominant concern with organic carbon are increasing concentrations and effects on water supply uses. As with temperature, POC affects primarily aquatic and terrestrial wildlife, and is thus best addressed by practitioners in those subject areas. Thus, effects of the project on POC and consequent effects to aquatic life are discussed in Chapter 11. Because no models exist to predict changes to POC from the project, the assessment in Chapter 11 is brief and qualitative, namely that restoration areas designed to promote primary and secondary production will likely increase carbon, a beneficial effect with regards to fish.
1448	131	[From ATT 3]  In addition to concerns about "lumping" carbon into a single parameter, carbon "quality" is not addressed. Carbon quality (e.g., sources, age, biochemical composition) is a key determinant of ecosystem processes such as food and energy. Carbon quality also influences organic matter respiration and is a contributor to water quality issues such as low dissolved oxygen (hypoxia) and methylation of mercury.	Given the state of the science and effects of the project on carbon quality, i.e., the physical, biological, and chemical characteristics of the carbon compounds themselves, assessing carbon quality would be speculative for the geographic scope and time scale over which the assessment was conducted. There is no ready way to quantify these changes. Further, as described in Response to Letter 1448-130, the primary concern (i.e., potential for adverse effects) is with changing dissolved organic carbon concentrations relative to water supply uses, which was assessed in Impact WQ-17 and WQ-18 in Chapter 8, Water Quality.
1448	132	[From ATT 3]  The treatment of nutrients is lacking. The authors consider only ortho-phosphate and not total phosphorus (TP). In freshwater, TP is a much better predictor of algal productivity because so much P can be carried on and released from suspended sediments. There should be better linkage between the total suspended solids (TSS) section and the phosphorus section. If a regression had been done between TP and discharge rather than phosphate and discharge, it is very likely that a relationship would have been seen (page 8-214). From this chapter, it seems as though the upgrades to the Sacramento Wastewater Treatment Plant will not decrease phosphorus inputs, or if they would, it is not considered here.	While it is true that much of the phosphorus is bound in sediment, there is limited ability to predict changes in TP concentrations. DSM2 allows for the assumption of dissolved, conservative constituents. There are no sediment transport models for the Delta. Therefore, conservative mixing was assumed to predict changes in dissolved phosphate concentrations based on the mixing of different water sources. Text has been added to the beginning of the phosphorus impact discussion (Impact WQ-23) referencing the TSS impact discussion (Impact WQ-29), noting that the TSS concentrations are not expected to be substantially changed, thus, levels of sediment-bound phosphorus are not expected to change substantially; hence the focus on ortho-phosphate.  At the time of the DEIR/EIS, it was not known whether Sacramento WWTP upgrades would increase or decrease phosphorus inputs. The EIR for those upgrades has since been released, and indicates that treatment will be put in place to keep phosphorus levels at or below what they are currently. Chapter 8 Water Quality, Section 8.3.1.7 Constituent-Specific Considerations Used in the Assessment has been updated to reflect this changed condition.
1448	133	[From ATT 3]  It is clear that for ammonia, the biggest change (and most significant improvement) is coming from the upgrade to the Sacramento Wastewater Treatment Plant. The analysis of	The project is not anticipated to change ammonia, nitrate, or phosphorus loads to the Delta. While concentrations of these constituents are predicted to change in the Delta, with the exception of ammonia decreases not associated with the project, the changes that can be estimated using conservative mixing

DEIRS Ltr#	Cmt#	Comment	Response
		ammonia, nitrate and phosphorus is entirely based on regulatory water quality standards with no attention paid to the biological consequences of more or less nitrogen, phosphorus, or altered N:P ratios. In the P discussion, the authors propose that phytoplankton production is related to light, not nutrients (page 8-214). With decreased sediment loads, this may no longer be the case, or certainly, it is not expected to be the case in the future as sediment loads (from past mining activity) continue to decrease. Hence, nutrient impacts on algae do need to be considered. In particular, the potential of altered nutrient ratios to either encourage or reduce toxic algal blooms should have been considered. It is mentioned but discounted as unimportant in the SWP and CVP canals (pages 8-450 and 8-470).	models are small enough that predictions of what these and changes in the N:P ratios would mean to the makeup of algal communities would be speculative, given the current state of the science. Further, as mentioned in the text, since the Delta is thought to be light limited and nutrients are in excess relative to algal growth requirements, these types of changes would not be expected to measurably change the quantity of algae in the Delta. Text was added to Chapter 8 Water Quality, Section 8.3.1.7 Constituent-Specific Considerations Used in the Assessment regarding this issue. In addition, Impact WQ-32 Effects on Microcystis Bloom Formation Resulting from Facilities Operations and Maintenance (CM1) has been added to the EIR/EIS to address the potential for increased Microcystis bloom formation. With regard to water quality, please see Master Response 14.
1448	134	[From ATT 3]  There is an over-reliance on model outputs, both to describe existing conditions as well as to project the effects of Alternatives on water quality constituents. There do not seem to be either a) attempts to compare model outputs for existing conditions to existing water quality data, or b) calls for monitoring of future conditions in order to inform adaptive management of Draft BDCP implementation. Because models will always be incorrect, such observational data are obviously required. Moreover, models were run for only certain constituents and not others; this needs to be clarified and the reasons for selective applications of models should be explained.	Master Response 30 provides an overview of the modeling conducted for the EIR/EIS and CEQA and NEPA compliance.  The Final EIR/EIS analyzes all alternatives and each alternative now includes the assessment of downstream water quality impacts.
1448	135	[From ATT 3]  Models should be run under likely scenarios of future conditions in the Delta (e.g., changing precipitation patterns, decreased snow pack, changes in timing and amount of freshwater delivery, higher temperatures, etc.), and measures of uncertainty associated with the models should be presented and discussed with respect to their impacts on confidence in model outputs. It is also unclear whether the model runs considered the role of changing turbidity and light levels. Recent data indicate that concentrations of suspended solids have been declining in the Sacramento River. This could impact ecological responses in the future (e.g., phytoplankton blooms).	Master Response 30 provides an overview of the modeling conducted for the EIR/EIS and the CEQA and NEPA compliance.  Impacts of operation of the water conveyance facilities under each alternative is described in Impact WQ-29. As described, the operation of the water conveyance facilities is not expected to have a measurable impact on TSS concentrations and turbidity levels in Delta waters and these levels would be similar to existing conditions. Nevertheless, impacts of changes in turbidity on fish is addressed in Chapter 11 Fish and Aquatic Resources.
1448	136	[From ATT 3]  Turbidity will likely increase during the water conveyance construction phase, as well as during habitat restoration due to sediment disturbance. Following construction, concentrations of suspended solids (and light levels) may be quite different than they are today or over the timeframe 1992-2003, which was used for the model conditions. This could substantially alter water quality in the Delta and adjacent waters, again in ways that might not be predicted from model outputs.	Water quality effects during the construction phase of both the conveyance facilities and habitat restoration, including the potential for turbidity increases, is addressed in Impact WQ-31, Water Quality Effects Resulting from Construction-Related Activities. These effects were determined to be not adverse/less than significant with the implementation of the environmental commitments in Appendix 3B of the FEIR/EIS. Turbidity conditions following the construction phase of the conveyance facilities and habitat restoration are addressed in Impacts WQ-29 and WQ-30, respectively, and these assessments acknowledged there may be some changes in turbidity, but that these changes would be expected to be not adverse/less than significant. Nevertheless, impacts of changes in turbidity on fish is addressed in Chapter 11 Fish and Aquatic Resources.
1448	137	[From ATT 3]  There are concerns about remobilization of soils and sediments with legacy contaminants during construction of water conveyance structures and habitat restoration, which were not addressed in the DEIR/DEIS. Reservoirs of contaminants could be disturbed during excavation and construction projects. Some of these legacy contaminants could have detrimental impacts on organisms due to their tendency to bioaccumulate. Also, in regard to bioaccumulation, mercury and selenium appear to be the only constituents that were evaluated for their bioaccumulative properties. A range of organic contaminants (e.g., PAHs [polycyclic aromatic hydrocarbons], dioxins, some endocrine disrupting compounds) also	The concerns raised by the commenter were addressed under Impact WQ-31 of DEIR/EIS, which discusses impacts of construction related activities and contains the following paragraph addressing PAHs and dioxins:  “Some construction-related contaminants, such as PAHs that may be in some fuel and oil petroleum byproducts, may be bioaccumulative in aquatic and terrestrial organisms. Construction activities also may disturb areas where bioaccumulative constituents are present in the soil (e.g., mercury, selenium, organochlorine pesticides, PCBs, and dioxin/furan compounds), or may disturb soils that contain constituents included on the Section 303(d) lists of impaired water bodies in the affected environment. While the 303(d)-listed Delta channels impaired by mercury are widespread, impairment by selenium, pesticides, PCBs, and dioxin/furan compounds is more limited, and there are no 303(d) listings for PAH

DEIRS Ltr#	Cmt#	Comment	Response
		<p>bioaccumulate, but this was not acknowledged or addressed in the DEIR/DEIS document.</p>	<p>impairment. Bioaccumulation of constituents in the aquatic food chain, and 303(d)-related impaired water bodies, arise as a result of long-term loading of a constituent or a pervasive and widespread source of constituent discharge (e.g., mercury). However, as a result of the generally localized disturbances, and intermittent and temporary nature of construction-related activities, construction would not be anticipated to result in contaminant discharges of substantial magnitude or duration to contribute to long-term bioaccumulation processes, or cause measureable long-term degradation such that existing 303(d) impairments would be made discernibly worse or TMDL actions to reduce loading would be adversely affected.”</p> <p>The analysis concluded that because the construction-related activities for the conservation measures would be conducted with implementation of environmental commitments, including but not limited to those identified in Appendix 3B, Environmental Commitments, AMMs, and CMs, this alternatives would not be expected to cause constituent discharges of sufficient frequency and magnitude to result in a substantial increase of exceedances of water quality objectives/criteria, or substantially degrade water quality with respect to the constituents of concern, and thus would not adversely affect any beneficial uses in the Delta.</p> <p>These concerns are also addressed in Chapter 11, under impacts to different fish species from construction, “Disturbance of Contaminated Sediments”.</p>
1448	138	<p>[From ATT 3]</p> <p>The authors are rather cavalier about how they treat detection limits for analytes, especially when studies had high detection limits that are above water quality criteria. For example, on page 8-46 they report many non-detects of PCB-1254, -1260 etc. (sic), but do not report detection limits. It is later stated that SFEI [San Francisco Estuary Institute] data show detects, but detection limits were 0.01 pifL, for individual PCB [polychlorinated biphenyls] congeners, and that the SFEI detection limits are seven orders of magnitude lower than other studies. On the next page, they then report many non-detects (presumably with the higher detection limits in the range of 10 nanograms per liter), and also list criteria for PCBs under various guidelines. Even though those criteria are far below the detection limits used, it is concluded that criteria have not been exceeded, presumably because PCBs were not detected.</p>	<p>Not all of the studies cited reported their detection limits, and therefore the limits were not reported in the EIR/EIS Chapter 11. Regardless, whatever the actual concentrations of PCBs were in the samples that demonstrated non-detects, a water quality criterion cannot be exceeded with a non-detect sample. The statement was not making judgment that levels of PCBs in the Delta were not of concern because the samples were non-detect, only that criteria had not been exceeded. While the citation of detection limits is not exhaustive, the PCBs discussion in the Environmental Setting/Affected Environment provides an overview of whether PCBs have or have not been detected and where, and identifies the importance of understanding these compounds in the study area.</p>
1448	139	<p>[From ATT 3]</p> <p>On page 8-163 the following statement is made:</p> <p>"Assessing pesticide-related effects is substantially challenged by: 1) limited available monitoring data in the Delta and other water bodies of the affected environment, and 2) a continually changing pesticide use market. Due to a number of factors, including historic pesticide use patterns and analytical capabilities, there is more data available for certain classes of pesticides, such as OP insecticides, than that for other classes of pesticides, including herbicides, fungicides, and insecticides such as pyrethroids and carbamates."</p> <p>Despite the acknowledged difficulty in predicting water quality impacts of the project, caused by lack of observational field data, as far as we could see there was no call for enhanced monitoring of pesticides in the Delta. As stated above, reliance on model outputs without their validation by comparison to observational data is a flawed approach, especially for assessing the effects of water quality constituents with high levels of uncertainty surrounding them, such as pesticides. In the section on pesticides, it was also remarkable that there was no mention of recent investigations showing very significant synergism between carbamate and organophosphate insecticides, or research showing</p>	<p>Monitoring of pesticides in the Delta does not fall specifically within the responsibilities of the Lead Agencies. Monitoring programs are conducted by the State Water Resources Control Board and by NPDES permit holders within the Delta, as well as through other programs and agencies. Enhanced monitoring of pesticides in the Delta would only be the responsibility of the project proponents if there was compelling reason to expect that effects of the project on pesticides would be adverse/significant, and therefore mitigation was required. Effects of pesticides were considered adverse only for alternatives which included CM13, which includes control of non-native vegetation in which pesticides are applied specifically as part of the conservation strategy. Mitigation required in this case to reduce the effects to less than significant is implementation of integrated pest management (IPM), and enhanced monitoring is unlikely to meaningfully contribute to the reduction in potential effects. It should be noted that the BDCP, which includes CM13, is no longer the preferred alternative. The preferred alternative is now Alternative 4A and no longer includes an HCP.</p> <p>The assessment of pesticide changes due to the alternatives did not rely on use of models, except for changes in flow modeled by CALSIM. Regarding modeling validation, see response to comment 124. The water quality assessment addresses changes in pesticide concentrations, due to the alternatives, due to their potential for toxicity in the environment. The specific mode of toxicity and the specific organisms to which specific pesticides may be toxic is beyond the scope of the assessment. Rather the focus is on</p>

DEIRS Ltr#	Cmt#	Comment	Response
		rapid acquisition of pesticide resistance in native copepod species in the Delta.	potential for change in pesticides concentrations, as a class of constituents, and whether that change would cause an adverse effect, because that is what is able to be evaluated given the limitations noted in the EIR/EIS. Inclusion of the studies mentioned would not have altered the findings of the assessment on the project.
1448	140	<p>[From ATT 3]</p> <p>CHAPTER 9: GEOLOGY</p> <p>I. Overall Assessment</p> <p>Chapter 9 makes a murky case for its plausible conclusion that the proposed Draft BDCP actions would not add much to the existing geologic risk. The scientific basis for this conclusion is clouded by problems summarized in the sections below. Also mentioned in this review are potential scientific benefits that the chapter overlooks.</p> <p>II. Scope</p> <p>Geology affects the Delta as both resource and threat. Geology comes into play as a resource where including aquifers (Chapter 7), forming parent materials for agricultural soils (Chapters 10, 14), providing aggregate or natural gas (Chapter 26), and containing fossils (Chapter 27). The geologic threat mentioned most in the DEIR/DEIS is earthquake-induced failure of Delta levees (page 1A-8 to 1A-9; 2-3; 3E-16 to 3E-18; 5-61 to 5-64; 6-11 to 6-18).</p> <p>Chapter 9, a "resource chapter," assesses geology as a threat to persons and property. The chapter enumerates, for impact assessment, the 16 threats listed in summary Table ES-9 as GEO-1 to GEO-16 (page 66-67). Most are tied to earthquakes. Five of the potential impacts would occur during construction of water-conveyance facilities under conservation measure CM-1 (GEO-1 to GEO-5); another six during operation of these facilities (GEO-6 to GEO-12); and the remainder in association with habitat restoration efforts (GEO-13 to GEO-16).</p> <p>As summarized in Table ES-9, the CEQA impacts are "less than significant" both before and after mitigation for all 16 threats under all the action Alternatives. The table rates the No Action Alternative as having three potential impacts that are "beneficial."</p>	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1448	141	<p>[From ATT 3]</p> <p>Narrow assessment of levee failure:</p> <p>Although Delta levees figure abundantly in the DEIR/DEIS as a Delta resource, no resource chapter addresses impacts to levees comprehensively. Delta levees are presented as vital to water supplies (pages 3E-16 to 3E-18, 4-9, 5-61 to 5-64, 29-19 to 29-20; Appendix 5B) and to flood control (pages 6-11 to 6-18), and the threat of levee failure is cited as a reason the proposed conveyance facilities are needed (pages 2-3, 31-5). In addition, Chapter 4 of the Draft BDCP describes levee improvements to be carried out as part of several of the proposed conservation measures. Yet formal assessment of levee-related impacts appears limited to Chapter 6 (Surface Water) and Chapter 9 (Geology). These chapters ask whether the construction and operation under the various Action Alternatives would increase chances of levee failures from floods and earthquakes. The Geology chapter limits its consideration of levees to the immediate vicinity of facilities at or near the ground surface. No chapter considers two broader effects: how Delta levee failures would affect water operations under the various Alternatives (summarized pages 29-19 to 29-20); and how the</p>	<p>Please see response to comment 1448-79 regarding levee failures and economics of levee maintenance.</p> <p>As discussed in the Final EIR/EIS, Chapter 6 Water Supply and Chapter 9 Geology and Seismicity, construction and operation of the water conveyance facilities would not result in an increase in the potential for levee failure either upstream of or in the Delta. This risk of earthquake induced levee failure and resulting impacts is described in detail in Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies.</p> <p>Also please refer to the Final EIR/EIS Appendix 6A.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>various Alternatives would affect the economics of maintaining Delta levees.</p> <p>A comprehensive assessment of levee-related impacts would treat them more broadly. It would ask how levee failures would affect each Alternative in terms of water supplies and ecosystem health. It would also explore how each Alternative may affect incentives and funding for levee maintenance and it would evaluate each Alternative in light of the climate change impacts (sea-level rise, extreme floods) discussed on pages 29-19 and 29-20. The broadened assessment would consider the No-Action and Action Alternatives in light of recent reports about Delta levees. These include discussions of hazards to Delta levees (Mount and Twiss, 2005; URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008; Brooks et al., 2012) and of strategies for risk reduction (Suddeth et al., 2010; URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2011; Bates and Lund, 2013)</p> <p>Debatable choices about levels of significance:</p> <p>The DEIR/DEIS estimates that the Action Alternatives would have "less than significant" impacts on the potential for death, injury, or property loss from earthquakes and their effects. This assessment applies both before and after mitigation according to the summary table (pages ES-66 and ES-67). Safeguards built into engineering design and construction practices are expected to prevent "an increased likelihood of loss of property, personal injury or death of individuals (example, pages 9-53 to 9-54).</p> <p>Chapter 9 does not appear to factor a background threat of levee failure into these reasonable conclusions. The chapter summarizes this threat in section 9.3.3.1.1 (pages 9-49 to 9-50), and the threat looms in other parts of the DEIR/DEIS as well (pages 2-3; 3E-16 to 3E-18; 5-61 to 5-64; 6-11 to 6-18). In a further instance, a water-supply assessment cites the threat of earthquake-induced levee failures that could flood as many as twenty Delta islands at once (page 5B-12). The impact assessments in Chapter 9 do not appear to consider Action Alternatives in combination with levee failures unrelated to the actions. Would these combinations result in any increased likelihood of losses to persons or property?</p> <p>The tabular summary of potential impacts on pages ES-66 and ES-67 can be misread as implying that benefits assigned to the No-Action Alternative do not extend to the Action Alternatives. The benefits are derived from "ongoing plans, policies, and programs" that seem largely independent of the Draft BDCP (pages 9-50 to 9-51).</p>	
1448	142	<p>[From ATT 3]</p> <p>Indefinite plan for assessing liquefaction hazards:</p> <p>Liquefaction, in which pore-water pressure lowers the strength of granular material, is the main process by which earthquakes are likely to cause levee failure in the Sacramento-San Joaquin Delta (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008). The liquefiable materials may be within a levee, beneath the levee, or both. The modes of resulting damage may include sliding, settlement, cracking, and groundwater eruption. Unlike localized breaches in the Delta's written history, the failures associated with future liquefaction may extend along levees for hundreds of meters. These concerns provide ample justification for the sections in Chapter 9 that accordingly consider liquefaction hazards to Delta levees</p> <p>Chapter 9 provides little information, however, about the basis for its liquefaction analyses. Such analyses commonly begin with borehole data like those in Figure 9-4. The chapter</p>	<p>As indicated in Chapter 10, Section 9.3.1.2.3 Liquefaction, liquefaction hazard was assessed for selected, site-specific locations using existing soil boring data contained in the Conceptual Engineering Reports (CERs). Where adequate, existing soil engineering data were not available, additional analyses were performed, including assessments based on Standard Penetration Test (SPT) blow-counts, Cone Penetration Test (CPT) measurements, and measurements of the shear-wave velocity of the soil.</p> <p>Regarding the part of the comment pertaining to the seismic vulnerability of Plan Area levees, Figure 9-6 of the EIR/EIS has been revised to reflect the levee seismic vulnerability data contained in Figure 6-37c of URS Corporation and Jack R. Benjamin &amp; Associates, Inc. (2008). Sections 9.1.1.4.3 Liquefaction and 9.3.1.2.3 Liquefaction in Chapter 9 have been revised accordingly, and include a discussion of liquefiable sand layers beneath some of the levees.</p> <p>Regarding the part of the comment pertaining to uncertainty in the liquefaction hazard assessment, the EIR/EIS has been revised to recognize that uncertainty exists in the methods used to model liquefaction hazard, which are under investigation by a National Research Council committee.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>states that the analyses will use "available soil data from the [Conceptual Engineering Reports]" of proposed Draft BDCP conveyance alignments (page 9-46). Those reports are listed on pages 9-1 and 9-2, but they do not appear to be available online -- a status that in today's world is effectively equivalent to not existing at all.</p> <p>Subsequent steps are summarized in a one-paragraph statement of approach (page 9-70). The approach appears to follow the so-called "simplified procedure" that engineers routinely use in liquefaction-hazard assessment. This procedure originated over 40 years ago (Seed and Idriss, 1971) and was updated in the last decade (Idriss and Boulanger, 2008).</p> <p>Uncertainty not mentioned in Chapter 9 surrounds current implementation of the "simplified procedure" of Seed and Idriss (1971). Competing curves relate the occurrence or non-occurrence of liquefaction to material properties and ground motions (Idriss and Boulanger, 2010; Seed, 2010).The matter is under study by a National Research Council committee (<a href="http://www8.nationalacademies.org/cp/projectview.aspx?key=49573">http://www8.nationalacademies.org/cp/projectview.aspx?key=49573</a>).</p> <p>Even if this uncertainty is set aside, Chapter 9 appears deficient in details on how liquefaction-hazard assessment under the Draft BDCP will be carried out. Such details appear to await "final facility designs" in which "site-specific geotechnical and groundwater investigations would be conducted to identify and characterize the vertical (depth) and horizontal (spatial) extents of liquefiable soil" (page 9-70).</p> <p>A reviewer may reasonably wonder whether the liquefaction part of the impact assessment is to be carried out at the project level or the program level. An overview on page 3-22 states that project-level assessments are provided for conveyance facilities (CM1), while program-level assessments are made for other actions. Whatever the case for liquefaction, its assessment seems part of a mitigation measure for preventing any increase in the "likelihood of loss of property, personal injury or death of individuals" (example, page 9-53).</p> <p>Neglect of other clues to liquefaction risk:</p> <p>Comprehensive assessment of liquefaction risk to levees in the Delta and the Suisun Marsh was central to the Delta Risk Management Strategy (DRMS) study discussed in the next section (page 28).The assessment was based in part on application of the "simplified procedure" of Seed and Idriss (1971) to borehole data from Delta levees. The assessment also took account of the steepness of levee banks. The products include maps of the Delta and Suisun Marsh that show the distribution of potentially liquefiable sand beneath levees, the presence of sand within levees, and the levee-failure vulnerability in three generalized categories (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008, Figs. 6-35, 6-36, and 6-37). The sand beneath levees was found most widely liquefiable in northern and southeastern parts of the Delta, areas that include proposed Draft BDCP conveyance facilities.</p> <p>Chapter 9 appears to say nothing about these findings. As its leading example of liquefaction-hazard mapping the chapter instead uses findings from the year 2000 (page 9-22, Fig. 9-6).These findings were not built into DRMS because "all aspects of that analysis, the seismic hazard model and, the fragility analysis are out of date" and because several principals in the 2000 work advised against using it (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008, App. B, page 6-1).The depiction of hazard in Figure 9-6 contrasts with that by the DRMS study. For instance, Figure 9-6 of Chapter 9 shows all Sherman Island levees as having high potential for damage from liquefaction, while DRMS Figure 6-37c assigns a majority of Sherman Island's levees to the lowest of three categories of</p>	<p>Regarding the part of the comment pertaining to the details of further liquefaction-hazard assessments under the Draft BDCP, Impact GEO-8 of the EIR/EIS has been revised to describe in more detail the types of geotechnical studies that will be conducted during the design phase, how they will be planned, the planned intensity of the site specific borings and other investigations.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>vulnerability to earthquakes (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008).</p> <p>The liquefaction map in Figure 9-6 also neglects a common approach to sketching liquefaction hazard on a regional scale. As illustrated by damage to railroad bridges by the 1964 Alaska earthquake (McCulloch and Bonilla, 1970), the abundance and severity of liquefaction commonly varies with the age and depositional environment of geologic materials. Geologic maps may thus be transformed into liquefaction-susceptibility maps (Tinsley et al., 1985; Holzer et al., 2009).</p> <p>In the Delta, mapped geologic materials of greatest concern for liquefaction are the sand and silt that accumulated in stream channels during recent millennia. Some of these form ribbons of potentially liquefiable material that extend beneath Delta levees. Many such ribbons have been delineated from historical maps and from interpretation of aerial photographs (Atwater, 1982; Whipple et al., 2012).</p> <p>Also of potential concern is wind-deposited sand that extends into most of the Contra Costa County part of the Delta. Chapter 9 mentions these geologic materials (pages 9-4 to 9-8) and identifies them as "liquefiable during major earthquakes" (page 9-69).</p>	
1448	143	<p>[From ATT 3]</p> <p>Reliance on a superseded assessment of seismic hazards:</p> <p>Chapter 9 makes abundant use of a draft report from the Delta Risk Management Strategy (DRMS) study cited above. This study included a comprehensive assessment of seismic risk to levees of the Delta and Suisun Marsh. The risk assessment study runs 270 pages as section 6 of the final report issued in 2008 (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008). A 2007 draft (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2007), underwent abundant revision after critical review (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008, App. A, B). Chapter 9 uses only the 2007 draft, which it typically calls "the seismic analysis" and cites as "California Department of Water Resources (2007a) and as "DWR (2007a)." Among text and tables in Chapter 9 are about 85 such citations in all.</p> <p>This situation leaves the reader wondering whether use of the final 2008 report, instead of the 2007 draft, would change the impact assessment in Chapter 9. A spot check of Tables 9-7 and 9-11 shows minor differences with entries in the corresponding tables in the 2008 DRMS report (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008, Tables 6-1 and 6-5, respectively). A fuller assessment of the impact of the obsolete DRMS version is beyond the scope of this review.</p> <p>Chapter 9 recently went out of date in its citations about probabilistic estimates of earthquake shaking in California. The earthquake probabilities cited on page 9-10 were estimated more than a decade ago by the 2003 Working Group on California Earthquake Probabilities. The 2007 group released an updated assessment as Uniform California Earthquake Rupture Forecast 2 (Field et al., 2009). Table 9-12 (page 9-21) effectively cites this assessment by referencing the related 2008 version of the U.S. Geological Survey national seismic hazard maps. But a rigorously up-to-date version of Chapter 9 would have mentioned a further iteration, UNCERF3, that was released in part in November 2013 (Field et al., 2013), in preparation for the 2014 national update.</p>	<p>EIR/EIS Chapter 9, Geology and Seismicity focuses on the loss of property, personal injury or death as a result of constructing or operating the water conveyance facilities and depending on the alternative, the impacts of implementing CM 2 through CM21.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	144	<p>[From ATT 3]</p> <p>Carelessness with assertions and references:</p> <p>"These organic soils [the peat of tule marshes] formed from accumulated detritus of the tules and other vegetation." (page 9-3) Tidal marshes and tidal swamps aggrade by trapping sediment that tides bring in and by retaining organic matter that the wetland plants produce on site. The retained organic matter includes roots and below-ground stems (rhizomes) that the plants inject into wetland soils (Nyman et al., 2006; Mudd et al., 2009; Kirwan et al., 2010; Miller and Fujii, 2010; Takekawa et al., 2013, pages 10-11).</p> <p>"It was necessary to use different sources to compile the geologic map" (page 9-3)-A new source not mentioned is mapping by Sowers et al. (2013). An example of this mapping, along the Sacramento River south of Sacramento, was presented as a poster at the 2010 Bay Delta Science Conference.</p> <p>"The text descriptions [of geologic map units] are taken directly (i.e., verbatim) from the work done by Graymer et al. (2002) because this work...provides the most recent and relevant general descriptions of the geologic units that occur in the Plan Area." (page 9-3) This compiler's choice is a debatable one. The Delta makes up less than 1/6 of the map area of Graymer et al. (2002), and barely 1/3 of the Delta lies within that map area. A Graymer map name adopted on page 9-4, "Delta mud deposits," poorly describes deposits that are dominated by peat in the central Delta. The associated description of Delta peatland as lowered by "compaction and deflation" misrepresents subsidence that owes more to decomposition (pages 10-11 to 10-12) (Deverel and Leighton, 2010).</p> <p>"This correlation [of geologic names used on two different maps] is only an approximation provided by the chapter author to aid the reader. It is not a scientific or peer-reviewed analysis." (pages 9-4, 9-6, 9-7, 9-8) Disappointing.</p> <p>"In 1935 the University of California Agricultural Experiment Station mapped the surface soils." (page 9-4) The work perhaps alluded to here, without citation, is the classic Delta-wide soil survey by Cosby (1941).</p> <p>"The Delta and Suisun Marsh are in...one of the most seismically active areas in the United States" (page 9-10) Seems at odds with another statement on the same page: "...the San Francisco Bay Area and Delta region have generally experienced low-level seismicity since 1800."</p> <p>"...tsunami inundation area on the shores of the Sacramento River" (page 9-25) The statement apparently refers to Carquinez Strait</p> <p>"Peak acceleration response at a period of zero seconds or PGA (peak ground acceleration) is also widely used to characterize the level of ground motion." (page 9-45) Peak ground acceleration is conventionally defined as "maximum acceleration experienced by the particle during the course of the earthquake motion" without respect to frequency (<a href="http://egint.cr.usgs.gov/parm.php">http://egint.cr.usgs.gov/parm.php</a>).</p> <p>"With respect to the hazard of a seiche, the existing water bodies in the Delta and Suisun Marsh tend to be wide and shallow." (page 9-50) Disregards channels.</p> <p>"Levees constructed on liquefiable foundations are expected to experience large deformations (in excess of 10 feet) under a moderate to large earthquake in the region"</p>	<p>The commenter's input on additional benefits of the Plan and on certain details of the Affected Environment section of Chapter 9 is appreciated; the Lead Agencies do not necessarily disagree with the information and suggested corrections provided by the commenter. However, inclusion of this information into the EIR/EIS would not substantially change the results of the analysis.</p> <p>Regarding the part of the comment pertaining to the lack of summary of expected impacts, the RDEIR/SDEIS and FEIR/S include a text and graphical summary for each resource chapter that compare the impacts across alternatives. These summaries have been added to the Executive Summary chapter, and to the beginning of each resource chapter, including Chapter 9.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>(page 9-50, reiterated page 27-22) This unreferenced statement appears to be taken verbatim from a Delta Risk Management Strategy (DRMS) report; it appears on page 6-37 of the final seismic-hazard assessment (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008). A more nuanced statement would cite this report's Figure 6-35 as evidence that liquefiable foundations, identified through geotechnical borings, are most common in northern and southeastern parts of the Delta. In a further nuance worth mentioning: for the 1906 San Francisco Earthquake, "calculations indicate that small to moderate damage would have occurred if the levees were at today's configuration during the 1906 event" (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008, page 6-36).</p> <p>Chapter 9 cites large reports without pointing the reader to specific pages or figures within them. A more rigorous assessment would cite by chapter and verse</p> <p>The reference list for Chapter 9 excludes not just the final Delta Risk Management Strategy (DRMS) reports (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008; URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2011) but also a prominent update on procedures for assessing liquefaction hazards (Idriss and Boulanger, 2008) and an authoritative review of Delta subsidence (Deverel and Leighton, 2010).</p> <p>Lack of summary:</p> <p>Like most of the DEIR/DEIS, Chapter 9 lacks an informative summary of expected impacts. The chapter's existing summaries are elsewhere, and they are limited to tabular entries in the Executive Summary and to watered-down text in the Highlights Brochure.</p> <p>The chapter needs a summary, pitched to specialists but accessible to others, that would build on the entries on pages ES-66 and ES-67, and on the text in Highlights pages 26 and 27. The summary would make clearer how the various Alternatives, including the No-Action Alternative, compare with one another in terms of effects on geology as a threat (and perhaps also as a scientific resource). Included would be an analysis of how the preferred CEQA Alternative compares with the No Action Alternative.</p> <p>The Executive Summary of the DEIR/DEIS could tabulate the Chapter 9 impacts more clearly. Each of the three groups of potential impacts shares identical text that could be gathered in a header in the "Potential Impact" column. The text for the individual impacts could then be condensed to make clearer, at a glance, the differences among them.</p> <p>Benefits overlooked:</p> <p>A CEQA guideline recommends assessing impacts that would "Directly or indirectly destroy...a unique geologic feature." Another CEQA guideline asks, "Does the project have the potential...to eliminate important examples of the major periods of California history or prehistory?" (<a href="http://ceres.ca.gov/ceqa/docs/Adopted_and_Transmitted_Text_of_SB97_CEQA_Guidelines_Amendments.pdf">http://ceres.ca.gov/ceqa/docs/Adopted_and_Transmitted_Text_of_SB97_CEQA_Guidelines_Amendments.pdf</a>)</p> <p>Chapter 9 might thus consider, as incidental benefits of Draft BDCP Action Alternatives, geologic discoveries along routes of proposed tunnels and canals. Such discoveries may provide long-term context for 21st-century questions about climate change and ecosystem restoration (Malamud-Roam et al., 2006; Canuel et al., 2009). Precedents include incidental use of bridge-foundation borings as guides to sea levels and marsh accretion at San</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Francisco Bay (Trask and Rolston, 1951; Atwater et al., 1977).</p> <p>Borings for proposed Draft BDCP tunnels are already providing insights into prehistoric volcanic eruptions. The borings have sampled volcanic ash layers that erupted about 400,000 years ago near Bend, Oregon, and about 600,000 years ago near Mount Lassen, California (Maier et al., 2013). Widespread volcanic-ash layers are important to geologists not only as signs of catastrophic hazards but also as unique tools for assigning, to the same instant in geologic time, climatic and tectonic events in widely separated places (Sarna-Wojcicki et al., 1983; Sarna-Wojcicki et al., 1985). Such scientific use of Draft BDCP geology would complement the engineering application of the findings in Figure 9-4.</p>	
1448	145	<p>[From ATT 3]</p> <p>CHAPTER 10: SOILS</p> <p>I. Overall Assessment</p> <p>Chapter 10 concludes that the proposed Draft BDCP actions would cause significant harm to farmland soils by burying some beneath construction spoil and by inundating others in habitat-restoration areas. The chapter also determines that the soils pose little threat to the Draft BDCP actions. These plausible findings are undercut by inadequate summaries, missing references, and minor inaccuracies.</p> <p>II. Scope</p> <p>Chapter 10 treats soils both as agricultural resources and as construction hazards. In five of the nine soil impacts considered, the question is how an action (or inaction) will affect soils by means of erosion or decomposition. In the four other impacts, the soils pose potential hazards to people and facilities.</p> <p>With four exceptions, the CEQA impacts for all options are termed "less than significant" both before and after mitigation (pages ES-67 to ES-68). In two of the exceptions, the No Action Alternative is called "beneficial" because of non-BDCP efforts to arrest subsidence from decomposition of peat (SOILS-3, SOILS-8). In the other exceptions, topsoil is lost to decomposition under the No Action Alternative, to burial under spoils from construction of conveyance facilities, and to inundation from habitat restoration (SOILS-2, SOILS-7).</p> <p>Not included among impacts assessed is soil loss from unintended flooding. Lasting losses may be limited to scour ponds and their aprons if levee breaches are repaired. On islands left permanently flooded, the losses are of course greater.</p> <p>III. Quality of Analysis</p> <p>Inadequate summaries:</p> <p>Like most of the DEIR/DEIS, Chapter 10 needs to begin with an informative summary of expected impacts. The existing summaries are limited to tabular entries in the Executive Summary and brief text in the Highlights Brochure. The table enumerates nine soil-related impacts (pages ES-67 and ES-68), and the Highlights Brochure describes soil losses as a Draft BDCP impact (page 28 of Draft BDCP_highlights.pdf).</p> <p>A useful summary, placed at the beginning of Chapter 10, would quantify losses and relate them to the No-Action and Action Alternatives. For instance, a table similar to the one on</p>	<p>The EIR/EIS Executive Summary has been updated to include comparative summaries and supporting tables for each resource topics. These summaries allow readers to compare impacts across all alternatives. These summaries and tables have also been added to the beginning of each EIR/EIS resource chapter, including Chapter 10, Soils.</p> <p>The assessment of impacts on soils did not attempt to determine the potential impacts a levee failure may have on soils. As discussed in the EIR/EIS Chapter 6 Surface Water and in MR 18, the construction and operation of the water conveyance facilities would be considered flood neutral. As such, potential impacts on soil resources from a levee failure not attributable to the construction and operation of the water conveyance facilities is not within the scope of the EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>page 39 of the Highlights Brochure would itemize losses of agricultural soil from burial by tunnel waste, excavation of canals, and intentional breaching of levees. The table and associated text would analyze Action Alternatives by broad category, as done effectively in the Chapter 12 summary.</p> <p>The summary would make clear, quantitatively, how the various options, including the No-Action Alternative, stack up in terms of effects on and of the soils. The summary might show, for instance, that the tunnel Alternatives would cause fewer losses to certain kinds of agriculturally important soils than would the canal Alternatives</p> <p>The existing Highlights text conflates landforms and soils in a confusing fashion. This text should conform more nearly to the Chapter text, which creates no such confusion (pages 10-3 to 10-6).</p> <p>The Executive Summary of the DEIR/DEIS could tabulate the Chapter 10 impacts more clearly (pages ES-67 and ES-68). The impacts form two groups: SOILS-1 to SOILS-5 on conservation measure CM1, SOILS-6 to SOILS-9 on other conservation measures. Each of the two groups of potential impacts shares similar or identical text that could be gathered in a header in the "Potential Impact" column. The text for the individual impacts could then be condensed to make clearer, at a glance, the differences among them.</p> <p>The tabular summary on pages ES-67 and ES-68 could distinguish more clearly between No Action and Action Alternatives in terms of No-Action impacts that also apply to proposed BDCP actions. Under impacts on subsidence, the summary presents the No Action Alternative as beneficial because of subsidence-reversal projects independent of the proposed BDCP actions, without applying this benefit also to the proposed BDCP actions. Similarly, "significant" soil loss, under the No Action Alternative, if caused chiefly by decomposition of peat, would seem to extend to the proposed BDCP actions</p>	
1448	146	<p>[From ATT 3]</p> <p>References missing [from Chapter 10: Soils]</p> <p>Page 10-2, lines 35-38: This summary of geological history, referenced to a report from 1950, exaggerates the roles of Carquinez Strait and inorganic sediment in building the historical channels and tidal wetlands of the Delta. Chapter 9 cites additional, newer references that could help here.</p> <p>Page 10-3, lines 20-21: Could also cite the classic survey by Cosby (1941).</p> <p>Page 10-4, line 4: According to this generalization from 1950, peat with many rhizomes of <i>Phragmites australis</i> [the current species name for this reed] underlies peat with many rhizomes of <i>Schoenoplectus acutus</i> and <i>S. californicus</i> [the current names for the main bulrushes]. Subsequent work has not reproduced this finding (Atwater, 1982; Drexler, 2011).</p> <p>Page 10-4, footnote 1: The most up-to-date, reliable source on peat thickness is Deverel and Leighton (Deverel and Leighton, 2010, page 8). The 2007 California Department of Water Resources reference cited in the footnote is an obsolete draft of a report finalized in 2008 (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008).</p> <p>Page 10-10, lines 16-17: Prefer Galloway et al. (1999) as comprehensive and technically</p>	<p>The Lead Agencies have provided references to all important information and assertions that are not common knowledge. With respect to the part of the comment pertaining to minor inadequacies, the Lead Agencies are unable to respond to the comment without knowing the nature or location of the alleged inadequacies in the document. The Lead Agencies believe the information contained in the EIR/EIS setting sections is adequate to support the accompanying environmental impact analysis.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>sound, as well as written and illustrated for broad audiences</p> <p>Page 10-11, lines 6-21: A standard reference not cited: Thompson (1957).</p> <p>Page 10-11, line 24: Update to Deverel and Leighton (2010).</p> <p>Minor Points:</p> <p>Page 10-2, lines 2-3 and 31-33: Distinguish between "soils" in the agricultural sense and "soils" as used by engineers.</p> <p>Page 10-3, line 33: This summary could identify the soils of modern tidal wetlands and compare them to the diked and drained soils of former tidal wetlands. Likewise for the summary of Suisun Marsh soils on page 10-4, lines 20-22.</p> <p>Page 10-5, line 16: The heading "Valley Fill" is potentially confusing because it brings to mind Sacramento Valley, San Joaquin Valley, Central Valley.</p> <p>Page 10-11, line 1: Now Schoenoplectus acutus and S. californicus.</p> <p>Page 10-11, line 5: Is this peat depth residual (after subsidence) or original (ca. 1850)?</p> <p>Page 10-12, line 42: The current rates of subsidence vary with substrate. The rates are probably zero in the large part of Jersey Island where Pleistocene dune sand is exposed at the ground surface. This is an important point that bears on restoration opportunities in other parts of the Delta where mineral soils have already been exhumed; these areas cannot subside further by decomposition of peat. This issue reappears on page 10-26, beginning on line 32, with a section that describes subsidence from decomposition of organic soils as continuing "to varying degrees." The section does not describe geographic differences. A fuller description would identify the west-central Delta as the main area where mineral soils are not widely exposed.</p> <p>Page 10-13, line 17: This section could be expanded to discuss consequences of arresting or reversing subsidence. A supporting reference: Miller and Fujii (2010).The discussion would help anticipate the benefit identified on page 10-26, line 40.</p>	
1448	147	<p>[From ATT 3]</p> <p>CHAPTER 11: FISH AND AQUATIC RESOURCES</p> <p>I. Overall Assessment</p> <p>Overall the DEIR/DEIS could demonstrate a more balanced approach by fully discussing results from an ecosystem perspective (to add to the species-by-species discussions), fully embracing uncertainty and discussing it uniformly while distinguishing knowns from unknowns, and explicitly stating assumptions and differentiating conclusions from hypotheses. The detailed piece-by-piece and part-by-part treatment of CMs and species, although perhaps necessary, dilutes the merit of the overarching ecosystem perspective of the intent of this plan. Success will depend on a fully functioning system and analyses that incorporate integration across species, within a species, and across regions. Adaptive management will require a well-planned and comprehensive research and monitoring program that will target causality and test Draft BDCP hypotheses.</p>	<p>Please note that the preferred alternative is now Alternative 4A (the California WaterFix) 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.</p> <p>Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures. Many of the actions that are part of the BDCP conservation strategy but not proposed to be implemented under Alternative 4A would continue to be pursued as part of existing but separate projects and programs associated with California EcoRestore.</p> <p>The Final EIR/EIS analysis relies on the best available science, and uses a combination of qualitative and quantitative methods, which meets regulatory standards for CEQA and NEPA. The analysis attempts to provide as many linkages as possible between each species and restoration measure, but analyzing the ecosystem as a whole is not a requirement for CEQA or NEPA. Please refer to Section 11.3.2, Methods of Analysis, in Chapter 11 for more information on the methodology, data, and assumptions used.</p> <p>For more information regarding reliance on tidal restoration please see</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Our specific concerns with this chapter of the DEIR/DEIS include: (1) positive benefits of habitat restoration are highly uncertain, and if not realized, will invalidate the final conclusion of no net negative effect; (2) further analysis of effects of flow on entrainment is needed; (3) the decision-tree process is not adequately described; (4) interactions and synergies among species and the potential impacts on other ecologically important species are not adequately considered; (5) the qualitative nature of the effects analysis makes results more aligned with 'hypotheses' rather than 'conclusions' or 'predictions'; (6) full life cycles are not adequately considered; (7) a more complete description of adaptive management is needed; and (8) uncertainty in the conclusions is not adequately acknowledged throughout the DEIR/DEIS</p>	<p>Like Alternative 4, Alternative 4A would also construct North Delta Intakes to provide added flexibility to operate the system in a way that would reduce entrainment of the covered fish species at the existing south Delta facilities, as described in Chapter 3, Description of Alternatives. The modeling performed to date provides enough evidence regarding potential reduction in the entrainment at the existing south Delta facilities. The stringent requirements along with a robust coordinated real time operations management under the proposed project should allow for the entrainment benefits.</p>
1448	148	<p>[From ATT 3]</p> <p>This extensive and comprehensive chapter evaluates impacts of construction, maintenance, and operation of each of the Alternatives of Conservation Measure (CM) 1 and many of the other conservation measures on fish and other aquatic resources. Impacts on 20 fish species are evaluated. Eleven covered fish species that are federally threatened or endangered (delta smelt, longfin smelt, Sacramento splittail, fall-, winter-, and spring-run Chinook salmon, steelhead, green sturgeon, white sturgeon, Pacific lamprey, and river lamprey) are discussed separately for each of the Alternatives and most CMs, often for multiple fish life stages. The nine non-covered species that are California Species of Concern or of recreational and/or commercial importance (striped bass, American shad, threadfin shad, largemouth bass, Sacramento tule perch, Sacramento perch, Sacramento-San Joaquin roach, hardhead, and California bay shrimp) are discussed collectively. In addition, impacts of CM1 and Alternatives on other cold-water habitat species in upstream reservoirs are evaluated.</p> <p>As stated in Chapter 11, the actual effects of the actions are dependent on a clear understanding of Chapter 5 (the Effects Analysis) in the Draft BDCP. For example, "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...An understanding of the Effects Analysis will help inform a review of Chapter 11. In some instances, the description of fish species life stage timing and distribution varies between the Effects Analysis and DEIR/DEIS. These differences are in the process of being updated to match one another..." (page 11-2).</p> <p>Sixteen of the 22 CMs are dealt with in detail for each of the covered species. These can be summarized as impacts as a result of the construction, maintenance and operations of the new water conveyance systems (CM1), impacts from habitat restoration efforts, (principally CM2 and CM4 but also CM5, CM6, CM7 and CM10) and those individual activities (CM12-CM19 and CM21) that are designed to "reduce the direct and indirect adverse effects of other stressors on covered species." The latter include reductions in predators, illegal harvest, invasive vegetation, enhancement of hatcheries for some species, installation of nonphysical fish barriers, and improved oxygen conditions in the Stockton Deepwater Fish Channel.</p>	<p>Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures. Many of the actions that are part of the BDCP conservation strategy but not proposed to be implemented under Alternative 4A would continue to be pursued as part of existing but separate projects and programs associated with California EcoRestore.</p>
1448	149	<p>[From ATT 3]</p> <p>In essence, a simplified summary of the primary projected impacts of the DEIR/DEIS is:</p> <p>1) The construction, maintenance and operation of a new water conveyance system could change downstream flow rates and could have negative impacts on some species. However,</p>	<p>Please note that the preferred alternative is now Alternative 4A (the California WaterFix) and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the new conveyance system will allow additional flexibility in flow control that may improve resilience to climate change and may reduce fish entrainment losses by shifting intake usage between North and South intakes based on fish abundances in the area.</p> <p>2) Habitat restoration, including flood plain inundation, may increase physical habitat area, and food production for covered species via increased phytoplankton production.</p> <p>3) Targeted activities will attempt to reduce predators, control invasive species, reduce illegal harvest, and be beneficial to certain species in various ways.</p> <p>There were also several mitigation measures proposed to minimize the biological effects of construction and maintenance activities. In many cases, it is argued that any negative impacts caused by changes in outflow would be fully compensated for by other conservations measures, principally habitat restoration.</p>	<p>through CM21) would not be included as part of the Proposed Action, except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b). However, restoration actions that are independent of Proposed Action will continue to be pursued as part of existing projects and programs. Examples of these include the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan.</p> <p>For more information regarding CALSIM II Modeling Results Utilized in the Fish Analysis please see Appendix 11C of the FEIR/EIS.</p>
1448	150	<p>[From ATT 3]</p> <p>Effectiveness of Habitat Restoration:</p> <p>A fundamental component of the overall program is the success of comprehensive habitat restoration and connectivity. In essence, it is argued that the positive benefits of habitat restoration and (aquatic related) conservation measures CM2-CM22 will counterbalance any negative impacts that might be triggered by CM1 through changes in flows and water diversions.</p> <p>It is a reasonable hypothesis that each Conservation Measure CM 2-CM 22 might be beneficial to one or more covered species. Yet the degree of uncertainty does not rule out that the effects will be zero or negative. The uncertainty in the level of success of these measures makes it difficult to make the case scientifically that these benefits will counterbalance negative impacts elsewhere. If proposed habitat restoration actions are not implemented in a timely fashion or are not as effective as assumed in the DEIR/DEIS, then the positive impacts of those actions would no longer be present, and the final assessment of a net positive or no net negative effect would not be valid. A key uncertainty that has a profound impact on the assessment of impacts is the extent, timeliness, and effectiveness of the protection and restoration actions, particularly restoration of tidal marshes and floodplains (including the Yolo Bypass).</p> <p>Extent: Specific sites for restoration activities have not been determined, nor has their ability to pass environmental review requirements been assessed. If willing land-sellers are not found or if environmental problems are identified (e.g., excess methyl mercury production), then those preservation and restoration actions and the positive benefits attributed specifically to them in the impact analysis would not occur. Likewise, the analysis of hydrodynamic changes with new intakes and habitat restoration are central to evaluation of the effects on fishes. Yet the hydrodynamic analysis is based on one possible configuration of habitat restoration, and if that is not the final configuration, the results of the hydrodynamic analysis could change. The sensitivity of conclusions to the configuration of habitat restoration should be evaluated in the DEIR/DEIS</p> <p>Timeliness: Construction and flow operations may have impacts immediately, whereas the restoration impacts and benefits may lag a decade or more after construction. Often it is claimed that the negative impacts in one area (e.g., flow changes on covered species) can be compensated for by habitat restoration. Analyses suggesting this result are often based on</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>Restoration would still occur under Alternative 4A in the form of environmental commitments, but on a limited scale when compared to the conservation measures proposed under the BDCP. Many of the actions that are part of the BDCP conservation strategy but not proposed to be implemented under Alternative 4A would continue to be pursued as part of existing but separate projects and programs associated with California EcoRestore. Therefore, because much less restoration would occur under Alternative 4A.</p> <p>Regarding extent and effectiveness, uncertainty still exists, and is described where applicable in the FEIR/S analysis, particularly in the impacts discussing environmental commitments/conservation measures. The FEIR/S incorporates the best available science, which is the regulatory standard, in order to meet NEPA and CEQA requirements.</p> <p>Regarding timeliness, Chapter 12, Terrestrial Biological Resources, analyzes impacts on a short-term and long-term timeframe to more accurately describe impacts during construction and operation, as described in Section 12.3.2. Although it would be desirable from a habitat-availability perspective to have the restoration and protection offsets in place simultaneously with the occurrence of impacts (this is not a regulatory requirement), in some instances there may be short-term lag times between the occurrence of the impacts, and the maturation of restored habitats and protection and enhancement of existing habitats. In order to meet the NCCPA requirement for rough proportionality, the BDCP committed to pace the implementation of the conservation measures such that they may not fall behind the pace of covered activity impacts by more than 10%. Such short-term delays have been accounted for in the formulation of offset strategies such as the use of ratios for restoration or protection. Except where specifically noted in impact discussions later in this chapter, such minor delays should not by themselves lead to short-term or permanent adverse or significant impacts.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the implicit assumption that the new habitats are 100 % effective and fully functional ecosystems that are tightly integrated physically and biologically with the rest of the Delta. The literature strongly suggests, however, that there are significant time lags between construction of a new habitat and its full functionality. This means that the benefits of habitat restoration may not occur for a long time and that the benefits may be too late for some species if negative impacts come first. These time lags were not fully considered in the DEIR/DEIS. The effect of time lags on overall conclusions should be evaluated in the DEIR/DEIS. Alternative scenarios should be considered in which habitat restoration begins sooner or is phased in to maximize the benefits (e.g., by starting with habitats that will have the largest impacts). The priority of habitats to be restored is not indicated, so it is not clear if the most critical habitats will be first on the list</p> <p>Effectiveness: Even if all acres are acquired and restoration actions are taken in a timely manner, whether those actions will deliver the anticipated benefits or not is also uncertain. For example, the analysis regarding habitat restoration assumes there will be increases in phytoplankton production and that these increases will be transferred up the food web to covered species. This largely ignores an equally likely result that the added biomass of phytoplankton will be consumed by clams, which have had substantial effects on phytoplankton abundance and species composition throughout the Delta. Moreover, new zooplankton could also be consumed by other fishes. Whether or not any increases in primary production will be transferred to zooplankton and on to covered species that may reside in the restored area or outside of it is largely unknown.</p> <p>Based on a thorough and credible review of the scientific literature and extensive experience in the ecosystem, Mount et al. (2013) question whether the tidal marsh and floodplain restorations will deliver the food subsidies anticipated to Delta and longfin smelt. Their concerns seem justified. Increase in habitat area is not necessarily a metric for increases in habitat quality or functionality. Although the Adaptive Management Team is tasked with assessing the effectiveness of the restoration actions, there is no description of management actions that will be considered if the positive effects are not observed. Hence, we are not able to determine if those actions could possibly compensate for the negative impacts identified.</p>	
1448	151	<p>[From ATT 3]</p> <p>Impacts of Flow Operations :</p> <p>The main impacts of new flow operations (CM 1) on fishes are to: 1) allow flexibility to shift entrainment from the south Delta intakes to the new north Delta intakes, and 2) change flow rates and other associated conditions (e.g. water temperature and turbidity) downstream from the North intakes</p> <p>Entrainment: It is suggested that overall entrainment of fishes may be reduced by increasing flexibility to re-routing flows into the north or south intakes on the basis of fish distributions in the area as well as the use of improved intake structures at the north intakes (new screening processes and state-of-the-art positive barrier fish screens). However, one credible analysis of the modeled flow regimes (Mount et al. 2013) points out that, although significant uncertainties are incorporated into the CALSIM modeling, they are not given adequate consideration when statements about effects are made. In addition, both Mount et al. (2013) and a credible review by MBK Engineers (presentation at January 2014 Independent Science Board (ISB) meeting) question whether the system can be operated as simulated in the CALSIM modeling and hence whether the predicted reductions in</p>	<p>Regarding the decision trees for spring and fall outflow, please see Master Response 44. However, please also note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input, and relies on a different operational scenario than Alternative 4, as described in Section 3.6.4.1 of Chapter 3, Description of Alternatives, in the FEIR/S. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>Like Alternative 4, Alternative 4A would also construct North Delta Intakes to provide added flexibility to operate the system in a way that would reduce entrainment of the covered fish species at the existing south Delta facilities. The OMR flow criteria for 4A serve to constrain the magnitude of reverse flows in the Old and Middle Rivers to limit fish entrainment into the south Delta and increase the likelihood that Delta smelt can successfully reproduce in the San Joaquin river. The criteria are derived from fish protection triggers described in the USFWS (2008) and NMFS (2009) BiOps RPA Actions. Additionally, new criteria based on the water year type in December through March would be implemented to provide more positive OMR flows under the wetter years compared to the requirements under the USFWS (2008) and NMFS (2009) BiOps. The modeling performed to date provides enough evidence regarding potential reduction in the entrainment at the existing south Delta facilities. The magnitude of the reduction can vary depending on how much exports are taken from the proposed north Delta intakes. The stringent OMR requirements and reduced south Delta exports, in combination with a robust coordinated real time operations management under the proposed</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>entrainment will actually occur. Reducing entrainment by shifting intakes to those areas with fewer fish requires good estimates of fish concentrations in the immediate area. Therefore, estimates of entrainment should be bracketed based on model uncertainties</p> <p>Flow rates: The impact of altered outflow cannot be adequately assessed with the information given because the operational flows are not yet determined for Alternative 4. Some of the possible flow regimes have negative impacts. It has been established that the abundances of many of the covered species show a correlation with flow rates. Uncertainties about the level of spring and fall outflow will be addressed with two decision trees, one for fall and one for spring. It is argued that the decision-tree process will run for about 10 years and inform the initial operations of CM 1. Targeted studies will address this uncertainty before the new facilities are operational, but there is no description of these studies or a clear designation of how optimal flow rates can be balanced for different species. The decision-tree process will focus on longfin smelt and delta smelt with consideration of salmon and sturgeon but no apparent consideration of other species. It is not clear what would be done if 'optimal' flows differ across these species. Moreover, other species abundances such as young-of-the-year striped bass also correlate with flows, and there is no consideration of potential changes in abundances of these young predators. Overall, it is stated that a science plan and data collection program will be developed and implemented but the design of that program is not stated, the amount and source of funding not identified, and the experiments to be done not determined. If the success of the studies is dependent on having years with a range of flow conditions, then success is uncertain at best. It is impossible to determine if the proposed research program will be adequate to address either the uncertainties that have been identified or the hypothesized causal mechanisms (turbidity, suspended solids, temperatures, salinity) that might lead to more informed flow operations.</p>	<p>project would reduce entrainment in the south Delta. Also, refer to Chapter 3 in the Final EIR/EIS for information on the Collaborative Science and Adaptive Management Program to be implemented under the proposed project.</p>
1448	152	<p>[From ATT 3]</p> <p>Species Differences and Interactions:</p> <p>Overall, there was little consideration of interactions and synergies among species. Also, potential impacts on other ecologically important species in the ecosystem have been ignored or inadequately presented.</p> <p>Because species were assessed individually in the evaluation of the effects of water operations, significant differences in effects among species were identified. In contrast to the detailed individual species discussions, the nine non-covered species were lumped and considered as a group in Chapter 11 because the effects of most conservation measures "on non-covered fish and aquatic species would be similar for all non-covered fish species included in Chapter 11." First, no reason is given as to why the nine non-covered species are included and others excluded apart from being "identified by state or federal agencies as special status or of particular ecological, recreational, or commercial importance." (page 11-1, lines 29-30). Clearly, one could argue that there are other species that have major ecological impacts in the Delta (e.g. two invasive clams) or that might be abundant and have competitive interactions with covered species (perhaps the centrarchids). Also, if habitat restorations become fully functional and provide predator refuge, feeding areas, or sources of food for covered species, the restorations must have impacts on many (perhaps hundreds) other species including the listed non-covered species. Some of these other species, such as nonnative predators and invasive clams, may also benefit from these expanded habitats. Benefits for the other species may dampen any benefits of the habitat</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A. Restoration would still occur under Alternative 4A in the form of mitigation/environmental commitments, but on a more limited scope than the conservation measures.</p> <p>With respect to analysis of invasive mollusks (clams), please see response to comment 143.</p> <p>Given the large number of covered species and the large number of alternatives and conservation measures within alternatives, the approach taken was to characterize potential effects by species and life stage from different conservation measures. This approach limited the potential to discuss interactions between different species, other than in some cases the interaction of covered species with non-covered species, such as predators, that could arise because of some of the environmental commitments/conservation measures (e.g., construction and its effects on predatory fish density near the north Delta intakes).</p> <p>With respect to partitioning of enhanced food resources between covered species, it is unclear which analytical tools are available to address this issue. The analysis presented in the Biological Assessment focuses on describing the importance of different food types (zooplankton, benthic/epibenthic prey, and insects) and qualitatively assessing the potential change that could result from the proposed project; this assessment included consideration of different vegetation types and pathways (e.g., phytoplankton-based and detritus-based; see Chapter 5 of the Biological Assessment).</p> <p>The covered and non-covered species were chosen for specific regulatory reasons (take for covered species and NEPA/CEQA requirements for non-covered species). Other important species, such as clams or centrarchids, are included indirectly (such as food production for clams or predation effects for</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>restoration for covered species.</p> <p>Second, the nine non-covered fishes and invertebrates have a huge range of ecological tolerances and requirements, life histories and behaviors. It seems unlikely that effects would be similar across all of these species. The treatments of covered species in the DEIR/DEIS revealed very significant ecological differences among species and even life stages. At best, this approach seems overly simplistic because we expect that individual species will have different responses to the proposed actions. At worst, this sort of lumping could lead to wrong conclusions because both predators (e.g. striped bass) and their prey (e.g. shad, California bay shrimp) are combined. Some of the proposed actions, for example in-flow conditions, might favor a particular covered species but may also favor a non-covered predator such as striped bass. Some further justification for this approach should be given, particularly because some of the non-covered species have strong interactions (e.g. predation) with some covered species.</p> <p>Likewise, lumping phytoplankton, zooplankton and predators may also enhance uncertainty because clams can alter phytoplankton species composition, fish feed selectively on different types and sizes of zooplankton, and predator species differ in prey choice, feeding behavior, and thermal/habitat requirements. Other important elements of the food web in these habitats, such as emergent and submergent macrophytes and edaphic microalgae, were ignored. Moreover, there are literally hundreds of species of macroinvertebrates as well as other fish species that are ignored in the DEIR/DEIS, although these species play an essential role in the ecological functioning of the Delta ecosystem. It is difficult to draw species-specific conclusions based on the grouping of some species and exclusions of important food web components such as the invasive clams. We do not suggest that multispecies biological models are required but we do suggest that some sort of balance and rationale be given for species lumping and exclusions so that uncertainties in conclusions can be better understood and underlying assumptions can be formally expressed.</p> <p>It is not clear how the interactions among species are considered in time and space. Much of the DEIR/DEIS was focused on a detailed discussion of how an individual conservation measure (or a component of a conservation measure such as construction) might impact a specific species or life stage of a particular species. For example, each of the 11 fish species is discussed separately and extensively. However, there was an absence of consideration of interactions and synergies among species. We know we cannot really manage species by species, and what is beneficial for one may be adverse for another. This concept has not been adequately captured or addressed. As mentioned, this becomes particularly important in the discussions of habitat restoration, which is intended to provide new food resources in the restored area and to the Delta. There is no consideration of how suggested increases in zooplankton food supply will be distributed among the target species. There is likely to be competition for these limited resources among covered species or with other species not considered. Information about who uses those resources is critical but not fully considered in the assessment. Food-web models do not adequately consider predators or competitors of the covered species. It did not appear that any biological feedbacks (e.g. resource depletion) were used in the analyses.</p>	<p>centrarchids), but not explicitly as is done for the covered and non-covered species. Only non-covered species that are expected to have similar responses to the project are lumped and much has been done since the 2 to make better distinction of differences between species and discuss potential effects individually. As with clams and centrarchids, discussions of species interactions are largely indirect and no impacts are focused entirely on these interactions. The hundreds of species of macroinvertebrates are not “ignored in the EIR-EIS”; they are just not called out explicitly in the analyses. There is high uncertainty regarding how food production will translate into benefits to covered species. Therefore, the conclusions in the Final EIR/EIS are based on the best available science, which is the regulatory standard.</p>
1448	153	<p>[From ATT 3]</p> <p>Delta Connectivity:</p> <p>Overall, there was little consideration of interactions and synergies among different</p>	<p>The BDCP (Alternative 4) is no longer the preferred alternative. Alternative 4A, which is not a habitat conservation plan, is the preferred alternative. Nonetheless, all alternatives were evaluated by comparing the effects of the alternative to existing conditions and the No Action alternative. To the extent information and models were available to assess the interaction of effects, they were used to better understand these</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>proposed CM actions or between different geographic regions within the Delta and beyond the Delta.</p> <p>It is not clear how the cumulative effect of restoration in different parts of the Delta is addressed. Conservation measures are planned in many different locations throughout the Plan Area and it is suggested that negative impacts in one area can be offset by positive impacts in another area. This necessarily contains an implicit assumption that the entire Draft BDCP area is functionally interconnected both physically and biologically. It assumes that CM impacts on a particular life stage of a species in one part of the Delta can be balanced by other CM impacts that may occur at other times, on other life stages, and in other locations. This has not been demonstrated.</p> <p>Additional consideration is needed of how factors outside the BDCP area interact within the BDCP area. The DEIR/DEIS included some forcing factors (such as climate change, tides, reservoir and upstream flows) and to a certain extent the potential for new invasive species from outside the BDCP area. Yet there is little discussion of biological influences or migrations from outside the BDCP area. A good example is longfin smelt, which has a baywide ecosystem distribution. Changes in flows may be very important in migrations into the BDCP area and the role of these smelt in other parts of the Delta. While the connectivity of the Delta ecosystem was not addressed for longfin smelt and other species, we note that the life cycle model for salmon does acknowledge the fact that salmon spend different portions of their life in different regions of the Delta, San Francisco Bay and Pacific Ocean systems, and are impacted by how long they spend in the Delta and the timing of migration through the Delta. This approach was not used for other species. Also, there has been little effort to translate biological changes in the BDCP area to downstream regions.</p>	<p>interactions. The REIR/SEIS included a more robust analysis of effects on areas downstream of the Delta to capture effects that may result from implementation of the alternatives. Additionally, the cumulative analysis assesses the effects of the alternatives combined with other past and reasonably foreseeable future projects.</p>
1448	154	<p>[From ATT 3]</p> <p>Qualitative Analyses:</p> <p>The impacts on fish are largely assessed based on qualitative analyses, including expert judgment. The relation of these analyses to the specific models presented in the Effects Analysis (Chapter 5 of the Draft BDCP) is not clear. The qualitative analyses seem to conclude that the negative impacts of construction and flow operations will be minimized through Adaptive Management of operations and that the other conservation measures (in CM2 -CM22) will be beneficial and largely make up for the negative impacts. Since the relative degree to which any conservation measure will increase/decrease the production of a given fish species is unknown, it is invalid to calculate net effects. This type of statement is invalid in a qualitative comparison because: 1) the relative degree of the negative and positive impacts is unknown, and 2) CM 1 and CM 2 -22 impacts may operate on different life stages of a species. Some life stages may be more critical than others (e.g. bottlenecks).</p> <p>The assessments of effects of each part of each conservation measure on fish and aquatic resources are qualitative, with considerable uncertainty in the conclusions reached. The methods used to assess net effects are drawn in part from DiGennaro et al. (2012). The relative importance of a BDCP attribute (or stressor) affecting each life stage of each of the covered species was assessed largely by expert judgment (on a scale of +4 to -4) during a workshop. Scores were based on importance (none = 0, very high = 4) and on the basis of the degree of change of that attribute caused by the Draft BDCP. These analyses could have been strengthened by:</p> <p>1. Conducting an independent assessment by a second group of scientists. Conclusions are</p>	<p>Regarding the validity of net effects conclusions, it is acknowledged that such conclusions are challenging to make in light of the uncertainty associated with the importance of different attributes to the various life stages of the covered species, and the uncertainty regarding the extent to which the BDCP will change these attributes. However, the analysis in the 2013 Public Draft did attempt to systematically document the assumptions and rationale for the importance and change because of BDCP associated with each attribute, so that the relative degree of positive and negative impacts could be assessed at a planning level; in so doing, the potential effects of CM1 and CM2-21 and the attributes that they may change were also considered, from the perspective of the different life stages of the different covered species. Comments received from the panel convened by the Delta Science Program early in 2014 have resulted in various revisions to the consideration of net effects, including the need to acknowledge that low certainty in either an attribute's importance or in the potential change to the attribute that could result from the BDCP would give low certainty in the BDCP's effect on the species from that attribute (rather than, for example, high certainty in attribute importance but low certainty in the change to the attribute caused by the BDCP, resulting in moderate certainty to the level of effect of the BDCP on the species because of the attribute). In addition, in response to the panel review, more acknowledgement has been added to recognize that many of the analyses represent working hypotheses of potential effects from BDCP actions, environmental attributes, and biological importance.</p> <p>While the BDCP is no longer the preferred alternative, independent review of the Biological Opinion for CWF is being conducted, which adds another opportunity for scientific input regarding the conclusions drawn.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>only as good as the expert judgment and without replication, uncertainty is high.</p> <p>2. Qualitative analyses should include and fully document assumptions. The analyses need to recognize that conclusions largely provide a mechanism for verbal description of potential effects and provide a hypothesis of effects rather than any predictive forecast.</p> <p>Net effects and the degree of certainty are tabulated for each attribute (e.g. Figure 5.5.1-5 for delta smelt and 5.5.3-4 for winter-run Chinook). Attempts to qualitatively balance positive and negative impacts (i.e. positive benefits compensate for negative impacts) are not valid because the relative strengths of these impacts are unknown. The authors need to fully recognize the uncertainties inherent in the DEIR/DEIS analysis rather than simply providing tables stating no net effect. Moreover, the net effects analysis is highly uncertain because the combined importance of all effects was a subjective analysis of the attribute scores. Another group of experts may reach a different conclusion.</p>	
1448	155	<p>[From ATT 3]</p> <p>Full life cycle considerations:</p> <p>For the covered species, each CM is often evaluated for each life stage of the species. It is often claimed that negative impacts of one CM and usually on one life stage can be offset by another CM that may be acting on another life stage. This type of analysis assumes full biological functionality and physical/ecological connectivity across the region and among the areas where CMs are being applied. Moreover, it assumes that all life stages are equally important. Consideration should have been given to what is currently restricting a species production and an acknowledgement that actions on that bottleneck are likely to have a higher impact than actions on other life stages. For example, if larval recruitment is a serious life-stage bottleneck, then it is not clear that any efforts to improve juvenile conditions will have population-level impacts. We recognize that it is difficult to make these kinds of assessments until after there is a better understanding of the complete life cycle and the operations of stressors. Yet this limitation or added uncertainty needs to be addressed, particularly when conclusions are being made about 'net effects'. The OBAN and IOS life-cycle models that focused exclusively on Chinook salmon do not do this and do not include most of the CMs. A number of other life cycle and bioenergetics models for other species were excluded from consideration. Some of these models (e.g., smelt) could be quantitative and apply to specific questions raised in the Draft BDCP.</p>	<p>The EIR/EIS uses the available methods and information to assess impacts, including applicable life cycle models. We agree that it is difficult to make these kinds of assessments until after there is a better understanding of the complete life cycle and the operations of stressors, and the Adaptive Management Program will be used to identify and reduce these uncertainties.</p> <p>For more information regarding Adaptive Management and Monitoring please see Master Response 33 and Chapter 3 of the FEIR/EIS.</p>
1448	156	<p>[From ATT 3]</p> <p>Adaptive Management:</p> <p>Several very specific Biological Goals or targets are defined in the Draft BDCP. For each species-level Biological Goal there is a variety of CMs that could contribute to that goal. Adaptive management is a key part of the overall Draft BDCP. However, given that a number of CMs apply to a number of species, there is no explanation of how adaptive management will be used to target the specific CM that is causing any changes observed for individual species. Research will need to be carefully designed to understand the causal relationships. There is no description of: (a) how individual targets or thresholds will be determined across time to trigger an action, (b) how much progress is needed to maintain a particular action, (c) how much negative change would need to be observed to effect a change in the CM, or (d) what would happen if results were mixed across species (i.e., some covered species</p>	<p>Refer to response to comment 1448- 63, regarding adaptive management and Master Response 33.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		received a positive benefit and others received a negative benefit).	
1448	157	<p>[From ATT 3]</p> <p>Uncertainty:</p> <p>The Delta is a physically, chemically and biologically complex ecosystem. There has been extensive research, monitoring and modeling for the Delta area but much remains unknown, particularly with respect to causal mechanisms. The ecosystem has also undergone major changes in hydrology and water flow, habitat structure, and biological composition, including a reduction in a number of species and massive invasions by others (e.g., clams). Much of this complexity and change has been captured in the various sections of the Draft BDCP as well as some of the individual species descriptions in Appendices to Chapter 11. In this context, the DEIR/DEIS analyses are designed to predict the nature of the changes that might occur over the next five decades due to construction and operations of a massive new water conveyance system in the Delta and a series of efforts to restore habitats and institute a number of other CMs [Conservation Measures]. All of this is done under major known or estimated (climate change, population increases) but also unknown (new invasive species or discovered causalities) changing environmental conditions. This is a daunting challenge.</p> <p>Ultimately, the question is whether and what sort of effect the combined Conservation Measures will have on key covered species and on the ecosystem as a whole. It is critical to be able to balance negative effects with positive effects. To a large degree, the relative impact of any one CM remains uncertain and 'conclusions' of net effects analyses could be better termed 'hypotheses'. There are uncertainties in causality, the analyses performed, the future unknowns and changes, or responses of other species and ecosystem components that are not considered, any or all of which could have indirect and unintended consequences.</p> <p>We recommend that this uncertainty and the many underlying assumptions be dealt with upfront, forcefully and directly. There is uncertainty throughout all of these discussions. Quantitative estimates of uncertainty are rare. Moreover, the handling of uncertainty seems inconsistent throughout. The uncertainty of the level of understanding of the factors limiting species production, model validity, and overall conclusions reached are more clearly acknowledged in the Draft BDCP than in the DEIR/DEIS. Sometimes the uncertainty in the data or models is used to outright eliminate the application of certain models (e.g., fish life cycle models). Other times the uncertainty in the output is stated as the conclusion (i.e., no conclusion can be drawn). Sometimes the uncertainty is mentioned, and yet other times the uncertainty is not mentioned at all. In general, the latter becomes more common as one moves from the Draft BDCP to the DEIR/DEIS details to the Summary parts of the chapter. Often the rollup summaries are not reflective of the uncertainty of the issues expressed in the body of the report. Rollup of conclusions tend to downplay uncertainties. A typical example of this is on page 11-18 "The effects of the restored habitat conditions (CM 2...CM 4...CM 5...CM 6...and CM 7...) would be beneficial for all covered species because there would be an increase in the amount of habitat as well as food production in, and export from, the restored areas". The certainty of this conclusion is not reflective of the uncertainty of the analyses.</p> <p>Table 11-1A-SUM2 is another example of the problem mentioned above. Data clearly show a relationship of outflow to splittail abundance and any reduction in that flow might have a negative impact. Although the DEIR/DEIS claims a positive impact from the Yolo Bypass, the</p>	<p>The Lead Agencies acknowledge that uncertainty is inherent in any planning effort of this geographic and temporal scale. However, DWR strived to use the best available science throughout the effects analysis, consistent with the requirements of the ESA. Additionally, the official public review process for the proposed project provides an opportunity for formal public comment on the proposed project and project alternatives. Public and agency comments on the public draft have led to further refinement of the proposed project, as evidenced in the RDEIR/SDEIS.</p> <p>Please refer to RDEIR/SDEIS Section 11.3.2, Methods of Analysis, for more information on the methodology, data, and assumptions used.</p> <p>Additionally, the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. Restoration would still occur under 4A in the form of environmental mitigation/commitments, but on a more limited scope than the conservation measures. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>Impact conclusions have been revised. Please see each individual resource area chapter in the Final EIR/EIS for more information regarding impact conclusions, its associated mitigation measures, and cumulative effects analysis.</p> <p>For more information regarding length of permit term in light of uncertainty please see Master Response 5.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>table itself shows the net effects of flows on splittail are not adverse, less than significant or even beneficial. These types of conclusions without precautionary notes about uncertainties or assumptions can be misleading.</p> <p>In addition, there are clearly many assumptions that are necessarily part of any such analyses. We suggest that the fundamental assumptions be succinctly stated up front in each section. Statements of assumptions allow a more logical evaluation of conclusions, and would provide a more balanced and understandable presentation of the methodology used.</p>	
1448	158	<p>[From ATT 3]</p> <p>Cumulative Effects:</p> <p>The analyses are targeted toward assessing impacts over a 50-year period. Yet, many of the effects on individual fish are evaluated at points in time, normally only for a year or for a particular life stage. It is possible that a low impact (positive or negative) of a few percent during a year can have a significant effect if accumulated (and compounded) over each year for 50 years, but it is not clear if this been incorporated into any of the biological models. The multiyear modeling of growth, reproduction and mortality of delta smelt is a good example of existing quantitative approaches that could be applied (Rose et al. 2013a 2013b). Simple bioenergetics models could have been used to assess effects of changes in temperature on fish growth rates.</p>	<p>Please see Master Response 9 regarding cumulative impact analysis. Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A would no longer pursue a 50-year permit. Alternative 4A contemplates ESA compliance through Section 7 of the ESA and Section 2081 of CESA, rather than through ESA Section 10 and NCCPA Section 2835. Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures.</p>
1448	159	<p>[From ATT 3]</p> <p>Temperature plays a key role in fish growth, reproduction, and physiology, and behavior is often very sensitive to even small changes in temperature. Although temperature was considered in the sturgeon analyses it is not clear that it was fully considered in other species, particularly for those where temperature might be near critical thresholds. Temperatures might be affected if changes in flow rates affect the degree of tidal intrusion or residence times of water in the system.</p>	<p>The effects of each alternative on water temperature are examined for each species in the Sacramento, Feather, American, and Stanislaus rivers and are reported throughout the Final EIR/EIS and Biological Assessment. Water temperatures were also evaluated in the Delta in the Biological Assessment although temperatures are in thermal equilibrium with air temperatures and are not affected by reservoir operations. Therefore, there were no effects of the project observed throughout the Delta. For tributaries in which temperatures were not analyzed (such as the Merced River or Clear Creek), the alternatives would not affect operations and flows and, therefore, a temperature analysis was unnecessary. For more information regarding modeling results please see Appendix 11C of the FEIR/EIS.</p>
1448	160	<p>[From ATT 3]</p> <p>Flows are considered important to many fish species, yet the causal relationships of fish abundances with flows remains enigmatic. Will research and monitoring (e.g., as part of the decision-tree analyses) include measures of other potential forcing factors such as water temperature, predation rates, suspended solids, salinity, and food densities?</p> <p>How were (or will) thresholds or tipping points be considered in the analyses or adaptive management programs?</p>	<p>Refer to response to comment 1448- 63, regarding adaptive management.</p>
1448	161	<p>[From ATT 3]</p> <p>There was very little discussion of the two invasive clam species which, according to the published literature, have had a huge impact on the ecological functioning of the Delta ecosystem (e.g. changes in chlorophyll levels, species compositions, Microcystis). Were they fully considered in the analyses of habitat restoration and potential new food sources? Clams may likely consume portions of any new food produced. They are a key ecological component of the ecosystem and should be specifically considered.</p>	<p>The potential for changes in habitat area for Potamocorbula was quantitatively assessed in the BDCP (see sections 5.F.3.3 and 5.F.6.3 [in particular 5.F.6.3.1] in Appendix 5.F), and qualitative acknowledgement of the potential for clam consumption of primary productivity was made during discussion of potential restoration benefits (e.g., see section 5.5.1.1 in Chapter 5 of the BDCP public draft, in particular pages 5.5.1-13 and 5.5.1-14, for discussion in relation to delta smelt). The potential for changes in habitat area for Potamocorbula have also been quantitatively assessed in the Biological Assessment</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	162	<p>[From ATT 3]</p> <p>Wherever possible, modeling should show 'bracketed results' or ranges of uncertainty.</p> <p>Propagation of errors in physical/hydrodynamic/hydrological models will be compounded when then applied to biological models as forcing functions.</p>	<p>CALSIM II is a prospective modeling tool, not a predictive model; and is used to compare alternatives, and not a predictive model to identify absolute values. Therefore, the FEIR/S impact analysis compares the results for conditions under all alternatives to conditions under the Existing Conditions and the No Action Alternative. The CALSIM II model results cannot be used to predict absolute values; therefore, identification of specific uncertainty ranges would not be appropriate. The FEIR/S analysis relies on the best available science, which meets regulatory standards for CEQA and NEPA. Please refer to Appendix 5A in the EIR/EIS for more information on the CALSIM modeling assumptions.</p>
1448	163	<p>[From ATT 3]</p> <p>Losses and gains of habitat:</p> <p>To simplify estimates of losses and gains in habitat, the chapter equates a species' habitat with one or more natural communities. This simplification weakens the link between habitat value and habitat losses and gains and contributes to uncertainty in the calculations.</p> <p>Timing of restoration:</p> <p>The chapter sets optimistic expectations about the time required to replace a mature habitat of slow-growing terrestrial species</p> <p>Restoration effectiveness:</p> <p>There is an implicit assumption that the projected habitat gains from restoration and protection needed to offset habitat losses associated with BDCP actions will be fully realized. Experience suggests that this is rarely the case.</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A. Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures.</p> <p>Please see Master Response 5 regarding effectiveness of habitat restoration and timing of restoration activities and the Final EIR/EIS Appendix 3G.</p>
1448	164	<p>[From ATT 3]</p> <p>Performance measures:</p> <p>The chapter lacks detailed metrics of desired ecological results of the various conservation measures, even as summaries derived from the Draft BDCP.</p> <p>Adaptive management and monitoring:</p> <p>Adaptive management is frequently mentioned as the solution if things do not work out as planned, yet few details are provided (these are in the Draft BDCP) and lessons from terrestrial habitat restorations that were managed adaptively are scarce or absent. Implementing the Draft BDCP will require extensive monitoring landward of the traditional coverage through the Interagency Ecological Program. The demands for monitoring may be underestimated (and therefore underfunded).</p> <p>Contingency plans:</p> <p>It is unlikely that all the actions and measures in the Draft BDCP will play out as planned. Beyond calling on adaptive management, there is little indication of any back-up plans if habitat restoration falls short because of funding, unwilling sellers, climate change, or other factors.</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input, and was introduced in the RDEIR/SDEIS, along with two other non-HCP alternatives, 5A and 2D. Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures. Refer to Chapter 12 for more details.</p> <p>Refer to response to letter 1448, comment 63, regarding adaptive management and Master Response 33.</p> <p>As stated in most of the conservation measures/environmental commitments, the contingency plan is that, if the conservation measure does not achieve its intended effect, the resources allocated to that measure may be repurposed to more effective conservation strategies. It is not clear that the issue admits of a more specific contingency. A restoration project, for example, might underperform for any of a broad array of reasons. Naturally the project would be designed to minimize the risk of failure for any of the known reasons, so failure would be most likely to occur because of an unknown reason. It is not apparent to us that the plan can describe how it will respond to a failure for an unknown reason, apart from invoking adaptive management as the primary means of addressing such challenges.</p> <p>Nonetheless, two modifications incorporate what might be called a "contingency" that involves an explicit adaptive management process. The proposed project (or CM1 under the BDCP alternatives) has been modified to more clearly explain the use of research, monitoring, and adaptive management. Environmental Commitment 4 (or CM4 under the BDCP alternatives) has been modified to initially focus tidal restoration in the north and west portions of the Plan Area, and to only begin tidal restoration in the South Delta when, via an adaptive management process, it has been established that such restoration would have a high probability of success.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	165	<p>[From ATT 3]</p> <p>Linkages among species or actions:</p> <p>In contrast with the Draft BDCP's emphasis on linking conservation measures in space and time, Chapter 12 mostly treats each species and each action independently of other species and actions.</p>	<p>This is an attachment to the comment letter otherwise addressed with specific comments related to the issues raised.</p>
1448	166	<p>[From ATT 3]</p> <p>Chapter 12 of the DEIR/DEIS, which addresses the potential impacts of Draft BDCP conservation measures on terrestrial biological resources, begins with an informative summary.</p> <p>Effects on natural communities, covered plant and animal species, and other species of concern are considered; most of the attention is focused on individual species. The general approach to gauging impacts, compensating actions, and mitigation for species is to: (1) use available information to construct a habitat suitability (HSI) model for the species; (2) use the model in combination with GIS to determine where available habitat occurs, weighted by habitat value; (3) overlay the areas that will be affected by various actions under the conservation measures to determine the loss of available habitat; (4) compare the amounts (and occasionally locations) of habitat to be restored or protected to determine whether they compensate for losses; (5) supplement with Avoidance and Minimization Measures (AMMs) and/or other specific management actions to enhance the value of restored or protected areas or reduce impacts; and (6) where necessary, implement additional Mitigation Measures to ensure sufficient habitat availability</p> <p>This is a logical approach. The analyses of impacts on natural communities and species from the conservation measures associated with the Alternatives are comprehensive and detailed. In most cases, the proposed habitat restoration will more than compensate for the losses associated with construction and operation. Where it falls short, additional actions are proposed. For example, loss of acres of vernal pool complex is estimated to be greater than replacement through protection and restoration in the near term. The difference is anticipated to be addressed through a variety of restrictions on activities or AMMs: "With these AMMs in place, Alternative 4 would not adversely affect vernal pool complex natural community in the near-term" (page 12- 2048; unless otherwise noted, all page references are to the DEIR/DEIS documents).</p> <p>Numerous AMMs and Mitigation Measures are proposed to supplement the habitat protection and restoration measures. In many cases, these involve conducting surveys to obtain additional information on distribution in the study area (e.g., Mitigation Measure BIO-55, page 12-2161), target and protect sensitive areas (e.g., Mitigation Measure BIO-75, page 12-2241), or evaluate the potential effectiveness of proposed conservation actions. For example, the loss of managed wetland habitat for shorebirds and waterfowl in Suisun Marsh would be mitigated by the protection or restoration of 5,000 acres of seasonal wetlands, assuming that: "1) existing managed seasonal wetlands on average in Suisun Marsh provide low biomass and low-quality food to wintering waterfowl and 2) protected seasonal wetlands can be managed to produce high biomass and high food quality. However, the food biomass and productivity in Suisun Marsh would need to be quantified in order to determine if the 5,000 acres was sufficient to avoid an adverse effect on wintering waterfowl in the Suisun Marsh, or if additional mitigation would be needed. Mitigation Measure BIO-179a, Conduct Food Studies and Monitoring for Wintering Waterfowl in Suisun</p>	<p>The commenter provides a summary of the content and analysis in Chapter 12. At the end of the comment the commenter notes that they have "several concerns with the treatment of terrestrial biological resources" but no additional detail is provided in the portion of the comment captured. Chapter 31 has been updated to reflect an accurate list of significant and unavoidable impacts across all chapters. For the terrestrial and biological resources addressed in Chapter 12, the preferred alternative, 4A, would result in no significant and unavoidable impacts. Please also note that a chapter-specific text and graphic summary have been added to all chapters of the Draft EIR/EIS to assist the reader in comparing the impacts between alternatives.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Marsh, would be available to address this adverse effect" (page 12-2561). Many of the AMMs or Mitigation Measures are quite detailed, evidencing sensitivity to the specific ecological requirements of the species</p> <p>Quality of Analysis:</p> <p>The amount of detail provided in Chapter 12 and its appendices is impressive. There are numerous instances in which the treatment of potential impacts and the measures proposed to counteract them are thoughtful and comprehensive. In some cases, the analysis delves into great detail about what might seem to be potentially minor effects. Concerns are raised, for example, about possible alterations of the photoperiod of sandhill cranes due to lighting at construction sites or on new roadways (page 12-2210). In other situations, however, little supporting detail is provided or the reader is referred to material in other chapters or in the Draft BDCP.</p> <p>Chapter conclusions:</p> <p>The overall conclusion of the chapter is that the only non-mitigable impacts of BDCP actions would potentially affect bank swallows, through disturbance and/or loss of breeding habitat, and giant garter snakes, through disruption of movement corridors by canal construction (for Alternatives 1B, 2B, and 6B) (see pages 12-3229 - 12-3243). Additionally, although sufficient conservation acreage would be provided by the conservation measures to offset near-term effects of Alternatives 1A, 2A, 3, 4, 5, 6A, 7, 8, and 9, "insufficient cultivated land would be protected (and enhanced) under Alternatives 1B, 1C, 2B, 2C, 6B and 6C to offset loss of habitat for species that use cultivated lands for foraging. Alkali seasonal wetland complex and vernal pool crustacean habitat (alkali seasonal wetland complex and/or vernal pool complex) would need to be restored and protected in addition to what is currently in the Plan under Alternatives 1C, 2C and 6C, as described in Mitigation Measures BIO-18, BIO-27, and BIO-32" (page 12D-39).</p> <p>Although an EIR/EIS is required to identify the "unavoidable significant environmental impacts" of a project pursuant to Section 15126.2(b) of the State CEQA Guidelines, the nonmitigable potential impacts of BDCP on bank swallows and giant garter snakes (or, indeed, on any terrestrial biological resources) are not included in the broader listing of impacts and mitigation measures in Chapter 31 (Table 31-1).</p> <p>Areas of concern:</p> <p>Finding what one needs to know to understand or evaluate a particular statement or conclusion in the DEIR/DEIS often involves a considerable amount of searching through thousands of pages, as well as delving into referenced (and non-referenced) material in the Draft BDCP itself. Based on our attempts to do this, we have several concerns with the treatment of terrestrial biological resources</p>	
1448	167	<p>[From ATT 3]</p> <p>Losses and gains of habitat:</p> <p>Assessing the potential impacts of Draft BDCP actions begins by determining how much (acreage) of a given habitat is lost or converted to something different-i.e., the "footprint" of the action. The loss is then offset by restoring or protecting an equivalent or greater</p>	<p>Regarding the habitat and HSI models, please refer to Section 12.3.2 of Chapter 12, Terrestrial Biological Resources, for a description of the methodology used in this chapter's analysis.</p> <p>Please note that in the RDEIR/SDEIS, the Lead Agencies added a new preferred alternative, Alternative 4A (California WaterFix). This alternative no longer includes an HCP or Conservation Measures. The proposed project, 4A, includes much less habitat restoration that would occur under Alternative 4. The restoration included in 4A is described in Chapter 12 and Chapter 3. Therefore, the majority of the content to which the</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>amount (acreage) of the lost habitat. The calculations in the DEIR/DEIS are therefore made in acreages. There is an implicit assumption that an acre lost can be replaced by an acre gained. The DEIR/DEIS discusses two approaches for dealing with cases in which the gains do not balance the losses. First, it is frequently proposed that the replacement habitat is of greater value. Second, the calculation of "mitigation ratios" (how many acres should be restored or protected to replace an acre lost) considers factors such as importance (value) of habitat to a species, species rarity, threat levels, and uncertainty about the effectiveness of restoration (see page 12D-3). Although this seems to be a reasonable approach to gauging mitigation efforts, it would be good to know how uncertainties of restoration effectiveness were assessed.</p> <p>"Habitat" for natural communities is determined by classifying communities into several types, which are then mapped. For species, "habitat" is defined through the development of habitat suitability (HSI) models. The results are then used to calculate potentially available habitat and what habitat might be lost or gained as a result of Draft BDCP actions. The details of the HSI models are not in the DEIR/DEIS but are provided in Chapter 2 of the Draft BDCP. These appear to be carefully done, making good use of available literature and unpublished information; Appendix 2A of the Draft BDCP discusses the assumptions and underlying rationales for each of the HSI models. The DEIR/DEIS correctly notes that the models "do not necessarily indicate with certainty that covered species would not occur in all areas not identified as habitat; but instead indicate that these areas have a much lower probability of species occurrence compared with areas identified as suitable habitat. Habitat suitability models are a tool used to estimate impacts to obtain a maximum allowable habitat loss. On-the-ground surveys, performed by professional biologists, will determine impacts during implementation" (page 2A-4). In other words, lots of monitoring!</p> <p>The specifications of habitat for a species derived from the HSI models are often quite detailed. In a listing of principles to guide the conservation strategy for aquatic species (Draft BDCP pages 3.2-5 to 3.2-7), the Draft BDCP correctly observed that "habitat should be defined from the perspective of a given species. Habitat is a species-based concept reflecting the physiological and life-history requirements of species. Habitat is not synonymous with vegetation type, land (water) cover type, or land (water) use type." Nonetheless, in calculating the habitat loss/gain functions that are the foundation of assessments of Draft BDCP impacts, habitat has been generalized to correspond with one (or more) of the natural community types. While this generalization was probably necessary to permit the analysis of habitat losses and gains using GIS analysis, much of the useful and important detail in the HSI models has been lost (although it reappears now and then in the Avoidance and Minimization Measures (AMMs) and Mitigation Measures for individual species). Thus, there is often an unspecified (but potentially large) uncertainty associated with the habitat loss/gain calculations.</p> <p>This uncertainty may be exacerbated by uncertainties in the distributional data that are used in concert with the habitat information to define where a species occurs, and therefore its vulnerability to the construction and restoration actions under different Alternatives. The distributional data (provided in a series of maps for the species considered) require several assumptions, most importantly that: (1) the distribution has been adequately surveyed, and (2) the distribution is stable. The distributional data come from a variety of sources over an unspecified time period (although the data sources may be given in some undisclosed location in the DEIR/DEIS or Plan). They are based largely on records in the California Natural Diversity Data Base (CNDDB). Because this is a presence-only database, confirmed absences (0 values) are ignored and can only be</p>	<p>commenter refers is no longer applicable to Alternative 4A. Overall, the analysis uses the most up-to-date and complete data available, such as occurrence information in the study area obtained from the CNDDB and surveys conducted for the Delta Habitat Conservation and Conveyance Program (Appendix 12C), which meets CEQA and NEPA requirements.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>inferred, compromising its value. The database is also incomplete. For example, CNDDDB contains only a partial download of records of bird distributions in the California Avian Data Center (CADC). This source of uncertainty is not acknowledged, nor are its potential consequences explored.</p> <p>Uncertainties in the distributional information may also affect the assessment of habitat "value." There is frequent mention of the expectation that restored or protected habitat will be of greater value than the habitat that is lost to Draft BDCP activities, so the amount of replacement acreage may actually underestimate the "functional" acreage available to a species. "Value" is determined based on recorded distribution and abundance in different vegetation cover types and/or species' ecology. For example, for the giant garter snake, "the modeled upland habitat is ranked as high-, moderate-, or low-value based on giant garter snake associations between vegetation and cover types (U.S. Fish and Wildlife Service 2012), historical and recent occurrence records (Appendix 12C, 2009 to 2011 Bay Delta Conservation Plan EIR/EIS Environmental Data Report), and presence of features necessary to fulfill the species' life cycle requirements"(page 12-2131).Although this approach is reasonable, it rests on the assumptions that: (1) current distribution reflects optimal habitat selection, (2) the distributions have been adequately surveyed and are not undergoing rapid changes, and (3) the restored habitat will actually be better than the habitat lost. There is a clear intent to manage for improved habitat, considering such factors as spatial heterogeneity and connectivity; to the extent that this is realized, the last assumption is probably valid, but it does rest on an accurate understanding of the habitat requirements of the species.</p> <p>Timing of habitat restoration:</p> <p>Habitat restoration is a complex and time-consuming process, The DEIR/DEIS recognizes this and devotes considerable attention to the timing of restoration efforts. In particular, plans are outlined to ensure that restoration is in phase with habitat loss, so that gaps in habitat availability to a species are minimized. Some restoration is scheduled to begin shortly after permitting of the BDCP, whereas conveyance operations will not begin for at least a decade (although construction of the intake facilities will begin soon after permitting). While this difference in phasing may help to ameliorate impacts of habitat loss for aquatic species, it will be less effective for terrestrial species and communities. For slow-growing flora, such as valley/foothill riparian woody vegetation (page 12-2015), or species that rely on mature habitats, such as black rails that occupy well-developed tidal wetlands (page 12-2165), or Swainson's hawks, white-tailed kites, Cooper's hawks, or ospreys, which require mature trees for nesting (page 12-2255), there may be a temporal mismatch between the loss of mature habitat components and restoration. It may take decades to redeem the lost value. For the latter species, "this time lag between impacts and restoration of habitat function would be minimized through specific requirements of AMM18 Swainson's Hawk and White-Tailed Kite, including transplanting mature trees in the near-term time period" (page 12-2255).</p> <p>For something like a hawk, however, "habitat" depends on much more than having a suitable tree for a nest. Transplanting mature trees is challenging enough; one cannot transplant an entire functioning mature riparian ecosystem. It is inevitable, therefore, that there will be a substantial gap between the loss of habitat for such species and the re-emergence of habitat that meets the full complement of a species' requirements. If this takes decades, population dynamics may be disrupted and local extirpation may follow. The analysis for the salt marsh harvest mouse, for example, warns that up to 20% of the species'</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>habitat in the Draft BDCP area may be affected, diminishing the population and reducing genetic diversity, "thereby putting the local population at risk of local extirpation due to random environmental fluctuations or catastrophic events. This effect is expected to be greatest if large amounts of habitat are removed at one time in Suisun Marsh and are not effectively restored for many years, and if there are no adjacent lands with salt marsh harvest mouse populations to recolonize restored areas" (page 12-2485). The expectations for restoration of mature habitats, even if supplemented by Mitigation Measures and AMMs, strike us as unrealistically optimistic</p> <p>Restoration effectiveness:</p> <p>For many natural communities and species, the effects of CM1 on species are to be mitigated by the creation of restored habitat of equal or greater value in Restoration Opportunity Areas. For natural grasslands, for example, the analysis of long-term effects for NEPA projects a loss of 2,947 acres by the end of the BDCP timeframe. The 2,000 acres of restoration associated with CM8 and the restoration of temporarily affected grassland required by AMM10 (431 acres for Alternative 4) would not totally replace the grassland acres lost. There would be a permanent loss of 516 acres of grassland in the BDCP area. However, "the combination of restoration, protection and enhancement of grassland associated with Alternative 4 would improve the habitat value of this community in the study area; there would not be an adverse effect on the grassland natural community" (page 12-2070).</p> <p>In this example, as elsewhere in this chapter, one has the impression that there is full confidence that the projected gains in habitat will in fact materialize. There may be considerable certainty about the losses, particularly those associated with construction activities, but there is far greater uncertainty about the mitigation. Will the restoration actually be done? Where will it be located ("somewhere in a Restoration Opportunity Area" leaves a lot of uncertainty)? Will funding be adequate? Will appropriate areas be obtained from willing sellers? Will the species and communities come? Will climate change and sea-level rise erase the restoration gains? These questions are not adequately addressed, and the consequences of failing to reach the restoration, protection, or mitigation goals are not considered (at least in this chapter). Simply referring to adaptive management as a way to deal with such uncertainties is not sufficient.</p> <p>One aspect of uncertainty that is addressed in this chapter (in Appendix 12D) is ecological feasibility: are suitable conditions present within specified conservation zones to implement the appropriate near-term conservation measures? Although the assessment explicitly excludes consideration of socio-economic or engineering aspects of feasibility, there is a comprehensive analysis of the presence of lands supporting required unprotected natural community acreage in specified conservation zones to support natural community protection, and of the presence of lands that meet suitability criteria, such as species range, soil type, land use, natural community, and land elevation to support restoration of natural communities or species habitat (page 12D-2). Appendix 12D is where one can find details about what goes into the determination of mitigation ratios, what principles will be used to guide the selection of areas for protection as part of the Draft BDCP reserve system, and what criteria might be used to judge the suitability of restoration sites. Although the treatment of these factors is generally excellent, the approach fails to consider how the spatial and temporal sequencing of restoration projects can influence their effectiveness in contributing to BDCP goals. Which sites are selected for restoration of habitats at one time may depend on which sites are already being restored and where they are. These</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		sequencing effects may be particularly important for projects associated with waterways, where flows connect places. Such considerations are mentioned in the chapter in connection with the intent to include connectivity among habitats as a factor in planning, but the implications are deeper than that.	
1448	168	<p>[From ATT 3]</p> <p>Impacts assessed:</p> <p>The anticipated outcomes of tidal marsh restoration under the Draft BDCP depend largely on whether new tidal marshes will survive the rise in sea level projected for the 21st century. Several of the Draft BDCP documents under review consider this question:</p> <ul style="list-style-type: none"> <li>* Draft BDCP Appendix 3B, "BDCP Tidal Habitat Evolution Assessment," presents results of modeling that simulates the fate of marshes at Suisun Bay and in the Delta during the next 50 years.</li> <li>* Draft BDCP Appendix 5E, "Habitat Restoration," refers to this modeling and, in three main places, provides background discussion (pages S.E-37, EA.4-18 in section E.A.4, and 5E.B-9). Included is a proposed strategy of getting new marshes established soon, before sea-level rise accelerates to the rates forecast for late in the 21st century (page 5E.B-7).</li> <li>* Draft BDCP Appendix 5.A.1, "Climate Change Implications for Natural Communities and Terrestrial Species," refers briefly to marsh accretion.</li> <li>* DEIR/DEIS Chapter 12 repeatedly mentions accretion without analyzing it to the level of detail in Appendices 3B and 5E.</li> </ul> <p>The background discussions include brief reviews of how marsh plants as well as suspended sediment can influence vertical accretion in tidal marshes. The references cited include recent journal articles about marsh accretion at the San Francisco Bay estuary (Callaway et al., 2011; Stralberg et al., 2011) and the best available measurements of below-ground productivity by <i>Schoenoplectus acutus</i>, the main bulrush among Delta tules (Miller and Fujii, 2010).</p> <p>Doubtful projections:</p> <p>The accretion estimates in Appendix 3B rely on simplified modeling for Suisun Marsh and on an optimistic assumption for the Delta.</p> <p>For accretion modeling at Suisun Marsh, Appendix 3B relies on a simplified method used by Orr et al. (2003). In this method, above- and below-ground contributions by marsh plants are assumed to raise the marsh surface by 1 mm per year, and the role of inorganic sediment is estimated from suspended-sediment concentrations. More recent models include specific factors for injected roots and rhizomes and for soil decomposition (Mudd et al., 2009; Kirwan et al., 2010; Kirwan et al., 2011; Fagherazzi et al., 2012; Takekawa et al., 2013). Such models do not appear to have been used in the Draft BDCP projections.</p> <p>For the Delta, Appendix 3B assumes that marsh accretion keeps pace with sea-level rise (page 7). The report goes on to qualify this assumption: "The ability of marshes to keep pace with higher rates of sea level rise is not yet well understood" (page 8).</p>	<p>Regarding sea level rise, please refer to Chapter 4, Action Area and Environmental Baseline, of the Biological Assessment for the California WaterFix. Additionally, the CALSIM and DSM2 modeling data used in development of the working draft biological assessment for the California WaterFix is now available upon request.</p> <p>In response to the comment on Chapter 12 of the EIR/EIS, please note that in the RDEIR/SDEIS, the Lead Agencies added a new preferred alternative, Alternative 4A (California Water Fix). This alternative no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. Instead of the 65,000 acres of tidal wetland restoration included under CM4 in the previous preferred alternative, Alternative 4, the new preferred alternative (4A) includes up to 295 acres of tidal natural communities restoration under Environmental Commitment 4. Nonetheless, both CM4 and EC4 have been designed to accommodate sea level rise, as described in Chapter 3, Description of the Alternatives. The transitional upland areas may accommodate sea level rise by evolving into tidal marsh plain if sea level rises as expected in the future.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Outdated references:</p> <p>The related reference lists cite no post-2011 reports about tidal-marsh accretion excepting, in Appendix 5B, a piece by a science journalist (Kintisch, 2013). A more timely assessment might have considered the accretion modeling cited above and its implications for 21st-century tidal marshes. Also directly relevant are recently published observations of modern accretion rates in San Francisco Bay estuary marshes (Callaway et al., 2012; Thome et al., 2013) and prior accretion rates in the Delta (Drexler et al., 2009; Drexler, 2011). Updated background on roles of inorganic sedimentation could cite recent reports on horizontal accretion (Gunnell et al., 2013) and coastal sediment starvation (Fagherazzi et al., 2013).</p>	
1448	169	<p>[From ATT 3]</p> <p>Performance measures:</p> <p>In view of the uncertainties that accompany many of the actions and responses that are part of the Draft BDCP, it is important to be asking continuously how well the goals and objectives are being met. Performance measures are essential. For the Draft BDCP as a whole, performance is gauged in terms of progress toward meeting the biological goals and objectives that are part of the overall conservation strategy. All mentions of performance measures in the DEIR/DEIS simply refer to these goals and objectives. In some instances, the accounts are quite detailed. For example, in the account for loggerhead shrike we are told: "Under CM11 Natural Communities Enhancement and Management, insect prey populations would be increased on protected lands, enhancing the foraging value of these natural communities (Objectives ASWNC2.4, VPNC2.5, and GNC2.4). Cultivated lands that provide habitat for covered and other native wildlife species would provide approximately 15,400 acres of potential high-value habitat for loggerhead shrike (Objective CLNC1.1). In addition, there is a commitment in the plan (Objective CLNC1.3) to maintain and protect small patches of trees and shrubs within cultivated lands that would maintain foraging perches and nesting habitat for the species. The establishment of 20- to 30-foot-wide hedgerows along field borders and roadsides within protected cultivated lands would also provide high-value nesting habitat for loggerhead shrike (Objective SH2.2). These Draft BDCP objectives represent performance standards for considering the effectiveness of conservation actions."(page 12-2428).</p> <p>Most species accounts in the DEIR/DEIS, however, make no mention of objectives or performance measures. Instead, the biological goals and objectives are presented in Chapter 3 of the Draft BDCP (Table 3.4). The biological goals and objectives are either performance-based (was an action undertaken?) or results-based (did it have the anticipated effects?). For terrestrial resources, the objectives are mostly performance-based (which are easier to measure); results-based objectives are more difficult to measure, but they are ultimately what the BDCP project is all about. Chapter 3 of the Draft BDCP includes lengthy tables and text listing the biological goals and objectives and describing the underlying rationale for each; the specific monitoring efforts for compliance effectiveness and the specific metrics that will be used to judge performance; the major sources of uncertainty associated with CMI; and research actions necessary to reduce the uncertainties (performance can also be judged on the basis of success in reducing the listed areas of uncertainty). These are all important details. Even though these details are included in the Draft BDCP, their absence from the DEIR/DEIS, even in a summary form, diminishes its comprehensibility and scientific value substantially.</p>	<p>Related to performance measures of habitat restoration please refer to Master Response 33, Adaptive Management, Biological Resources, Master Response 17 and Mitigation, Environmental Commitment, Avoidance and Minimization Measures, Master Response 22.</p> <p>Refer to response to comment 1448- 63, regarding adaptive management and Master Response 33.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1448	170	<p>[From ATT 3]</p> <p>Adaptive management and monitoring:</p> <p>In a well-planned undertaking such as the Draft BDCP, performance measures should provide a frequent assessment of whether actions are having the desired effects. This is the domain of adaptive management. Adaptive management is the key to the success of the BDCP project over its 50-year duration. The adaptive management approach and administrative organization are described in detail in the Draft BDCP (Chapter 3, Section 3.6, and Chapter 7). Yet, adaptive management receives an even more cursory treatment in the DEIR/DEIS than do performance measures. Adaptive management is mentioned frequently in the DEIR/DEIS with no details about how it might be implemented; rather, it is often presented as a panacea for all problems.</p> <p>Even so, there are numerous instances in which the elements of adaptive management are elaborated without the term being mentioned. For example, on page 12-2081, the amount of habitat restoration is adjusted depending on the rate at which habitat is lost (primarily through restoration of tidal wetland) and the timing of activities. Or on page 12-2233 it is proposed that if breeding occurrences of least Bell's vireo and yellow warbler are documented in the survey area, consideration will be given to control of nest parasites and predators to foster population persistence. These are good examples of adaptive management based on field monitoring, although they are not presented as such. We (Delta Stewardship Council) consider adaptive management in detail elsewhere in this review.</p> <p>Contingency plans:</p> <p>Monitoring and adaptive management are proposed to evaluate whether things are proceeding as planned. What if things do not go as planned? The history of ecological restoration tells one that restoration projects rarely result in exactly what is desired, when it is expected. Implementation of many of the AMMs (Avoidance and Minimization Measures) anticipates that various activities (e.g., construction, roads) will be able to be redirected or retimed to avoid or minimize potential impacts. There will inevitably be situations, however, in which the adjustments are not possible or incur too great a cost. What then? Given the complexity and the high stakes of many of the actions to be undertaken in Draft BDCP, it would seem prudent to have contingency plans at least generally outlined before discovering that things are not working. There is little mention of contingency plans in the event that a given action does not produce the desired results.</p>	<p>Refer to response to letter 1448, comment 63, regarding adaptive management.</p>
1448	171	<p>[From ATT 3]</p> <p>Linkages among species or actions:</p> <p>The Delta is a complex, interconnected place, in which what happens in one place at one time has cascading effects elsewhere at a later time. Correspondingly, the Draft BDCP undertaking is complex, with many things going on at different places and times, all linked together in different ways. The Draft BDCP and the DEIR/DEIS do not adequately acknowledge and consider these interconnections.</p> <p>Both the Draft BDCP and the DEIR/DEIS do recognize the need to connect places undergoing restoration or targeted for protection. Establishing connectivity among patches of habitat to facilitate movement of individuals is considered as part of the planning for many species. Landscape ecologists distinguish between "structural" connectivity (i.e., what is seen on a</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A (California WaterFix) has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A. Restoration would still occur under 4A on a more limited scope in the form of mitigation/environmental commitments.</p> <p>The FEIR/S impact analysis is organized, by design, to address each special status species independently. It is important to document whether the BDCP or California WaterFix actions, even those designed to recognize the interactions of various habitats and species, are capable of supporting the long-term survival of all species. Where individual conservation actions are designed to support interactions of species, these actions are addressed in each individual species discussion.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>map or a GIS image) and "functional" connectivity (i.e., how organisms actually use connections). The approach taken by Draft BDCP understandably relies on the former, in particular the patterns developed in the California Essential Connectivity Project. Without knowing the specific locations for habitat restoration within the broadly defined Restoration Opportunity Areas, however, it is difficult to evaluate how structural connectivity will be established in practice (although the intent is clearly there). Elements of functional connectivity might be incorporated into the planning by relying on the details of species' ecologies contained in the HSI models.</p> <p>Connections among actions may be even more important than connections among places. Actions taken to benefit one species may benefit or harm other species. Thus, "Riparian restoration in those more interior portions of Old and Middle Rivers that would be managed for riparian brush rabbit habitat have potential to benefit resident western pond turtles because riparian-adjacent grassland is an important habitat characteristic for the rabbit" (page 12-2154). However, "the restoration programs will increase primarily wetland and riparian natural communities by converting agricultural land or managed wetland. The special-status and common plants and wildlife that rely on wetland and riparian habitats for some stage of their life will benefit from these changes over time. Other species that rely on agricultural land and managed wetland, but do not benefit from wetland and riparian expansion, may decline in the study area" (page 12-3226). In other words, some (perhaps many) actions will entail tradeoffs.</p> <p>The importance of considering linkages among places and among actions is clearly stated in the conservation strategy of the Draft BDCP: "substantial benefits of the conservation strategy are derived from understanding interconnections between conservation measures across program elements, across the wide geography of the Delta, and across time. In short, the conservation strategy is intended to be greater than the sum of its parts"(Draft BDCP page 3.2-3; see also Draft BDCP pages 3.2-5 to 3.2-7).Aside from brief mentions (e.g., page 31-28 and following), however, the DEIR/DEIS fails to follow through on the intent of the conservation strategy, instead usually considering each species and each action independently of other species and actions. This may be necessary to comply with CEQA and NEPA formatting requirements, but that should not preclude a full consideration of interactions among species, habitats, and actions as well.</p>	
1448	172	<p>[From ATT 3]</p> <p>CHAPTER 13: LAND USE</p> <p>I. Overall Assessment:</p> <p>This appears to be a document that was prepared first as a way of scoping out the difficulties that lay ahead [with respect to] working with existing land use legislation more than as a document prepared for an EIR. It is surprising how little is actually uncovered, especially in any quantitative way, about anything. The chapter makes it very clear that the extensive habitat restoration plan in CMs 2-21 will inevitably conflict with land use regulations and be perceived as having negative impacts but that these will be addressed when specific locations are decided upon.</p> <p>II. Scope</p> <p>Every impact affects land use in some ways, there are other chapters on agriculture, recreation, socioeconomics, etc., so this chapter addresses how the project "bumps up</p>	<p>Please note that while the Draft EIR/EIS included an HCP with all alternatives, and only analyzed CM1 at a project level, the RDEIR/SDEIS and FEIR/S have included a new preferred alternative, 4A. Alternative 4A no longer includes an HCP or Conservation Measures. It has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>I-II. It is true that because specific locations for the implementation of many of the project's land-intensive actions are unknown at this point, there is some uncertainty about whether new land uses related to these environmental commitments or conservation measures would be incompatible with existing land uses. A conclusion about the compatibility of the alternatives with local land use regulations cannot be made. However, the restoration associated with many of the environmental commitments (under the proposed project, Alternative 4A) would be consistent with open space, and would generally be similar to the study area, which is predominantly consists of agricultural uses. Additionally, the environmental commitments and conservation measures were analyzed on a programmatic level.</p> <p>For more information on programmatic and project-level EIRs, please see Master Response 2.</p> <p>For more information regarding local plans, please see Master Response 11.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>against" federal, State, and local land use legislation, including the new Delta Plan. As such, it reads more like a layout of land use obstacles ahead than an actual analysis of land use impacts. This, of course, is because most of the land use impacts, beyond the tunnels themselves, are tied to CMs whose locations and operations are yet to be determined.</p> <p>III. Quality of Analysis</p> <p>Chapter section 13.1 provides an overview of existing land use by regions within the study area.</p> <p>Chapter section 13.2 includes a seemingly complete legal/planning review of land use regulations, including the regulations of the DPC Land Use and Resource Management Plan (LURMP) for the primary zone that became effective in November 2010. The text makes it clear that nothing in this law is applicable to State agencies such as DWR. Numerous additional planning efforts and their regulations including the Delta Plan are summarized</p> <p>Chapter section 13.3 addresses environmental consequences. Aerial techniques were used to determine existing land uses in the project areas, impacts were determined by thinking through how the project would conflict with land use objectives, or be incompatible with existing land uses, or would physically "divide" communities. The document then indicates that most of these issues are covered in the other chapters. It also reviews compatibility with the Delta Plan requirements (Table 13.1).</p> <p>Chapter section 13.3.3 identifies, for each Alternative, and sometimes by conservation measures, the potential acres where there are land use conflicts by city and county land use regulation categories, including possible mitigation measures. Analysis appears to have adequate consistency and thoroughness though everything is qualitative and the effects of CM2-21 are even more vague because their locations are not yet specified.</p> <p>Chapter section 13.4 includes the literature cited within the chapter and primarily consists of land use legislation and planning documents.</p>	
1448	173	[ATT 3: Att 6] Table 14-8 from DEIR/DEIS (condensed). Estimated Conversion of Important Farmland as a Result of Construction of Water Conveyance Facilities, by Alternative (Acres).	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.
1448	174	<p>[From ATT 3]</p> <p>This is mostly an acreage analysis, and omits most relevant economic analysis. Quite a bit of economic analysis capability is available for agricultural land and economic issues in the Delta, Yolo Bypass, and the Central Valley -- very little of it has been used in the DEIR/DEIS.</p>	Please refer to Section 16.3.1 regarding the methodology of the EIR/EIS Chapter 16 analyses, which explains which sections and topics are analyzed quantitatively and which are analyzed qualitatively, and why. The chapter includes quantitative estimates of changes in value of agricultural production, qualitative estimates of changes in production costs, and qualitative estimates of changes in value of agricultural facilities and investment. Furthermore, this type of analysis complies with CEQA and NEPA.
1448	175	<p>[From ATT 3]</p> <p>Flooding from island failures: It seems that the No-Action Alternative should include some estimation of the likely flooding of some additional subsided Delta islands. The repair of all failed islands is not what has happened in recent history. Further, there is likely to be additional waterlogging of soils in a few areas that will reduce agricultural activity on some deeply subsided islands.</p>	<p>Alternative 4A, the preferred alternative, would not result in an increase in exposure of people or structures to flooding due to construction of the conveyance facilities because the project proponents would be required to comply with USACE, CVFPB, and DWR requirements to avoid increased flood potential and levee failure due to construction and operation of the facilities.</p> <p>As discussed in Impact SW-8, tidal marsh habitat, and channel margin habitat that would be created under implementation of the Environmental Commitments could increase flood potential due to impacts on adjacent levees. The newly flooded areas would have larger wind fetch lengths (unobstructed distance which wind can travel over water and potentially develop large waves caused by wind force not tidal force) compared to the existing fetch lengths of the adjacent leveed channels. An increase in fetch length would</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>result in increases in wave height and velocities that reach the existing levees along adjacent islands and floodplains. These potential increases in wave action could also reach the land-side of the remaining existing levees around the restoration area. In accordance with existing requirements of the USACE, CVFPB, and DWR, Alternative 4A would be designed to avoid increased flood potential as compared to Existing Conditions or No Action Alternative.</p> <p>Section 14.1.1.3 of Chapter 14, Agriculture, discusses crop production interactions with soil subsidence. Mitigation Measure AG-1c: “Consideration of an Optional Agricultural Land Stewardship Approach or Conventional Mitigation Approach” would include measures to reduce impacts to agriculture related to subsidence. These include providing technical and financial assistance to stabilize or reverse land subsidence on Delta island and designating carbon sequestration and subsidence reversal crops as agricultural production for regulatory and incentive programs.</p>
1448	176	<p>[From ATT 3]</p> <p>Salinity comparisons: Salinity changes should also be compared with the No-Action Alternative, as well as existing conditions. This seems to be a more relevant comparison. To what degree do these changes in salinity fall during the crop irrigation season? What is the economic impact of these changes in salinity?</p>	<p>A complete discussion of salinity under the No Action Alternative is included in Chapter 8, Water Quality. The No Action Alternative (ELT) would result in a fewer number of days when interior and southern Bay-Delta WQCP compliance locations would exceed EC objectives or be out of compliance with the EC objectives (Appendix 8H, Electrical Conductivity). However, western Delta locations—Sacramento River at Emmaton (agricultural objective) and San Joaquin River at Jersey Point (fish and wildlife objective)—would experience an increased frequency of exceedance of EC objectives, where sea level rise and increased water demands would combine to cause increases in EC, relative to Existing Conditions. The relationship between soil and irrigation water salinity and crop production and the response of growers to these changes is described in Chapter 14, Agricultural Resources. Economic impacts are discussed in Chapter 16, Socioeconomics.</p>
1448	177	<p>[From ATT 3]</p> <p>Yolo Bypass inundation: For crop inundation in the Yolo Bypass, there is a nice study led by Richard Howitt quantifying these effects in general. This study is cited, but its results are not employed to give more precise economic impacts.</p>	<p>The analysis does cite the report but does not list the quantities because the location, size, and operation of CM2- CM21 are conceptual, so potential effects on the value of agricultural production are discussed qualitatively. Furthermore, the preferred alternative is now Alternative 4A, which does not include enhancement of the Yolo Bypass as part of the project.. Many of the actions that are part of the BDCP conservation strategy but not proposed to be implemented under Alternative 4A would continue to be pursued as part of existing but separate projects and programs associated with (1) the 2008 and 2009 USFWS and NMFS BiOps (e.g., Yolo Bypass improvements and habitat enhancements, 8,000 acres of tidal habitat restoration), (2) California EcoRestore, and (3) the 2014 California Water Action Plan. Those actions are separate from, and independent of, Alternative 4A.</p>
1448	178	<p>[From ATT 3]</p> <p>Estimation of land use and salinity effects on agricultural yields and revenues: Several Public Policy Institute of California studies have estimated agricultural land and economic losses from changes in the Delta using modeling for many individual Delta islands, including salinity effects. This work or similar modeling capability is not cited or employed. Far more quantitative economic and employment impact estimates can be made of the effects of changes on Delta agriculture, by county and even by island.</p>	<p>Section 16.2.2.4 of Chapter 16, Socioeconomics, discusses the Public Policy Institute of California (PPIC) reports. The PPIC report projected out future Delta economic conditions by estimating losses resulting from sea level rise, inundation of central Delta islands, and consideration for future economic benefits resulting from increased recreation opportunities. This FEIR/EIS, in contrast, has focused on quantifying economic benefits and costs resulting from constructing and operating water conveyance facilities and analyzed the economic consequences of implementing a long-term habitat restoration and preservation program. The analysis in this Final EIR/EIS fulfills CEQA and NEPA requirements.</p>
1448	179	<p>[From ATT 3]</p> <p>Waterlogging impacts and costs: It should be possible to have an estimate of the additional waterlogged area from seepage from the surface canal Alternatives, 1B, 2B, 6B. The relevant groundwater modeling results seem to appear in Chapter 7. Perhaps some of this land might be suitable for waterfowl habitat. Why are seepage impacts to agriculture not even roughly quantified? Modeling capability to make rough estimates is certainly available.</p>	<p>Seepage impacts on agricultural production would be reduced or eliminated under Alternatives 4A, 2D, and 5A because the water conveyance facilities would be primarily underground and restoration actions under CM 2 through CM 21 would not occur. In addition, the Lead Agencies have committed to installing seepage cutoff wall around surface construction sites which will further reduce seepage related impacts.</p> <p>As discussed in Section 7.3, Environmental Consequences, of Chapter 7, Groundwater, the potential for interaction between the canal alignments and the underlying aquifer system in the Delta Region was evaluated using a numerical model, Central Valley Hydrologic Model-Delta (CVHM-D), described in Section</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>7.3.1.2, Analysis of Groundwater Conditions Associated with Construction and Operations of Facilities in the Delta. The estimates of groundwater recharge (i.e., seepage) from the canals are described herein on a qualitative basis. This is because future canal seepage rates would be significantly influenced by the built-out design of the canal system. The design approaches being considered to control seepage along various reaches of the canal range from low permeability slurry walls, to passive drain systems, to groundwater interception wells. Each of these approaches would have different levels of effectiveness, and would therefore result in different rates of canal seepage.</p> <p>Please also note that the depth of the accumulated seepage may not be adequate for wetlands habitat, depending upon the location and soils characteristics.</p>
1448	180	<p>[From ATT 3]</p> <p>Losses from habitat conversion: Even though specific locations for habitat restoration have not been specified, it is still possible to come up with a reasonable range of likely agricultural and agricultural economic impacts. Several reasonable estimation methods are readily available.</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>Impact AG-3 and AG-4 do state the amount of habitat that would be restored under each alternative. For example, the proposed project, Alternative 4A, would restore &amp; protect up to approximately 15,836 acres of habitat. Additionally, analysis on the conservation measures and Environmental Commitments (under the non-HCP alternatives introduced in the RDEIR/SDEIS) are analyzed at a programmatic level of detail. Please see Master Response 2 regarding project level vs. program level.</p>
1448	181	<p>[From ATT 3]</p> <p>Mitigations: An interesting range of mitigations for loss of agricultural land is proposed.</p>	<p>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.</p>
1448	182	<p>[From ATT 3]</p> <p>An aspect of the recreational impacts not mentioned in this chapter that will be a consequence of all Draft BDCP Alternatives is covered in detail in Chapter 25, Public Health. This includes the increases in potential vectors of human and diseases, and especially of the biting nuisance caused by mosquitoes. For example, as stated elsewhere in the DEIR/DEIS, "Construction of the water conveyance facilities and water supply operations under all action Alternatives would result in an increase in sedimentation basins and solids lagoons. These new features could result in an increase in standing water, thereby potentially increasing vector breeding locations and vector-borne diseases in the study area" (page 25-34, lines 18-21). At individual construction sites near recreation sites or areas and in-river, construction would be primarily limited to June through October each year. This, of course, is the period of peak mosquito breeding and biting activity in the Delta. Moreover, the economic cost of nuisance mosquitoes is not discussed in either this chapter or in Chapter 25 of the DEIR/DEIS. Increases in mosquito populations will affect virtually all recreational activities in the Delta (e.g. fishing, camping, wildlife viewing, sightseeing), resulting in loss of recreational opportunities and increased human discomfort. Although there is a commitment to develop mosquito management plans elsewhere, Chapter 15 of the DEIR/DEIS should include this topic as a direct cost on recreational activities in the Delta.</p>	<p>As discussed in Chapter 25, Public Health, mosquitos and vector-borne diseases as a result of the construction and operations of the water conveyance facilities would be less than significant. Therefore, mosquito nuisance on recreation use is not addressed in EIR/EIS Chapter 15 Recreation. The EIR/EIS conforms to CEQA Guidelines, which require vector-borne diseases to be analyzed in the Public Health chapter of an EIR.</p>
1448	183	<p>[From ATT 3]</p> <p>Chapter 15 [of the DEIR/DEIS] needs to pay more explicit attention to the other Conservation Measures because a number of these have the potential to have direct positive or negative impacts on recreation. For example, CM17 (reduction of illegal harvest) would provide more fish for those who take fish legally. CM20 might help reduce invaders, which would help the ecosystem overall but might come at a cost to boaters who would</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. Impacts on recreation as a result of implementing CM 2 through CM 21 would be reduced or eliminated under Alternatives 4A, 2D, and 5A.</p> <p>Impacts REC-9 through REC-11 analyze the impacts from conservation measures, or Environmental</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>have to have their boats inspected. CM13 and CM15 are both intended to reduce the local densities of 'nonnative predators' on selected species. These predators may likely include (although not specifically identified) the striped bass and largemouth bass that support much of the recreational fishing. The review should discuss how the predator reduction effort might affect fishing per se or the fishers drawn to this area to fish.</p>	<p>Commitments under the non-HCP alternatives that were introduced in the RDEIR/SDEIS.</p>
1448	184	<p>[From ATT 3]</p> <p>CHAPTER 16: SOCIOECONOMICS</p> <p>I. Overall Assessment</p> <p>None of the findings is robust given the nature of the analysis, but neither are they unbelievable (beyond the number of hotels). None of the socio-economic effects seems to be linked to environmental impacts. It appears that where the Draft BDCP will be providing compensation for its effects on Delta communities, it will be based on better analyses at the time.</p> <p>II. Scope</p> <p>This chapter attempts to predict the socio-economic effects on local communities in the Delta from project construction and operation. It draws on, and in some sense completes, the socio-economics analyzed in the chapters on agriculture and recreation. While the descriptive material is largely on the Delta proper, much of the formal economic analysis is for the five-county Delta region, with some effort made to split off from the Delta portion. The chapter spans economic impacts of tunnel construction and maintenance estimated in dollars and the qualitative effects of the project on "small town feeling." Social impacts are not considered under CEQA but are under NEPA. How economic and social impacts might feedback on environmental impacts does not seem to have been considered.</p> <p>Because most of the data are for the five counties in the Delta, they are largely, or at least frequently, irrelevant. There are some data for individual cities within the Delta, and occasional reference to data that seem to be derived for the Delta itself. It is not always clear, however, which area the text is referring.</p> <p>Lastly, CMs 2-22 are not analyzed, though some unsubstantiated conjectures are made that they will have more serious impacts than the tunnel project and its operation</p> <p>III. Quality of Analysis</p> <p>This chapter is largely descriptive, with a fair amount of pretty irrelevant quantitative information about the five counties as a whole included. The efforts to portray recreation and agricultural economic activity are based on existing and projected conditions, but even data sources for existing conditions are not well specified, or even plausible. For example, on page 16-21 starting on line 13 [with respect to] recreation we read:</p> <p>There are 98 hotels in the Delta with a total of 5,036 rooms. In the five-county region, there are 406 hotel properties with a total of 33,402 rooms. Slightly less than a quarter of all hotels and roughly 15% of all rooms within the five-county region are in the Delta.</p> <p>These numbers are only plausible if West Sacramento and Stockton are included in the Delta. This would be fair, but much of the problem is that conventional models are inappropriate for describing the economy of scores of poorly connected islands with cities</p>	<p>I. The commenter is providing an overall description of the chapter in this section.</p> <p>II. As described in EIR/EIS of Chapter 16, Section 16.1, the Delta is located within portions of Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties and includes portions or all of the cities of Sacramento, Isleton, Elk Grove, West Sacramento, Rio Vista, Pittsburg, Antioch, Oakley, Brentwood, Stockton, Lathrop, Manteca, Tracy, and Lodi. The chapter describes impacts as a whole for the five-county region, unless otherwise noted in the analysis. Please refer to Section 16.3.2 for a description of the thresholds required by NEPA and CEQA, and how they differ. As the commenter notes, CEQA effects are only significant if socioeconomic effects result in physical effects on the environment. Section 16.3.1 describes the methods for analysis used in this chapter, including descriptions of the IMPLAN model.</p> <p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The Final EIR/EIS analyzes all alternatives, including Alternative 4A. CMs 2-21, or Environmental Commitments under the non-HCP alternatives are analyzed in Chapter 16 at a programmatic level in Impacts ECON-13-18.</p> <p>III. The description of 98 hotels in the Delta came from the reference cited, AECOM 2011. The paragraph has been updated to more clearly state the reference. Please refer to the Methods of Analysis section for a description of the methods used to conduct the analysis in Chapter 16, including IMPLAN.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>on their periphery, but cities better connected beyond the Delta than to the Delta. Much of the recreation and other data are ten years old or more. A private data provider (Claritas Marketplace) assembled data from the 2011 census supposedly so that it reflects the Delta, but how the data were assembled and transformed is not apparent. The numbers generally do not comport with casual observation.</p> <p>Derived data were then used in a standard, widely used, input-output software package called IMPLAN at the "five-county Delta Region" or "five-county region."</p> <p>IMPLAN includes (1) estimates of county-level final demands and final payments developed from government data; (2) a national average matrix of technical coefficients; (3) mathematical tools that help the user formulate a regional model; and (4) tools that allow the user to change data, conduct analyses, and generate reports.(page 16-43).</p>	
1448	185	<p>[From ATT 3]</p> <p>CHAPTER 21: ENERGY</p> <p>I. Overall Assessment</p> <p>The word "electricity" should replace every use of the word "energy" in this chapter. The reader should be reminded at the beginning of each section that this chapter also only deals with SWP and CVP electricity generation and use. Though short at 60+ pages, the chapter could be half its length by putting the purely descriptive material into an appendix. While the chapter shows that the electricity impacts are quite small, it makes surprisingly little reference to what the environmental impacts of changes in electricity use within CVP and SWP systems might be were the changes in electricity per chance larger.</p> <p>II. Scope</p> <p>This chapter evaluates the changes in the hydropower generation or energy usage associated with implementation of BDCP alternatives. Both the operations of CVP and SWP are considered. There is no mention of gravity feed. A change of energy consumption is expected due to both the construction as well as operation of BDCP facilities. An increase of energy usage is expected, which, if supplied by other sources, will have environmental (land use changes, greenhouse gas (GHG) and pollution generation) and economic consequences.</p> <p>The energy effects were evaluated under 2025 and 2065 conditions because of possible change of run off conditions and sea level rise due to climate change. Monthly TAF pumped at the north Delta intake for each BDCP alternative and No Action alternative were calculated using the CALSIM-II model, from which monthly and annual energy requirements were established for each case and were compared with existing energy usage. The upstream energy generation was assumed to be the same for BDCP baselines and alternatives since the upstream reservoir operations are largely controlled by natural runoff conditions; this is affected by climate change and inter-annual variability but not BDCP operational scenarios. The existing CVP and SWP pumping facilities at the south Delta are estimated to operate with a maximum monthly energy requirement greater than that estimated for BDCP, and hence increased use of existing pumping facilities is not considered of consequence for energy impact studies. The energy use for pumping at the proposed North Delta pumping plants and at the existing Delta and south of Delta pumping plants are</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>Chapter 21 describes the electrical energy generated at the CVP and SWP facilities and needed to deliver CVP and SWP exports. The DEIR/DEIS analysis also includes the energy (electrical and mechanical) needed to construct the new facilities. The energy used for earthmoving will require large construction equipment that predominantly uses diesel fuels.</p> <p>I. The Methods for Analysis section of the chapter clarifies that the chapter analyzes "electrical energy," and also describes the SWP and CVP electricity usage. The chapter adequately analyzes electricity usage to meet NEPA and CEQA requirements.</p> <p>II. Gravity flow has been included in the Methods for Analysis and Effects and Mitigation Approaches sections.</p> <p>III. As required by both CEQA and NEPA, the Environmental Setting must describe in detail the existing conditions and regulations. Therefore, this description will not be moved to an appendix. Uncertainty is discussed briefly in the chapter in Section 21.3.3, Effects and Mitigation Approaches. For alternatives that would not meet south of Delta water supply demands, alternative water sources for south of the Delta service areas could be accessed to supplement deliveries. New south of Delta surface water storage, groundwater pumping, and desalination plants could provide some of the necessary supplies but would create additional energy demands. While it is important to acknowledge this possibility, it is difficult to quantify and analyze the variety of supplemental water sources and the associated energy requirements in a meaningful way. The uncertainty around additional water supplies and their associated energy requirements would need to be addressed and analyzed on a case by case basis as they become feasible alternatives.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>evaluated for each of the BDCP alternatives.</p> <p>The chapter does not take a California or West Coast electrical systems view, only a California State and federal water systems view of electricity, and so it is not possible to assess any systemic implications with respect to increased use of gas-fired electricity generation, for example. No other type of energy use beyond electricity within the water system is considered. Thus, "Electricity Generation and Use within the SWP and CVP Systems" might be a better title for the chapter.</p> <p>III. Quality of Analysis</p> <p>Usage of Models, Inputs, Analysis and Uncertainties:</p> <p>The energy calculations used are straightforward, and conducted by multiplying the monthly-pumped thousand acre feet (TAF) by the energy requirement per water volume pumped (i.e., pumping energy factor - MWh/TAF), the latter being based on Bernoulli hydraulic head calculations and relevant efficiencies. The MWh/TAF was estimated by CALSIM-II for each alternative, and CALCIM-II is arguably the best available for Delta flow calculations within the current regulatory framework. The pumping energy factors for south of Delta CVP and SWP water deliveries are assumed to remain the same for each of the BDCP alternatives and baseline, but the energy use varies with the annual deliveries. All assumptions appear to be reasonably sound and justifiable. Uncertainty estimates are not given, however, although for this case some putative estimates are possible. The chapter includes an extensive description of the electricity generation and use in the SWP and CVP that should probably be moved to an Appendix.</p> <p>Summary, Possible Issues and Referencing:</p> <p>NEPA effects statements and CEQA conclusions are made for issues of major impact and a cumulative effects analysis is made. Essentially, the conclusion for each case is that there would be no adverse (NEPA) effect and that impact would be less than significant and no mitigation is required (CEQA conclusion). A concern with regard to these inferences is heavy reliance on CALSIM-II output, since significant uncertainties may seep in to calculations. The model does not take into account future climate change adaptation strategies that might be implemented and the model output is dependent on the regulatory setting for which the model is applied. If the model overestimates the energy requirements as stated in the DEIR/DEIS, then the conclusions will stand, but this is neither established in the DEIR/DEIS nor substantiated via proper referencing to existing literature. Overall, the methodology employed is sound and the calculation procedure represents sound engineering.</p>	
1448	186	<p>[From ATT 3]</p> <p>CHAPTER 22: AIR QUALITY AND GREENHOUSE GASES</p> <p>I. Overall Assessment</p> <p>The technical content of the chapter is of acceptable standards, but clarifications should be made in a revised version, especially with regard to ozone production and transport as well as including an analysis of greenhouse gas (GHG) fluxes from [CM 2-11]. The chapter has done an admirable job in identifying the air quality impacts of CM1 and identifying the Alternatives that are environmentally benign.</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Restoration would still occur under 4A in the form of environmental commitments, but on a more limited scope than the conservation measures. Alternative 4A has been developed in response to public and agency input. The Final EIR/EIS analyzes all alternatives, including Alternative 4A. In the new optimized Alternative 4A, construction would last 14 years.</p> <p>The chapter has been revised since release of the Draft EIR/EIS to address design changes associated with the new proposed project (4A, the California WaterFix), to incorporate the latest engineering assumptions and modeling procedures, and to respond to issues and concerns raised by the public. Where these design and engineering assumptions could result in substantive changes in other impact analyses, such revisions in other impact analyses have also been made since release of the Draft EIR/EIS. These parallel changes occur</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>II. Scope</p> <p>Chapter 22 addresses local and regional air quality impacts of criteria air pollutants and toxic air contaminants (TACs) emitted or generated during the construction and operation of Draft BDCP Alternatives. GHG emissions associated with the project are analyzed in relation to regulatory limits as well as control measures. The Draft BDCP could facilitate new growth and development in SWP and CVP Export Service Areas, and air quality associated impacts of such growth are addressed in Chapter 30. Climate change impacts on project Alternatives are discussed in Chapter 29. They all are in the category of controversial community issues (ES Chapter 7)</p> <p>The study area for air quality effects includes immediate surroundings of project activities, within 1000 feet of construction and operations. For GHG, the area is much broader due to the global nature of GHG forcing. Three (SVAB, SNAB, SFBAAB) of the fifteen California air basins are identified as important for the study. Each of the air basins is described with regard to geography, climatology, air pollution, and meteorology. Air pollutants are considered in the framework of EPA criteria pollutants (which are further classified in terms of regional and local pollutants) as well as TACs. Health impacts of pollutants are identified and assessed. The National Ambient Air Quality Standards (NAAQS), CAAQS, and CCAA are outlined, and the attainment status of the three air basins in point are listed (Table 22-3). It appears that violations of NAAQS and CAAQS are prevalent in the three air basins with regard to ozone and PM, to the extent that they are classified as non-attainment. Increased emissions can be regarded as adverse, and Draft BDCP proponents are expected to develop an Air Quality Mitigation Plan (AQMP) to ensure that regulations and recommended mitigation are incorporated into future conservation measures. The GHG emissions are discussed in relation to climate change, CEQA guidelines [Section] 15364.5, CEQA OPR Advisory, DWR climate action plan, and California Global Warming Solutions Act (AB 32). TACs in California are primarily controlled through the Tanner Air Toxics Act (AB 1807) and Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). Local laws may trump certain Federal and CEQA regulations</p> <p>Air pollutants and GHGs are generated during the construction phase as well as operation of the water conveyance facility [CM1]. In the former, the dominant emissions include those from mobile and stationary construction equipment exhaust, employee vehicle exhaust, dust from land clearing and earthmoving, electrical transmission, and concrete hatching from onsite plants. As such, this DEIR/DEIS assumes a particular schedule and phasing of activities, which are imperative for emission modeling (Appendix 22A).</p> <p>The potential air quality and GHG effects of CM1 and habitat conservation measures CM 2-22 have been analyzed, and the implications of CM1 on sensitive receptors associated within residential and recreational land use are evaluated quantitatively at the project level (within 1000 feet of the operations). The effects of CM2-22 are evaluated qualitatively at the program level. It is argued that it may be sufficient to consider only the air quality and GHG impacts of CM 2-11. Cumulative analyses are also presented.</p> <p>The three air basins cut across four air quality districts [YSAQMD, SMAQMD, BAAQMD, and SJVAPCD] that have different emission standards for criteria pollutants and TACs; de minimis threshold levels for each basin have been identified. Many of these districts are already either non-attainment areas or maintenance areas, so extra emissions can have significant impacts. The cases of construction and long term operations are analyzed separately for different (nine) Alternatives and nineteen potential impacts (AQ 1-19) are identified and</p>	<p>most notably in Chapter 19, Transportation, as well as those portions of Chapter 23, Noise, related to noise generated by vehicles and equipment associated with construction of water conveyance facilities. DWR prepared an updated economic analysis (2014 cost estimate) to evaluate these design changes. The 2014 cost estimate provides detailed information on equipment and vehicle activity (e.g., operating hours per day), as well as the start date and number of working days for each construction phase. The mass emissions analysis for Alternative 4, as found in the Draft EIR/EIS, was revised to utilize the 2014 cost estimate assumptions, which reflect the optimized design.</p> <p>The chapter has also been revised to explain better how both regional and localized changes in pollutant emissions associated with a project could impact human health. The revised analysis evaluates health effects from pollutants with the greatest potential to result in a significant, material impact on human health. Because health effects related to regional pollutants, such as ozone precursors (ROG and NOX), are the products of emissions generated by numerous sources throughout a region, minor increases in regional air pollution from project-generated ROG and NOX would have nominal or negligible impacts on human health. Consequently, potential health effects related to increases in ozone precursors are discussed with respect to cumulative air quality impacts.</p> <p>As improvements were made to the construction design, DWR similarly continued, following release of the Draft EIR/EIS, to refine operations and maintenance (O&amp;M) protocols for the water conveyance facilities. DWR developed updated equipment and employee O&amp;M assumptions to reflect the latest understanding of project operations. These new assumptions have been incorporated into the mass emissions modeling and operational air quality impact assessment. The analysis has also been revised to utilize on road emission factors generated by the EMFAC2014 model. The combined revisions ensure that the analysis utilizes the most recent engineering data and air quality modeling procedures. The updated modeling resulted in slightly higher mass emission estimates than those presented in the DEIR/EIS, but all impacts would remain less than significant.</p> <p>II. This section of the comment summarizes the scope of the analysis.</p> <p>(i) PM10 dispersion modeling is consistent with SMAQMD's Guide to Air Quality Assessment. Exceedances of the state and federal ambient air quality standards within the SMAQMD are a result of combined emissions from multiple mobile, stationary, area, and other sources throughout the basin. Determining the extent to which construction emissions generated by the project will contribute to incremental increases in ambient pollutant concentrations that would result in a violation of the NAAQS/CAAQS is beyond the scope of a project-level environmental document. Given this, SMAQMD has adopted CEQA thresholds to assist Lead Agencies in evaluating the potential for project-level emissions to worsen existing pollutant levels or contribute to new violations of the NAAQS/CAAQS. The SMAQMD has determined, based on existing and future ambient pollutant concentrations in the SVAB, that a "substantial" project-level PM10 contribution is considered an emission that is equal to or greater than 5% of a CAAQS. PM10 concentrations generated by the project in excess of 5% of the CAAQS could therefore contribute to "extra exceedance days" at a specific receptor location, although the exact number of exceedance is cannot be reasonably determined. As shown in Table 22-100, emissions under Alternative 4A (which would be the same as Alternative 4) would not exceed SMAQMD's regional thresholds of significance. Determining whether project related emissions would contribute to extra exceedance days is too speculative a comment to answer. Exceedance of either the California or federal ambient air quality standards is contingent on a number of factors which include actual meteorological conditions that are present when the emissions actually do occur in combination with other sources of emissions. The determination of exceedance of ambient air quality standards is also based on concentrations at air pollution monitoring stations. Air pollution generated by the project may or may not contribute to pollution monitored at these stations. Because of these factors, it would be overly speculative to address the project's potential to add to the number of days that would exceed ambient air</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>mitigation actions are proposed. The analysis is fraught by the need to comply with or consider a myriad of federal, state and local environmental standards. CEQA standards are more stringent than NEPA, and neither imposes thresholds for GHG.</p> <p>No-Action and Action Alternatives are considered in detail, using projections of future climate that include changes in temperature, precipitation, humidity, hydrology, and sea level rise. Some or all air quality districts are affected by the Alternatives. Given the uncertainty of pollution emissions in construction activities, the considerations are only qualitative for CM 2-11. In all, the emissions appear to contribute significantly to criteria pollutants during the construction phase but not in the operation phase. Mitigation actions are required and are proposed through a series of mechanisms such as fees and offset reduction programs.</p> <p>III. Quality of Analysis</p> <p>This chapter of the DEIR/DEIS has been done thoroughly and carefully, considering a myriad of sources and project Alternatives. The results are physically plausible, more so for the construction activities than the higher the air quality impacts, and they occur during the construction phase (nine years), impacting only selected counties. The air quality (AQ) impacts of long-term operation of conveyance facilities appear to be insignificant for all Draft BDCP Alternatives.</p> <p>Best available modeling systems have been used for AQ and GHG modeling. Emissions from heavy-duty equipment land disturbance were calculated using spreadsheets based on the methodology and default emission factors from the California Emissions Estimator Mod (CalEEMod). Emissions have been quantified for both 2025 and 2060 conditions. As expected, some of the data on personnel and equipment are unavailable. Many assumptions were needed to be made, and they are clearly stated in Appendix 22A. Best available input data from DWR, EPA, ARB and ICF are used, and all conceivable sources have been incorporated in developing inventories. The effects of the Alternatives on AQ, criteria pollutants, and GHG emissions from construction and operations were assessed and quantified using standard and accepted software tools, techniques, and emission factors. The models employed are EMFAC 2011 (for traffic), CalEEMod (maintenance), AERMOD and variants (air quality analysis), and AERSCREEN (DPMs, assuming worst case scenarios based on individual sources).</p> <p>The following comments are offered for further consideration:</p> <p>(i) SMAQMD requires dispersion modeling of construction generated PM10 emissions, which has been performed using AERMOD. The results are presented in Appendix C in terms of tables with numerous data points that are very difficult to interpret and frankly many readers would not care to read. It would have helped if the results were presented in graphical form. This is particularly important since PM10 background concentrations currently exceed CAAQS and comparisons between the No-Action Alternatives and Action Alternatives are important. How much do the construction activities increase PM concentration under various CM 1 Alternatives? Are they contributing to extra exceedance days? These are some questions that are important to answer. AERMOD is a source dispersion model and its capabilities are limited in the absence of well-defined mean winds, such as the case of Schultz eddy formation or summer days where slope flows may dominate in complex terrain.</p> <p>(ii) No model evaluations have been done using current or past data, and hence the results</p>	<p>quality standards.</p> <p>The maximum health risks and PM10 concentrations that would be observed at receptor locations are summarized in EIR/EIS Chapter 22, whereas results for all modeled receptors are provided in Appendix 22C. Project related localized air quality impacts are currently presented in tabular form which is a format acceptable to the local air pollution control districts.</p> <p>(ii) The dispersion modeling has been done in accordance with EPA and local air pollution control district guidelines. Data used for air pollutant dispersion modeling are based on historical weather data, emissions from the numerous air pollutant sources are based on CARB and EPA databases which were generated by past tailpipe source testing. The comment further states "If the models have not been evaluated for the area, some references would be helpful." The AERMOD dispersion model has not been evaluated for the project site specifically but has undergone validation studies. Air pollutant dispersion models provide location specific analyses through the use of local meteorological data as well as specific localized data on receptor and emission source locations.</p> <p>(iii) Ozone impacts were evaluated by quantifying emissions of reactive organic gases (ROG) and nitrogen oxides (NOx), which are precursors to the formation of ozone. Impacts AQ-1 through AQ-8 include a robust analysis of ROG and NOx emissions relative to adopted air district thresholds. Based on estimated emissions levels, the Final EIR/EIS concludes that construction could result in significant ozone impacts. However, Mitigation Measures AQ-1a and 1b, 3a and 3b, and 4a and 5b would offset NOx and/or ROG emissions for Alternative 4A. Accordingly, implementation of the project would have no effect on regional ozone formation as applicable ozone precursors would be offset to net zero with the area of effect. Additionally, as described above, the chapter has also been revised since the DEIR/S to explain better how both regional and localized changes in pollutant emissions associated with a project could impact human health.</p> <p>(iv). An analysis of ozone formation based on project-generated ozone precursors (e.g., ROG, NOx) would require regional photochemical modeling that is beyond the scope of a project-level environmental document. Because tropospheric ozone occurs from photochemical reactions, the local air quality pollution control districts (SJVAPCD, YSAQMD, SMAQMD, and BAAQMD) that have jurisdiction over pollutants produced within their respective air basins do not require an emissions inventory or dispersion modeling of ozone for individual projects. Potential impacts related to ozone are based on regional emissions of ozone precursors. Accordingly, local air quality management districts, including SMAQMD, YSAMQD, SJVAPCD, and BAAQMD, have adopted thresholds for NOx and/or ROG (ozone precursors) to assist Lead Agencies in evaluating potential regional ozone impacts from project-generated emissions. The air district thresholds have been adopted to prevent further deterioration of ambient air quality, which is influenced by emissions generated by all projects within a specific air basin and to a certain extent, projects in neighboring air basins (through pollutant transport). Violation of the air district thresholds for ROG and NOx can be used as an indicator of the potential for a project to worsen existing ozone levels or contribute to new violations of the NAAQS/CAAQS. Please refer to Impacts AQ-1 through AQ-8 for an analysis of construction and operational ozone emissions generated by the alternatives, relative to the appropriate air district thresholds for ROG and NOx.</p> <p>Text has been added to discuss the secondary formation of PM through chemical reactions involving SO2, NOx, and ROG. NOx and ROG are precursors to secondary PM formation, the air district significance thresholds for ROG and/or NOx are relevant to both ozone and secondary PM pollution problems. Based on guidance from the Sacramento Metropolitan Air Quality Management District (SMAQMD), the impact analysis has been expanded to indicate that violations of the ROG and/or NOx thresholds could contribute to significant secondary PM formation. Mitigation Measures AQ-2 through AQ-4 have also been identified as available to address secondary PM impacts.</p> <p>Similar to ROG and NOx, local air districts have adopted thresholds to assist Lead Agencies in evaluating</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>have large uncertainties. If the models have been evaluated for the area, some references would be helpful.</p> <p>(iii) It is curious why the ozone issue has not been addressed although there have been lengthy discussions in the introductory sections on ozone and its health impacts. Table 22.3 shows that there are substantial numbers of ozone 'exceedance' days and the areas concerned are in non-attainment. Conversely, CO and NOx thresholds are rarely exceeded but the discussions and analyses of them are extensive. Perhaps it is assumed that control over precursor emissions may reduce the chemical products, but this needs to be justified and illustrated quantitatively.</p> <p>(iv) The suite of models used does not include any photochemical models, and hence the formation of secondary pollutants (e.g., additional PM2.5) is excluded. In the project area, there is considerable land area with agriculture, and hence secondary pollutants can be important. A statement of the reason for exclusion (mainly comes from possible growth in agriculture) is in order.</p> <p>(v) Prolonged and tortuous discussion of federal, state, county, and local standards, guidelines, and recommendations as well as discussions on modeling made reading this chapter very difficult. Some of the boiler plate material on criteria pollutions and their impacts may be removed (or relegated to an appendix), paving way to a more clear flow of essential material.</p> <p>(vi) Fundamentals of global warming are described at length in the Chapter, but some of the discussion is redundant and others would fit better in Chapter 29.</p>	<p>project-level PM impacts. These thresholds have been developed based on regional atmospheric modeling, considering existing and reasonably foreseeable growth in the local air basin. Moreover, the threshold levels are well-established in terms of existing regulations as promoting review of emissions sources to prevent the cumulative deterioration of air quality from primary and secondary pollutants. The potential for pollutant transport among air basins is briefly described in Section 22.1.1.</p> <p>(v) Readers may review Chapter 29, Climate Change, and information is also provided in Chapter 22, Air Quality, to ensure readers have sufficient context for the quantitative emissions analysis presented in Impacts AQ-15 and AQ-16.</p> <p>(vi) GHG emissions were calculated using assessment methods accepted by the local air pollution control districts. Potential climate change impacts are not assessed on a localized perspective because there are no direct health impacts for GHGs as there may be for criteria pollutants. As such, project related GHGs were evaluated based on evaluation criteria established by the local air pollution control districts.</p>
1448	187	<p>[From ATT 3]</p> <p>CHAPTER 23: NOISE</p> <p>I. Overall Assessment</p> <p>In all, the section on noise pollution in the DEIS/DEIR is rigorous and extensive, and some further considerations are in order to account for possible noise refraction at night. Given uncertainties, most of the inferences are qualitative, and are expressed in terms of impacts on the overall Draft BCDP Plan area rather than those over individual counties, communities, and cities that may have their own noise standards. Given the overall inference that the project may have adverse noise consequences (NEPA conclusions) and that the cumulative noise impact is considerable (CEQA conclusions), the Noise Abatement Plan (Appendix 3B) based on BMPs needs to be carefully designed and executed. Suggestions for improvement of this chapter include an earlier termination of trucking and construction activities, initiation of noise monitoring at specific construction sites along with seasonal monitoring, focusing on the mitigation of noise from the long-term operations related to conveyance facilities, including terrain and buildings in models, and changing the accepted background noise condition of 40 dBA.</p> <p>II. Scope</p> <p>This chapter identifies potential impacts of construction (short-term), maintenance, repair, and operational (long-term) noise related to existing conveyance facilities and conservation measures as well as Draft BDCP Alternatives of the conveyance components CM I and conservation measures CM 2-CM22. The No-Action Alternative does not significantly change</p>	<p>Regarding long-term operation limits, this is in fact what Mitigation Measure NOI-3 states.</p> <p>Regarding the modeling, the specific attenuation effects associated with terrain and structures are highly site-specific and as a practical matter are not typically evaluated in an assessment such as this. The analysis presented is conservative in that it assumes that there is no additional attenuation from terrain and structures. Atmospheric effects on sound transmission associated with wind and boundary layer effects (i.e. temperature inversions) are highly complex and dependent on many factors. A receiver that is downwind from a noise source may potentially receive a higher sound level than under calm conditions. Similarly a receiver located upwind from a source may receive a lower sound level than under calm conditions. Temperature inversions can in some cases cause sound to travel farther than under non-inversion conditions. The effects of wind and inversions sound transmission are highly variable and may or may not occur at any given location. Standard practice for an analysis such as this is make an assumption that on average over a year the net effects of wind and temperature inversions are negligible relative to primary effects of geometric attenuation.</p> <p>Regarding a noise abatement plan, Appendix 3B states “DWR and contractors hired to construct any conveyance components of the project will implement a site-specific noise abatement plan to avoid or reduce potential construction-, maintenance-, and operation-related noise impacts.” This section also includes environmental commitments to reduce noise levels where exceedances are anticipated to occur. Monitoring is included as an option among the commitments in regards to potential nighttime noise impacts.</p> <p>Atmospheric effects on sound transmission are highly variable and on average are considered negligible. Earlier termination of trucking and construction activities or selecting alternate conveyance sites based on atmospheric effects is not considered warranted.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the noise levels, and status quo is expected to continue, unless in the event of catastrophic events such as levee failures. On the other hand, Draft BDCP Alternatives appear to have a significant impact due to new construction, operations, sensitive land use, worker-exposure and transportation-scenario changes. A comprehensive assessment of impacts and mitigation measures is proposed and analyzed for Draft BDCP Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, 5, 6A, 6B, 6C, 7, 8 and 9 for specific operational scenarios, followed by a cumulative analysis of noise and vibration impacts.</p> <p>The goal was to consider the area encompassed by the Draft BDCP and areas of Additional Analysis ([Section] 4.2.1.1), but the DEIR/DEIS excludes the SWP and CVP Export Service Areas Region. Considering the localized nature of the sound and vibration effects, this assumption is justified. Existing environment is taken to be typical of a quiet rural setting. The potential noise effects due to growth inducement are addressed in Chapter 30. Chapter 23 gives a good overview of different measures of specifying environmental acoustic effects, including the daytime-nighttime noise levels (DNL, from 10 p.m. to 7 a.m.) and California Community Noise Equivalent level (CNEL, specific to 7-10 p.m.). The issues identified are ground-borne vibrations as well as noise propagation through the atmosphere.</p> <p>The regulatory framework includes both Federal and State. The former does not have regulatory limits for noise, but recommends limitations for specific sources such as trucks, trains and aviation (e.g., FHWA, OSHA, FRA, FTA) as well as guidance for Aquatic and Biological Resources (Chapter 11) and Terrestrial Biological Resources (Chapter 12). The California Noise Control act requires the Office of Noise Control to work with communities in developing local noise control programs based on best management practices, which is addressed well in this chapter. The procedure involves analysis and quantification of current and projected noise sources. DWR and USFWS provide guidelines for installing sound walls to shield project activities, and the decision is centered on the increase of (A- weighted) sound levels relative to a threshold of 60 dBA. In the backdrop of such an extensive but voluntary regulatory fabric, this DEIS/DEIR has done a thorough job of identifying existing noise levels in each potentially affected jurisdiction (which is also the NEPA/CEQA baseline) and assigning specific noise sources associated with the project. For the analysis purposes, a 40dBA level is assumed as the background, which is a reasonable value considering that most project activities are taking place in rural areas.</p> <p>Major sources considered are the traffic noise, ground-borne vibrations and noise from construction machinery. The estimated peak hour construction generated traffic is based on Appendix 19A, the Construction Traffic Impact Analysis Report. No-Action Alternatives, no project Alternatives, and cumulative impact condition are well covered (e.g., see Table 23-15). Local and county noise restrictions are well laid out, and potential environmental impacts of noise pollution are well articulated.</p> <p>The DEIR/DEIS identifies mitigation measures to remediate for significant impacts. Some of the aspects covered are: ground-borne vibration levels [VdB level) due to operation of heavy drilling and excavation equipment, noise exacerbation due to surface construction equipment, deliveries and worker commutes, and earth moving activities at off-site burrows and spill areas. Effects analyses included noise exposure of communities as well workers at conveyance facilities. Detailed discussions are given on activities that have the potential to exacerbate noise, such as construction of intakes, tunnels, forebays, barge unloading facilities, pumping stations, conveyance facilities, and transmission lines, with a focus on</p>	<p>Regarding noise monitoring, given how impact thresholds have been conservatively established for this assessment additional monitoring of ambient sound levels would not improve the accuracy of the assessment or change the impact conclusions. Additional monitoring is not considered warranted.</p> <p>Regarding construction mitigation, the fact that it may not be possible to mitigate construction noise impacts in all situations has no bearing on how noise from long term operations are evaluated. Operational noise has in fact been evaluated relative to the time of day with an impact threshold that is reduced at night. Refer to the response above regarding atmospheric effects.</p> <p>Regarding the TNM model, the fact that the noise-reducing effects of terrain and buildings have not been specifically considered means that the analysis is conservative and reveals all potential impacts. An incorrect assumption about attenuation from terrain and buildings could result in an impact being understated or not identified. TNM levels do not account for terrain or building shielding; however, as levels are calculated at a distance of 100 feet from roads, this is reasonably conservative.</p> <p>Regarding construction activities close to freeways or cities, none of the project alternatives pass through a city or near a freeway. The assumptions and the impact assessment approach are considered reasonable given the rural nature of the project setting.</p> <p>The 40 dBA existing ambient is used to characterize rural setting for many locations within the project area. The goal of mitigation is to reduce levels to below the thresholds of 60 dBA daytime/ 50 dBA nighttime. Note that although noise levels of up to 60 dBA would still be higher than the existing level of 40 dBA, a noise level of 60 dBA Ldn (equivalent to threshold of 60 dBA daytime/50 dBA nighttime) would be considered “normally acceptable” under State General Plan guidelines.</p> <p>To reduce the potential for evening and nighttime annoyance, pile driving is limited to the hours of 7 a.m. to 7 p.m. – this is among the environmental commitments for the project. In general haul traffic would be active during daytime hours.</p> <p>The analysis acknowledges that noise and vibration impacts are significant and unavoidable, though mitigation measures presented in EIR/EIS Chapter 23 Noise as well as environmental commitments will reduce the effect.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>daytime, evening, and nighttime operations. The difficulty of the analysis is clearly recognized, in that the types of equipment, times of operation, and the period of usage are difficult to predict as are the periods of operation of different noise sources. As such, conservative, worst-case estimates are considered where all equipment is assumed to be operating simultaneously. In most cases, the noise is identified to produce significant effects, and thus implementation of best noise-reduction practices as well as working with communities of noise-sensitive lands are recommended to realize levels of less than 60 dBA (this is not a regulatory limit but the consensus of experts followed by USFWS). The analysis also takes into account that there are no Federal or CEQA guidelines for vibrations with regard to tunnel and conveyance facility construction, and hence reasonable methods need to be used for the effects analysis. Long-term operation of conveyance facilities should consider operations during daytime (7 a.m. to 10 p.m., recommended limit &lt; 50 dBA) and nighttime (10 p.m. to 7 a.m., &lt; 45 dBA) hours.</p> <p>Conversely, the FHWA and FTA have developed methods to evaluate construction noise, which is used in this chapter, although the FHWA does not recommend specific limits for dBA. Rules of thumb commonly used for DWR projects based on the State of California protocols have been used in the analysis of Draft BDCP Alternatives and in recommending mitigation measures (e.g., construction of noise barriers). The No Action Alternative includes continued implementation of SWP/CVP until 2060 and hence the effects are similar to that of the present day.</p> <p>III. Quality of Analysis</p> <p>Almost all cited literature is from reports and websites, but given the laborious nature and complexity of the analysis, the coverage is acceptable. Standard noise assessment models are used, and potential (temporary) construction noise levels were assessed using the methodology developed by FTA (2006), assuming usage of standard construction machinery and associated noise levels and exposure. The Traffic Noise Modeling Lookup (TNM) model of FHWA was employed to estimate average noise levels at fixed distances from the roadway centerline based on estimated traffic volumes, types and densities. The model was programmed to produce a conservative, worst-hour estimate of traffic-generated noise levels due to heavy truck and increased commuter trips associated with construction of project and program components (Chapter 3). Some of the key aspects excluded in modeling that will have serious impacts on the project are the nocturnal atmospheric boundary layer effects and the influence of terrain and built up areas.</p> <p>The following comments are offered for further consideration:</p> <p>* A Noise Abatement Plan (Appendix 3B, Environmental Commitments) will be in place during construction to avoid or minimize adverse effects. In this construction plan, the contractors are required to limit off-site trucking activities (e.g., deliveries, export of materials, etc.) to 6:00 a.m. to 10:00 p.m. to minimize impacts to nearby residences. Recent studies, however, show that in the evening period, after the atmospheric stable stratification develops (Ovenden et al., J Acous. Soc. Am., 232, 1124-1237), nearby communities become more vulnerable to excessive noise levels because of downward refraction of sound waves. An earlier termination of trucking and construction activities should be considered. This is also applicable for selecting noise-sensitive land sites for siting conveyance facilities.</p> <p>* Noise monitoring at specific locations of construction has not been mentioned in the DEIR/DEIS, but is recommended considering that in-situ monitoring levels can be much</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>different than the general levels given in chapter section 23.1. Monitoring of noise during different seasons ought to be considered, considering seasonal sensitivity.</p> <p>* Mitigation of noise to an acceptable level may not possible in some cases, especially during construction. Thus, more attention should be paid to long-term operations, reckoning for which can be done for different times of the day and for different climatological conditions.</p> <p>* The TNM Model does not take into account the terrain and buildings, and hence noise estimates must be treated with caution when clusters of buildings and above/below grade roadways are present</p> <p>For construction activities in areas close to freeway or cities, the assumed background condition of 40 dBA is unacceptable</p>	
1448	188	<p>[From ATT 3]</p> <p>CHAPTER 25: PUBLIC HEALTH</p> <p>Potential toxicity of certain algal species:</p> <p>Potential toxicity of Microcystis, a genus of freshwater blue-green algae that can form cyanobacterial blooms, is a problem of both public health and ecological concern in the Delta. There is a large discrepancy in coverage of this topic in the Draft BDCP and the DEIR/DEIS. In general, Microcystis is mentioned infrequently and without detail in the DEIR/DEIS. Moreover, a qualitative analysis of the effects of Microcystis described in the DEIR/DEIS indicates that in the majority of cases, neither the public health nor the ecological consequences is even mentioned. In contrast, in the Draft BDCP, there is detailed coverage of this topic, and in the majority of cases the potential effects are highlighted. Most of the mentions (&gt;10% of those found) of Microcystis in the DEIR/DEIS are in the appendices, whereas &gt;30% in the Draft BDCP are in the text. This discrepancy in coverage is a major shortcoming in terms of effectively evaluating effects of the Alternatives and the conservation measures in this chapter in the DEIR/DEIS (as in other chapters as well). Moreover, in the Effects Analysis review presentation held on 28 January 2014, the issue of algal blooms was identified as a major potential impact in the Delta.</p>	<p>A discussion of Microcystis has been included in the RDEIR/SDIES and Final EIR/EIS and can be found in Chapter 8 Water Quality, Chapter 25 Public Health and Chapter 28 Environmental Justice. Please also see Master Response 14 regarding water quality.</p>
1448	189	<p>[From ATT 3]</p> <p>Biomagnification of toxic substances:</p> <p>In terms of the discussion on Biomagnification of Fish and Shellfish (page 25-8), the presentation of recommendations in a summary Table (Table 25-2. Advisories for Consumption of Fish and Invertebrate Species/Guilds for Each Waterway) seems to be an inadequate way of dealing with this problem of public health concern. Are these advisories on fish and shellfish consumption the only solution when biomagnification of toxics is acknowledged as a potential problem? Moreover, biomagnification is related to issues of environmental justice, in that people with lower income levels are likely to eat more fish and shellfish in the Delta region. Therefore, the biomagnification issue should be also discussed in Chapter 28.</p> <p>There is an extensive discussion of electromagnetic field (EMF) impacts: (page 25-22, lines 39-43). However, there is also the statement that "There has been extensive research done</p>	<p>The bioaccumulation model used for predicting mercury concentrations in fish provides an evaluation of the potential for the action alternatives to affect concentrations of mercury in Delta water and potential for bioaccumulation in fish. The most common way in which people in the U.S. are exposed to mercury is through fish consumption. Therefore, the risks from mercury in fish and shellfish depend on the amount of fish and shellfish eaten and the levels of mercury in the fish and shellfish. Fish consumption advisories are issued by the U.S. Food and Drug Administration, the U.S. Environmental Protection Agency, and, in the state of California, the California Office of Environmental Health Hazard Assessment, to help protect public health, as indicated in the environmental setting and impact analysis contained in EIR/EIS Chapter 25. Further, implementation of CM12 Methylmercury Management (or Environmental Commitment 12 under Alternative 4A), would help minimize the risk for public exposure to methylmercury because it provides for project-specific mercury management plans including a quality assurance/quality control (QA/QC) program, and specific tidal habitat restoration design elements to reduce the potential for methylation of mercury and its bioavailability in habitat restoration areas. Details on CM 12/EC 12 are provided in EIR/EIS Chapter 3 Description of Alternatives and in Chapter 4 of the BDCP. EIR/EIS Chapter 28 Environmental Justice, also discusses addresses the issue of the risk of increased consumption of</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>over the past 20 years on the relationship of EMF exposure and human health risks. To date, the potential health risk caused by EMF exposure remains unknown and inconclusive. Two national research organizations (the National Research Council and the National Institute of Health) have concluded that there is no strong evidence showing that EMF exposures pose a health risk." If the perceived danger represents scientific misunderstanding on the part of some of the public, why isn't more attention in the document directed at correcting this misinformation by providing additional evidence and up-to-date information?</p>	<p>mercury-laden fish by minority populations.</p> <p>Potential health concerns related to EMF exposure in general are discussed in EIR/EIS Chapter 25 Public Health, Section 25.1.1.5. The impact analysis concludes that the potential health risk from EMF exposure is unknown because over the past 20 years some scientific studies have shown associations between cancers and EMF exposure while others have been less conclusive. Some studies have shown an association between EMF exposure and increased risks of leukemia, brain cancer, and amyotrophic lateral sclerosis; however, the National Research Council and the National Institute of Health have concluded that there is no strong evidence showing that EMF exposures pose a health risk.</p>
1448	190	<p>[From ATT 3]</p> <p>Vector Control:</p> <p>Several issues related to vector control need to be better addressed. For example, creation of potential mosquito habitats will not just have localized effects, as indicated in the DEIR/DEIS. Chapter 25 states that "Potential public health impacts occurring as a result of the Draft BDCP Alternatives primarily would be localized. Given downstream flows, potential health effects from water quality-related impacts would not be transported upstream" (page 25-2 lines 25-27); see also "Potential spread of disease through mosquitoes is expected to occur only within the study area because of the life cycle of mosquitoes and the distance they travel" (page 25-2 lines 30-32). In the case of these water-borne vectors of disease, these statements are not correct as these newly created habitats could serve as "stepping stones" for upstream migration of adult mosquitoes and eventually lead to their colonization of new sources. The California state Mosquito Abatement districts would be aware of this possibility and likely would disagree with the statements in the DEIR/DEIS as well. Objections to this statement in the DEIR/DEIS are also reinforced by the distances that are reported for mosquito migration in Table 25-5, where it is stated that mosquito adults can travel up to 30 miles.</p> <p>There are no concrete plans presented for controlling mosquitoes when their populations increase. Clearly, this is being left to the future and the activities (which are already overstretched) of the local Mosquito Abatement districts. As stated in the DEIR/DEIS, "Construction of the water conveyance facilities and water supply operations under all Action Alternatives would result in an increase in sedimentation basins and solids lagoons. These new features could result in an increase in standing water, thereby potentially increasing vector breeding locations and vector-borne diseases in the study area." (page 25-34, lines 18-21). This statement is correct, and implementing proposed measures under most Alternatives would increase the amounts of restored and enhanced habitat in the study area, but also would result in a significant increase in mosquitoes. The conclusion is that BDCP would consult and coordinate with the various mosquito abatement districts to implement Best Management Practices (BMPs) (as is also mentioned in section 31.5.1.3). Several of these BMPs are mentioned from various wetland-mosquito management documents. Is this sufficient coverage of control activities in the DEIR/DEIS in terms of what could be major public health outbreaks (e.g. West Nile virus and encephalitis)?</p> <p>The potential costs of nuisance mosquitoes are not discussed in this chapter of the DEIR/DEIS. Decline of home prices, loss of recreational areas and opportunities, and increased human discomfort from increases and expansion of mosquito populations could result. These could have environmental consequences as a result of public dissatisfaction and decreased regard for appropriate behavior in sensitive ecological areas. Inappropriate pesticide use could also increase. Moreover, under section 25-4, "Cumulative Analysis</p>	<p>The DEIR/EIS, RDEIR/SDEIS, and FEIR/EIS identify ways in which a potential increase in mosquitoes resulting from project implementation would be managed/controlled. To aid in vector management and control, the construction contractors, with the Lead Agencies approval, will be required to develop an integrated pest management plan (IPM Plan) and consult with appropriate MVCDs with respect to restoration, conservation, mitigation actions. Consultation will include, but not be limited to: review of the IPM Plan and best management practices (BMPs) to be implemented at the restoration sites and review of proposed mosquito monitoring efforts at restoration sites and assistance with monitoring efforts where feasible. In addition, the Lead Agencies will consult with the applicable MVCDs during all phases of restoration and conservation, including design, implementation, and operations. The IPM Plan will address wetland design considerations, water management practices, vegetation management, biological controls, and wetland maintenance. The Central Valley Joint Venture's Technical guide to Best Management Practices for Mosquito Control in Managed Wetlands and other guidelines will be used to help design appropriate restoration and conservation features to the extent feasible consistent with the project's biological goals and objectives. Further, consultation will take place with the appropriate MVCDs before the sedimentation basins, solids lagoons, and the intermediate forebay inundation area become operational. Once these conveyance components are operating, the Lead Agencies will consult again with the MVCDs to determine if mosquitoes are present. If mosquitoes are present, the Lead Agencies will use mosquito control techniques (e.g., mosquito fish, use of larvicide and adulticide, if necessary) as applicable. Additional detail on these BMPs is included in EIR/EIS Appendix 3B, Environmental Commitments, AMMs, and CMs It is noted in Appendix 3B, Section 3B.1.15 that the activities for mosquito management and control listed would not necessarily be the only BMPs implemented to control potential increases in mosquito populations in the study area. Furthermore, because Impacts PH-1 and -5, which analyze impacts related to vectors, are less than significant, it is not anticipated that mosquitoes would result in economic impacts. Therefore they are not analyzed in Chapter 16, Socioeconomics.</p> <p>It is not within the scope of the Public Health impact analysis to address potential economic effects of nuisance mosquitoes.</p> <p>In the cumulative analysis section of EIR/EIRS Chapter 25, the contribution of the project to increases in vector habitat in the study area is addressed (Impact PH-10) and it is determined that none of the action alternatives would have a cumulatively considerable incremental contribution and therefore there would not be a cumulative impact or adverse effect.</p> <p>EIR/EIS Chapter 25, pg. 25-16, lines 11-14 indicate that the increased flow velocities in the Delta due to increased flow volumes during the wet season would limit preferable mosquito breeding habitat.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Problems of Disease," vectors are not mentioned in the analysis. References on vector control are representative of a few studies done within the Delta but far from complete.</p> <p>As with many of the other chapters, there is ambiguity in wording in many parts of Chapter 25. For example, "The availability of preferable mosquito breeding habitat varies by season, and is reduced during dry periods of the year. Available open water habitat can be expected to increase during wet season; however, changes in flow volume in the Delta would result in increased flow velocities, limiting preferable mosquito breeding habitat." (page 25-16, lines 11-15). If the statement means that changes in flow volume during the wet season would not affect the mosquito populations, it would be correct because breeding is minimal at this time of the year. However, if it refers to changes in flow volume during the dry season when mosquito breeding does occur, the statement is incorrect and actually numbers would increase.</p>	
1448	191	<p>[From ATT 3]</p> <p>Disinfection by-products and contaminants:</p> <p>Specific results and comparisons for disinfection by-products (DBP) are not discussed adequately. In terms of DBP, there are two important considerations that require additional information and clarity in the document: the water system management aspects and the direct public health aspects. The fundamental question that Chapter 25 does not seem to answer adequately is: What are the effects of the Alternatives on the actual changes in dissolved organic carbon and bromide concentrations in the source water, and how does that correspond to changes in DBPs in water delivered to the public after treatment by agencies using the source water? In this chapter, bromide receives far greater coverage than dissolved organic carbon, although the latter may have a significant impact on the formation of DBPs such as TTHMs and HAA5. There are indications that because of the increased variability of concentrations, bromide could increase as much as 43% in some locations, and in the case of drought, these concentrations could be much higher (perhaps almost double). The changes in dissolved organic carbon compounds, which are also a problem, are difficult to tell from the information provided. The combination of the changes in both total organic carbon and bromide under specific Draft BDCP Alternatives and on a temporal basis are important to understanding the impact on DBP formation after treatment.</p> <p>Moreover, have the potential effects of extended drought periods been considered? These could aggravate the effects of these compounds because temperature and pH (moderated by algal activity) can affect DBP formation, and TTHM and HAA5 are measured on a running annual average basis using quarterly samples. Of note, the term "bromated" is used throughout Chapter 25, and we presume they mean "bromate"?</p> <p>Agencies are required to be below Maximum Contaminant Levels (MCL) of DBPs. Depending on the Alternative chosen, agencies may be required to modify their treatment processes, with potential large increases in cost. It is stated on page 25-52 that "While treatment technologies sufficient to achieve the necessary bromide removal exist, implementation of such technologies would likely require substantial investment in new or modified infrastructure." No mention is made as to how these additional costs will be covered; will they be passed on to their consumers? Or is there a mechanism within the Draft BDCP to cover these increased costs of the agencies?</p> <p>It is also not clear what the overall effect of increased DBP concentrations may have on</p>	<p>Specific results pertaining to changes in DBP precursors, specifically dissolved organic carbon and bromide, and the effects of the alternatives on dissolved organic carbon and bromide concentrations in surface water upstream of the Delta, and in the SWP/CVP export service areas are discussed in detail in EIR/EIS Ch. 8, Water Quality.</p> <p>Changes in both dissolved organic carbon and bromide are addressed in EIR/EIS Chapter 25 Public Health based on results detailed in EIR/EIS Chapter 8 Water Quality. Where modeled changes in bromide and/or dissolved organic carbon concentrations are substantial under any given alternative, it is noted that such changes could require existing drinking water treatment plants to substantially upgrade treatment technologies or change operations to meet applicable effluent standards. Should treatment plant upgrades not be undertaken, a substantial change in long-term average bromide and/or dissolved organic carbon concentrations in drinking water sources would represent an increased risk for adverse effects on public health due to DBP in drinking water sources, as stated in EIR/EIS Chapter 25. Water treatment plants in the Plan Area are designed and operated to meet EPA's 1998 requirements (Stage 1 Disinfectants and Disinfection Byproduct Rule).</p> <p>The water quality results in EIR/EIS Chapter 8 were generally compiled and presented based on two averaging periods: all water years, and the drought period (water years 1987–1991). The drought period was chosen to represent water quality in "worst-case" conditions, as it includes several dry and critical years in sequence.</p> <p>The two occurrences of "bromated" in EIR/EIS Chapter 25 have been changed to "bromate".</p> <p>Regarding the potential measures that may be implemented to address adverse effects of increased bromide and dissolved organic carbon, the commenter is referred to EIR/EIS Appendix 3B, Environmental Commitments, AMMs and CMs. Several concepts/strategies are discussed in Appendix 3B to address substantial increases in bromide and dissolved organic carbon resulting from implementation of the action alternatives. These concepts include:</p> <ol style="list-style-type: none"> <li>1. Provide Funding Assistance to Acquire Alternative in-Basin Water Supplies, Groundwater Banking, or Conjunctive Uses;</li> <li>2. Develop DOC source control projects for Barker Slough/Cache Slough watersheds. Agricultural and/or other waste control projects could be developed to reduce effects of watershed runoff on DOC levels at the NBA intake pump station. DOC reduction would reduce DBP formation potential;</li> <li>3. Develop demand management and/or conservation/recycling projects to extend available water</li> </ol>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>public health. If it's, say, a few percent, the effect may not be significant. However, MCLs for TTHMs and HAAS are based on the sum of individual compounds, and an increase in some of the individual component compounds could have potential public health effects. For example some of the brominated analogs, which may be produced in higher amounts when bromide increases in the source water, could have significant public health effects. Have models considered the effects on individual components? If so, it is not evident in this chapter.</p> <p>Consequences of mercury accumulation, bioaccumulation of other toxic compounds, and fish contamination are not adequately presented in this chapter of the DEIR/DEIS. All of these topics are commonly discussed public health concerns for the Delta, and require more detailed coverage in the DEIR/DEIS. The literature is extensive in these areas and not adequately represented.</p>	<p>supplies;</p> <p>4. Expand existing North Bay Aqueduct intake capacity</p> <p>5. Provide funding to implement treatment for DOC and/or DBPs in water treatment facilities;</p> <p>The study area is already out of compliance for many of the constituents that are known to bioaccumulate. The general methodology used to assess the potential for bioaccumulation effects as a result of project implementation was to examine existing conditions (i.e., levels and locations) of constituents that bioaccumulate in fish in the study area, and then to determine whether bioaccumulation in fish tissue would be expected to increase above existing levels and locations under the action alternatives. If bioaccumulation is expected to increase under the action alternatives, then a qualitative description of the populations that would be affected is discussed and a qualitative determination is made as to whether the increase would result in a public health concern.</p> <p>The most common way in which people in the U.S. are exposed to mercury is through fish consumption. Concentrations of methylmercury in fish depend on several factors, including mercury, the concentration in water, water pH and temperature, the concentration of dissolved solids and organic matter in the water, and other organisms and chemicals (e.g., sulfur) in the water. Due to these variables, and due to the complexity of food webs, bioaccumulation is hard to predict and can vary from one water body to another. Bioaccumulation models that link the concentration of methylmercury in the water to resultant concentrations in fish tissues for methylmercury have been developed and are presented in Chapter 8.</p>
1448	192	<p>[From ATT 3]</p> <p>Public health concerns are of great importance to people living in the Delta, those that use it for recreation and other purposes, and those occupying outlying areas that may be affected by the proposed activities in the Draft BDCP. Additional consideration of the issues mentioned in this review should be given in the preparation of the Final DEIR/DEIS document.</p> <p>a) Is the literature from which the analysis builds appropriate?</p> <p>Although perhaps considered adequate for fulfilling the conventions of the CEQA process, the importance of this document in guiding the direction of project activities should include the most up-to-date scientific information available. For example, references on vector control are representative of a few studies done within the Delta but far from complete. Virtually no peer-reviewed literature is included. There is little reference to the extensive literature on toxic algal blooms, biomagnification, and water disinfection byproducts in the Delta.</p> <p>b) Are the formal models and/or broad patterns of reasoning relied upon the "best available"?</p> <p>Specific results and comparisons for disinfection byproducts are not discussed adequately in this chapter. For example, (page 25-2, lines 18-21) "The disinfection process for drinking water includes adding chlorine to drinking water sources prior to release into public drinking water distribution systems. The chlorine reacts with organic carbon (total organic carbon [TOC] and dissolved organic carbon [DOC]) and bromides that are in water sources and form DBPs (disinfection byproducts)." Concentrations of disinfection by-products precursors (bromides and DOC) have often been modeled for this system. As a result, there is considerable analysis capability available for some of these contaminants that are not</p>	<p>a) CEQA guidelines require that the environmental setting provides a description of the physical environmental conditions and that the description of the environmental setting "be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives". An exhaustive review of the literature, peer-reviewed or otherwise, is not a requirement of CEQA.</p> <p>b) Throughout EIR/EIS Chapter 25, the reader is referred to Chapter 8, Water Quality, for a more detailed discussion of results related to water constituents. The methodology developed for assessing water quality impacts employed both quantitative and qualitative analyses (as appropriate) to estimate the changes in water quality attributable to implementation of the action alternatives, as described in detail in Chapter 8, Water Quality. Bromide was modeled quantitatively for the Delta in two ways. First, a quantitative assessment utilizing a mass-balance approach (DSM2 fingerprinting data combined with historical source water quality data) was employed. Additionally, results of a second modeling approach utilizing DSM2-QUAL modeled EC, EC to chloride, and chloride to bromide relationships were used to supplement the results of the mass-balance approach. DOC was modeled quantitatively for the Delta using DSM2-QUAL model output. Where the water quality analysis in Chapter 8 determined that there would be a substantial increase in these water quality constituents to the degree that there would be a substantial change in source water quality to existing drinking water treatment plants and plant upgrades may be required to achieve equivalent levels of health protection, significant/adverse conclusions were made with regard to potential DBP effects on public health under Impact PH-2.</p> <p>c-e) Please see Chapter 8, Water Quality, and the associated appendices for details on water quality modeling and associated assumptions.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>evident in this chapter nor is there adequate discussion of these potential impacts. This topic is very important and potential public health effects should be discussed more fully in Chapter 25.</p> <p>c) Are the inputs (or other basic facts) to the models/reasoning the best available?</p> <p>In terms of modeling, it is not clear what values were used in their analyses. Did they model raw water concentrations? Have they modeled these with values that would be present throughout the drinking water system after treatment? Were running averages used at specific locations representative of a distribution system (the current approach)?</p> <p>d) Where modeling judgments and interpretive reasoning are invoked, are they appropriate? Some of the brominated analogs, which may be produced in higher amounts when bromide increases in the source water, could have significant public health effects. Have models considered the effects on individual components?</p> <p>e) Are the results and their uncertainties interpreted in a "balanced" way with respect to the strengths and weaknesses of the Alternatives under consideration?</p> <p>The uncertainties do not seem to have been considered in reaching conclusions from the models used.</p>	
1448	193	<p>[From ATT 3]</p> <p>CHAPTER 26: MINERAL RESOURCES</p> <p>I. Overall Assessment</p> <p>Chapter 26 concludes that the proposed BDCP actions would cause harm to natural gas production while having less-than-significant effects on aggregate.</p> <p>Most of the expected impact to gas production is from conservation measures that would inundate production areas (impacts MIN-5 and MIN-6). The chapter's assessment of the No Action Alternative appears to exclude such gas-field losses to unintended flooding. The assessed impact on aggregate includes its consumption by BDCP construction as well as burial of potential aggregate sources.</p> <p>A key aspect of this chapter that should be included but is missing is how natural gas impacts MIN-5 and MIN-6 affect feasibility of ecosystem restoration under proposed BDCP actions.</p> <p>II. Scope</p> <p>The chapter lays out its findings in muscular text that shows command of the subject, and in tabular summaries (Tables 26-4 through 26-7) that ease comparison among Alternatives. The chapter however, lacks an informative up-front summary, and neither the Highlights Document (page 57) nor the Executive Summary (pages ES-130 and ES-131) make up for its absence.</p> <p>III. Quality of Analysis</p> <p>Chapter 26 does not examine how natural gas impacts MIN-5 and MIN-6 may affect the feasibility of ecosystem restoration under proposed BDCP actions. Plan Appendix 8.A,</p>	<p>The issue of unintended flooding is addressed In Chapter 9 in the Final EIR/EIS Geology and Seismicity in Section 9.3.3.1.4 Climate Change and Catastrophic Seismic Risks.</p> <p>Also please review Master Response 16 and the Final EIR/EIS Appendix 6A.</p> <p>Specific effects of seeking to avoid natural gas wells and their associated collection systems cannot be addressed because the ecosystem restoration programs are described and analyzed at a programmatic level. Evaluation of the ability or inability to avoid or minimize impacts to the natural gas systems requires not only specific areas of inundation but the details of recontouring the ground, construction sequencing, and similar details. However, ecosystem restoration feasibility is not anticipated to be compromised because the natural gas systems will be only one of innumerable considerations during site-specific design. However, it should be noted that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. As such, the restoration actions occurring under CM-2 through CM-21 would not occur or be reduced and resulting impacts on natural gas production would be reduced accordingly.</p> <p>The EIR/EIS Executive Summary has been updated to include comparative summaries and supporting tables for each of the resource topics. These summaries allow readers to compare impacts across all alternatives. These summaries and tables have also been added to the beginning of each EIR/EIS resource chapter, including Chapter 26 Mineral Resources.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>"Implementation Costs Supporting Materials" lists mitigation measures: "Avoid displacement of active natural gas wells to the extent feasible through conservation component design" and "Maintain drilling access to natural wells to the extent feasible through design of conservation components" (page 8.A-164). Plan Chapter 8, "Implementation Costs," gives a 50-year estimate of \$32 million for "mineral rights and gas-well relocation" (page 8-14). A search on "gas" in Appendix 8.A and Chapter 8 turned up no supporting evidence for the \$32 million estimate.</p>	
1448	194	<p>[From ATT 3]</p> <p>How valuable are the fossils in Holocene mud and peat?</p> <p>Chapter 27 states fair reasons to give deposits from recent millennia little attention as paleontological resources. "Muds and peats [less than 10,000 years old] provide a rich source of microfossils for paleo-environmental studies, but microfossils exist in the uncounted trillions throughout deposits of estuarine mud and peat. Therefore, because they are recent in age and because they seldom yield scientifically significant megafossils, estuarine sediments, including peat, are assigned low paleontological sensitivity" (page 27-7 to 27-8).</p> <p>Nonetheless, because climate change and ecosystem restoration are important in the DEIR/DEIS, Chapter 27 could say more about the paleoecology that has been inferred from Holocene fossils. These young fossils are guides to climatic change and to bygone ecosystems like those slated for restoration under the BDCP (Malamud-Roam et al., 2006; Canuel et al., 2009).</p>	<p>The purpose of Chapter 27 is to present impacts on paleontological resources caused by implementation of the alternatives. The setting section is presented to provide context for understanding those impacts. Adding a detailed discussion about Holocene fossils to the EIR/EIS setting section would not result in a change in the significance finding for either impact PALEO-1 or PALEO-2.</p>
1448	195	<p>[From ATT 3]</p> <p>Will sensitive geologic units serve as sources of borrow material?</p> <p>Stratigraphic units having undetermined to high paleontological sensitivity are present in some of the areas considered as potential sources for borrow material for construction activity. The vertebrate paleontologist advises against using these units, which include the Modesto Formation, Montezuma Formation, and Turlock Lake Alluvium, as sources for borrow material (Table 27-7).</p> <p>If excavation into these units is common, Chapter 29 could give examples and mention paleontological discoveries that the digging has occasioned.</p>	<p>As described in the impact analysis Paleo-1, excavation for borrow material in units sensitive for paleontological resources could cause damage to fossils. In addition, the EIR/EIS concludes that even with application off Mitigation Measures PALEO-1a through PALEO-1d the impacts on paleontological resources resulting from constructing the water conveyance facilities would be reduced but not to a less-than-significant level.</p> <p>In addition, although the commenter suggests that these units should not be used as a source for borrow material, it should be noted that excavation in these units is common. For instance, the Fairmead Landfill, which is underlain by the Turlock Lake, Riverbank, and Modesto Formations, is an example of how preservation of paleontological resources can occur during excavation. According to the website of Dundas Laboratories, headed by Robert Dundas, a Research Fellow at the University of California Museum of Paleontology at Berkeley (UCMP), many valuable fossils have been recovered during excavation at the landfill (<a href="http://www.dundaspaolab.com/index-4.html">http://www.dundaspaolab.com/index-4.html</a>):</p> <p>"In May 1993, while excavating for a new five acre expansion cell at the Madera County Fairmead Landfill, north of Madera, California and just southwest of the junction of state highways 99 and 152, a Madera Disposal Systems crew encountered vertebrate fossils. Because the land is public property owned by Madera County, the California Environmental Quality Act (CEQA) requires that scientifically significant fossils be protected. Shortly after the initial discovery and at the invitation of the Madera County engineering department, J. Howard Hutchison and Robert Dundas of the University of California Museum of Paleontology (UCMP) at Berkeley travelled to Fairmead Landfill to assess the find and recommend an appropriate course of action in order that Madera County adhere to state regulations. The UCMP recommended that fossils be salvaged and preserved as they are uncovered by landfill excavation activities. Paleontological monitoring has been ongoing ever since."</p> <p>Examples of fossils recovered from the Fairmead Landfill are on display at the Fossil Discovery Center of</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>Madera County, which was opened to showcase the fossils recovered from the Fairmead Landfill. Several thousand fossils have been found at the site, including mammoth, dire wolf, saber-tooth cat, and giant ground sloth, as well as reptiles, amphibians, and fish (National Park Service 2012).</p> <p>Another example of construction work that led to the recovery of fossils occurred during work on improving State Route 99 in Merced County by Caltrans. Prior to road construction, a paleontological investigation had been conducted, and the site had been identified as having the potential to contain fossils. As a result, when crews encounter fossilized bone, work in the area was stopped, a paleontologist was contacted, and the fossils were excavated. These fossils from the last ice age included bison, mammoth, horse, camel, antelope, and dog (Caltrans 2012).</p> <p>Further detail on mitigation is provided in the EIR/EIS Mitigation Monitoring and Reporting Plan</p> <p>National Park Service. 2012. National Fossil Day. Last revised: February 17, 2012. Available:&lt;  <a href="http://www.nature.nps.gov/geology/nationalfossilday/mammoth_partner_fossil_discovery_center_madera.cfm">http://www.nature.nps.gov/geology/nationalfossilday/mammoth_partner_fossil_discovery_center_madera.cfm</a> &gt;. Accessed: August 18, 2014.</p> <p>Caltrans. 2012. News Release: Freeway Project Unearths Mammoth Fossils. Last revised: November 8, 2012. Available:&lt;  <a href="http://www.dot.ca.gov/dist10/pages/pressreleases/2012/nov/12-11-19Press%20Release%20Arboleda%20Project.pdf">http://www.dot.ca.gov/dist10/pages/pressreleases/2012/nov/12-11-19Press%20Release%20Arboleda%20Project.pdf</a> &gt;. Accessed: August 18, 2014.</p>
1448	196	<p>[From ATT 3]</p> <p>Will protections vary from one county to the next?</p> <p>Unlike counties that have specific requirements for paleontological resources, Sacramento, Yolo, and San Joaquin Counties place emphasis on the preservation of historic and cultural values and on compliance with CEQA without specifically considering paleontological resources. If not made clear already, Chapter 27 could say whether as part of implementation, the BDCP would apply in all Delta counties the paleontological provisions of state and federal laws and the mitigation measures mentioned in Chapter 27.</p>	<p>Regarding county-specific protections, the project's mitigation measures would be applied in the same way in all counties. Please see Master Response 22.</p>
1448	197	<p>[From ATT 3]</p> <p>What is the primary source for a statement about levee failure?</p> <p>Chapter 27 reasonably identifies levee failure as a threat to paleontological resources. The evidence cited includes an unreferenced statement that "levees constructed on liquefiable foundations are expected to experience large deformations (in excess of 10 feet) under a moderate to large earthquake in the region" (page 27-22; reiterated from page 9-50). This statement could be credited to page 6-37 of a seismic-hazard assessment (URS Corporation and Jack R. Benjamin &amp; Associates Inc., 2008). The citation could also mention that this assessment, on its page 6-36, includes calibration in which Delta levee damage from the 1906 San Francisco earthquake is "small to moderate" for levees having "today's configuration."</p>	<p>Regarding levee failure, the information on levee failure is drawn from Appendix 3E, as noted in the text. A reference has been added in the Final EIR/EIS. In addition, please see Master Response 16 regarding seismic issues and in the Final EIR/EIS Appendix 6A.</p>
1448	198	<p>[From ATT 3]</p> <p>The chapter lacks a summary.</p> <p>Like most of the DEIR/DEIS, Chapter 27 needs an informative summary of expected impacts. The existing summaries are limited to tabular entries in the Executive Summary and text in</p>	<p>The Final EIR/EIS has been updated to include a summary discussion of impacts at the beginning of each resource chapter, including Chapter 27. This discussion compares impacts across all alternatives. This impact comparison has also been incorporated into the Final EIR/EIS Executive Summary.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the Highlights Brochure. A useful summary, placed up front, would build on the "overview" on page 58 of the Highlights Brochure. The summary would make clearer how the various Alternatives, including the No-Action Alternative, compare with one another in terms of effects on paleontological resources. The key comparisons include No-Action vs. Alternative 4.</p> <p>The Executive Summary of the DEIR/DEIS could summarize the "significant" No-Action impact more accurately. Table ES-9 lists this impact in rows for PALEO-1 and PALEO-2, where it can be misread as a puzzling effect of BDCP actions. The table also can be misread as implying that the significant No-Action impacts would somehow be made less than significant through implementation of Alternative 9 (for impact PALEO-1) and of all Action Alternatives (for impact PALEO-2).</p>	
1448	199	<p>[From ATT 3]</p> <p>CHAPTER 29: CLIMATE CHANGE</p> <p>I. Overall Assessment</p> <p>The Draft BDCP (and, in a less informative fashion, the DEIR/DEIS) does a good job of describing how climate change and sea-level rise might influence communities and species. The emphasis in Chapter 29 is on how the conservation measures of the Draft BDCP may enhance adaptation and resiliency to climate change and, especially, sea level rise by providing flexibility in water-flow operations and additional conservation areas and habitat. Although any attempt to predict future climate at a relatively small regional scale is difficult at best, state-of-the-science modeling tools have been employed to project possible future conditions. Despite these efforts, climate change and sea-level rise, and their associated uncertainties, will remain. The likelihood and magnitude of these effects and uncertainties are not clearly stated or addressed.</p> <p>Both the Draft BDCP and the DEIR/DEIS recognize the importance of the linkages that are created by water flows and hydrology. Synergies that result from linkages among the actions or components of the Draft BDCP, species of concern, or species not even considered, may affect the potential benefits derived from BDCP actions in enhancing adaptation and resiliency to the effects of climate change or sea-level rise, yet such synergistic effects (which may be either positive or negative) receive little attention.</p> <p>From a biological viewpoint, mean climate conditions are not as important as high or low extremes and their timing. Modeling and analysis of extreme events is difficult because such occurrences are unpredictable and uncertain, yet their importance merits more attention. Moreover, the potential effects of climate change and sea-level rise on water temperatures seem not to have been considered at the same level of resolution as changes in salinities. Temperature, however, is a key to most fish growth and reproductive success.</p> <p>Perhaps most importantly, the potential effects of climate change and sea-level rise on the effectiveness of the conservation measures themselves are not adequately considered. There is an underlying assumption that the conservation measures, if implemented, will have the desired or stated benefits or mitigation effectiveness. Because of the changing conditions, the Draft BDCP actions may not develop as anticipated. Uncertainties in the effectiveness of conservation measures due to the effects of climate change and sea-level rise should be given greater consideration.</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The FEIR/S analyzes all alternatives, including Alternative 4A.</p> <p>It is true that there is uncertainty regarding the likelihood and magnitude of climate change. There is additionally considerable, perhaps greater uncertainty regarding the manifestations of climate change. However, the effects of climate change on the conservation measures have been analyzed with the best science data available, and have been incorporated in the effects analysis.</p> <p>The purpose of an EIR/EIS is not to explore all possibilities of extreme outcomes of climate change, and there is extremely high uncertainty about those extremes. Instead, the EIR/EIS focused on changes in average conditions which are more predictable and lend to less speculative analysis. Chapter 29 focuses on the project's ability to make the Delta more resilient and adaptable to the expected effects of climate change; it did not explore all potential outcomes of climate change or the potential synergies and feedback loops that might play out between conservation measures and species in the Delta. Please also see Master Response 19 regarding climate change.</p> <p>There is a wide breadth of analyses on temperatures for multiple life stages of upstream species contained in Chapter 11 Fish and Aquatic Species. An analysis of water temperatures in the Delta was not conducted as it is generally agreed that there will be no effects of water operations on Delta temperatures because water temperatures are controlled by atmospheric conditions in the Delta, not by reservoir operations. DSM2 model results of Delta water temperatures support this conclusion.</p> <p>The Final EIR/EIS Chapter 29 provides information not required by CEQA and is provided as a way of providing additional information to the public and decision makers about the ways in which the proposed project helps to take California in a direction that is more adapted and resilient to the likely impacts of climate change. The commenter is correct, there is no guarantee that all of these benefits will materialize—there are few guarantees about any future condition. However, these assessments are based on the best available science and the analysis conducted for this project.</p> <p>Chapter 29 in the Final EIR/EIS provides information on the expected adaptation and resiliency benefits of the alternatives. Not all conservation measures have adaptation and resiliency benefits that are measureable and documentable. The commenter should refer to Chapter 3 for detailed descriptions of the conservation measures and the resource impact chapters (5-28) of the FEIR/S for assessments of resource impacts of the conservation measures.</p> <p>While it is true that low frequency extreme events often have disproportionate effects on species, this type of analysis goes beyond that which is required by CEQA. California has historically had a very variable climate punctuated by extreme events such as droughts, heat waves, and floods and these events would</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>II. Scope</p> <p>Section 85320(b)(2)(C) of the California Water Code directs that the DEIR/DEIS address "(t)he potential effects of climate change, possible sea level rise up to 55 inches [140 centimeters], and possible changes in total precipitation and runoff patterns on the conveyance alternatives and habitat restoration activities considered in the [EIR]." This is the context for the treatment of climate change and sea-level rise in the DEIR/DEIS.</p> <p>The DEIR/DEIS addresses three questions about climate change and sea-level rise: (1) How will the Draft BDCP activities affect climate change, via greenhouse gas emissions?; (2) How will Draft BDCP impacts on resources be affected by climate change and will the effects increase in the future-i.e., are future changes in climate likely to exacerbate project impacts?; and (3) How will the Draft BDCP activities affect the adaptability and resiliency of the Delta and its components to climate change? Question 1 is addressed in Chapter 22 on air quality and greenhouse gases. Question 2 is considered in most of the resource-focused chapters as summarized in Table 29-1 as well as in the Draft BDCP. Chapter 29 addresses only the third question. In particular, this chapter concerns how the project Alternatives and conservation plans may enhance adaptation and resilience of the Delta system to changing rainfall, snowpack, water and air temperature, sea-level rise and intrusion, and evapotranspiration. In the context of BDCP, resiliency and adaptability mean "the ability of the Plan Area to remain stable or flexibly change, as the effects of climate change increase, in order to continue providing water supply benefits with sufficient water quality and supporting ecosystem conditions that maintain or enhance aquatic and terrestrial plant and animal species" (DEIR/DEIS page 29-3). The current unprecedented drought in California adds weight to any measures that will enhance adaptability and resilience of water use and management, so the focus of this chapter is especially timely.</p> <p>Although Chapter 29 is relatively short, the overall consideration of climate change in the DEIR/DEIS and the Draft BDCP is comprehensive and voluminous, but also fragmented. Thus, to evaluate how well the DEIR/DEIS considers the broader issues of climate change and sea-level rise and their effects, we have referred to multiple sections of the DEIR/DEIS, and to understand the foundation for the statements and conclusions we have examined parts of the Draft BDCP where the details of modeling and analysis of climate change and sea-level rise and their consequences are presented.</p> <p>III. Quality of Analysis</p> <p>To evaluate how climate change relates to the actions envisioned in BDCP, it is first necessary to consider how it is projected to affect the Delta and its resources, independently of any of the conservation measures undertaken in the Draft BDCP (i.e., the No Action Alternative). Various sections of the Draft BDCP and the DEIR/DEIS (particularly Draft BDCP Appendix 2C and DEIR/DEIS sections 29-4 and 29-5) describe the changes expected in California and in the Delta over the coming decades. These effects will be large and pervasive, creating a dynamically changing backdrop against which any environmental effects of the Draft BDCP will be superimposed.</p> <p>Overall, the effects of the climate changes expected for the Delta include, among others: (1) increased incidences of extreme hydrologic events such as atmospheric rivers (which provide significant precipitation to the Delta); (2) changing the mix and timing of rain and snow and their locations; (3) increased extinction risk of covered fish species, especially those whose ranges are located primarily in the Draft BDCP area, due to changes in critical</p>	<p>likely occur in the future event without the effect of climate change. Applying changes in average conditions to help estimate environmental impacts remains the most defensible and least uncertain way in which to estimate future conditions.</p> <p>Refer to response to comment 1448-63, regarding adaptive management and Master Response 33.</p> <p>For additional information on how climate change scenarios were considered in the EIR/EIS analysis, please refer to Master Response 19.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>temperatures, salinities, and flow regimes; (4) continuing emergence of nonnative species (e.g., warm-water species) as dominant components of biological communities; (5) increased risk of species invasions due to range expansions into the region; (6) changes in sea level and salinity, which may cause increased duration and frequency of inundation of the existing wetlands; and (7) somewhat higher salinities in Suisun Bay, requiring increased Delta outflows to maintain X2 at the existing standard (Draft BDCP page 5.A.2-106-107). Although all of the natural communities and covered species will be affected in some way, the focus in the DEIR/DEIS is on long-term changes in sea level and Delta inflows that "will put increasing stresses on existing levees and make management of Delta salinity increasingly difficult" (DEIR/DEIS page 3E-3) and the increased flexibility the Draft BDCP offers to control flow rates.</p> <p>The potential impacts of climate change on natural communities and covered species are discussed in detail in the Draft BDCP (especially in Chapter 2, Appendix 2A, Chapter 5, and Appendix 5A). For example, the account for delta smelt states that "modeling results projected increases in the number of days with lethal and stressful water temperatures (especially along the Sacramento River) and a shift in thermal conditions for spawning to earlier in the year, upstream movement of the LSZ (low salinity zone), and decreasing habitat suitability" (Draft BDCP page 2A.1-12). These accounts, while necessarily qualitative rather than quantitative, are generally comprehensive and well-referenced.</p> <p>Draft BDCP contributions to resilience and adaptability:</p> <p>Chapter 29 focuses on how the actions undertaken as part of the conservation measures or mitigation for BDCP might help counter some of the effects of climate change on natural communities and covered species. In essence, the DEIR/DEIS proposes that the Draft BDCP will enhance the adaptation and resilience of the Draft BDCP area by: (1) providing the flexibility in operating water flows to ameliorate conditions caused by climate change, and (2) enabling conservation efforts (CM2-CM22) that will provide additional habitats or protection of key species that will help to offset any negative climate impacts. The benefits derive largely from the enhanced control and flexibility in managing hydrological flows into and through the Delta provided by the conveyance Alternatives and, to a lesser extent, from the increase in quantity and/or quality of habitat created by the restoration or protection measures. For example, for tricolored blackbirds "protection, restoration, and enhancement of nesting and foraging habitat will help stabilize and increase depleted populations, helping to promote resilience to adverse effects of climate change" (Draft BDCP page 5.A.1-28). Appendix 5.A.1 and Table 5.A.2.0-1 of the Draft BDCP provide substantial details describing which actions can enhance resilience or adaptability to climate change and sea-level rise. The benefits, while generally based on relevant literature and logical arguments, are presumed (or, perhaps more accurately, hoped-for) benefits; there is no assurance that they will develop as expected, and there is no discussion of what, if anything, will or can be done if they do not develop. That is, what adaptive management measures will be taken? The conclusion is that Draft BDCP Alternatives 1A, 1B, 1C, 2A, 2B, 2C, 3, 4, and 5 would provide substantial resiliency and adaptation benefits over the No Action/No Project Alternative for dealing with the combined effect of increases in sea-level rise and changes in upstream hydrology. The other Alternatives would reduce resilience. Appendices 29A-29C describe the approach to modeling and analyzing salinity effects, effects on reservoirs and inflows to the Delta, and effects on water and air temperatures.</p> <p>The chapter explicitly does not include any discussion of impacts (although recognized and listed on pages 29-10 and 29-11) for which the Draft BDCP Alternatives produce no added</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>resiliency or adaptation benefit or for which the benefits are minimal or cannot be documented; the emphasis is on potential benefits of the Draft BDCP.</p> <p>Assessment of effects:</p> <p>The potential effects of climate change and, particularly, sea-level rise receive a comprehensive, detailed, and scientifically sound treatment when considered over the entirety of the DEIR/DEIS and the Draft BDCP. The effects on the key physical and biological components of the Draft BDCP area, and somewhat on the broader Delta ecosystem, are thoroughly discussed. Most of the relevant information is contained in the Draft BDCP. The DEIR/DEIS is inconsistent in the level of detail used to assess impacts of climate change and sea-level rise on these components and the information is scattered over thousands of pages, making it difficult to evaluate how they have been treated.</p> <p>Any science-based assessment of climate change and its effects necessarily begins with historical data and predictive models. Modeling climate change at the regional scale is becoming more robust, particularly when dealing with mean conditions or frequencies of extremes. The modeling approach used to assess climate change and sea-level rise in the Draft BDCP is complex, necessarily involving many assumptions and a nesting of models used in sequence to inform one another. The climate modeling is based on a modified ensemble approach, employing a quantile analysis to condense the results of the 112 downscaled model sets into a smaller set of scenarios that emphasizes mean climate conditions while preserving some of the variability among model runs (described in the DEIR/DEIS on pages 5A-D37-38). The approach intentionally uses a subset of scenarios to allow development of projections in greater detail, while sacrificing a more comprehensive assessment of uncertainties that would come from considering the full range of projection scenarios. This is a robust and appropriate approach. The criteria used to select the set of climate change scenarios for the analyses (DEIR/DEIS page 5AA62; 5A-D33) seem sensible, and the sensitivity analysis approach used to define the boundaries for ensemble predictions (DEIR/DEIS page 5A-A64) is canonical, especially in incorporating the effects of different starting points for the simulations. The potential importance of extreme events is acknowledged but, in view of their unpredictability, they are not included in the modeling (although they could be incorporated into probabilistic modeling). Instead, any unforeseen effects of extreme events will presumably be assessed through monitoring and adaptive management. The application of results to the biological communities requires additional assumptions. Also, use of mean conditions or forecasts is far less insightful than looking at critical biological factors such as summer high temperatures, rate and timing of spring warming and fall cooling, and flow rates during critical times of the years. One extreme year can do a lot of biological damage.</p> <p>The RMA Bay-Delta (2D) and the UnTRIM Bay-Delta (3D) hydrodynamic models were used to simulate climate change effects of sea-level rise on Bay-Delta tidal flows, which were combined with DSM-2 for salinity modeling. These were then combined with Draft BDCP effects to simulate future Delta hydrodynamic and salinity conditions. To bracket the range of potential changes in hydrodynamics and salinities associated with wetland restoration, model simulations were conducted for several Alternative restoration footprints. Changing the location of restoration affected the details of flows and salinities, but all of the scenarios reduced tidal amplitude and affected salinity (X2). Overall, the hydrological modeling shows that effects of Draft BDCP operations and proposed restorations are limited in comparison to the impacts of climate change and sea-level rise on upstream reservoir conditions, hydrologic flows, and salinities. Several of the outstanding areas of uncertainty are (quite</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>appropriately) explored through scenario analysis.</p> <p>Recognizing that species differ in their responses to potential climate change, the Draft BDCP develops a vulnerability score based on sensitivity (including several contributing factors) and exposure (defined by natural community types). The vulnerability analysis would allow planners and managers to design conservation actions and monitoring programs to enable them to focus on the covered species most vulnerable to the effects of climate change and the habitats that support a large number of vulnerable species (see Draft BDCP page 5.A.1-35). However, because different species respond differently to various climate changes, some will be affected by things that can be moderated and some will be affected by things that cannot be modified. For those in the first category, each operation might benefit each species a little differently; how will choices be made? Moreover, while listing the species most vulnerable to changes in climate is an important step toward prioritizing conservation actions, we should not forget that we are dealing with an ecosystem and indirect effects of climate change (changes in rates, distributions, species interactions, food webs, etc.) are also important. Despite the attention given to developing species' vulnerability scores in the Draft BDCP, it does not figure into any of the analyses or documentations in the Draft BDCP and is not mentioned in the DEIR/DEIS.</p> <p>Overall, considering the material in both the Draft BDCP and the DEIR/DEIS, the potential effects of climate change and sea-level rise on components of the Delta ecosystem and the current and proposed water operations are treated comprehensively and in considerable detail. Points are supported by relevant literature (at least in the Draft BDCP), some of it quite recent. The models are carefully reasoned and are used effectively to explore both consequences of climate change and sea-level rise and important areas of uncertainty. That said, however, there are several areas in which the presentation and analyses could be improved.</p> <p>Areas of concern:</p> <p>There are several areas of concern with the treatment of climate change in the DEIS/DEIR that are not resolved in the coverage in the Draft BDCP.</p> <p>Most importantly, although the potential effects of climate change and sea-level rise on natural communities and covered species are discussed in detail (in the Draft BDCP) and are included in the modeling of hydrodynamics and the associated tidal wetland restoration and in the discussion of reservoir operations, the possible impacts on the conservation measures are apparently not considered. The DEIR/DEIS includes detailed calculations of the anticipated losses of habitat (acres) due to various Draft BDCP actions and how these losses will be balanced (in most cases exceeded) by acres of habitat (often of greater value) protected or restored. In some instances, additional measures (Avoidance or Minimization Measures or Mitigation Measures) will be required to achieve the necessary balance and avoid detrimental effects on a community or species. There is an unstated assumption that the anticipated habitat protection, restoration, and mitigation will in fact materialize. But climate change is projected to have significant effects on the amount, quality, and locations of habitat, potentially adding to the losses. The effectiveness of habitat protection and restoration may be compromised by climate change or sea level rise, eroding (figuratively and literally) the conservation gains or benefiting less desirable species such as warm-water predators or invasive species. As a result, the anticipated balancing of new conservation areas to offset climate impacts and the Draft BDCP may not develop as planned.</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>It is possible that these effects are included in the calculations of the DEIR/DEIS (e.g., in Chapter 12), but we found no indications of such adjustments. Rather, it seems apparent that the potential effects of climate change and sea-level rise on the effectiveness of habitat protection, restoration, or other conservation measures are not specifically addressed in the DEIR/DEIS because the intent of this document is to evaluate whether BDCP will lead to consequences that would not otherwise have occurred (this is why the effects of climate change and sea-level rise are included in the No-Action Alternative). Draft BDCP actions will not alter climate change or sea level rise (Chapter 23); rather, the effects of climate change and sea-level rise are projected to trump any effects of Draft BDCP actions. For example, "The results [of hydrological modeling] show that the effects on the upstream operations are primarily due to the climate change effect on the reservoir inflows, river temperatures, and the increased salinity intrusion in the Delta due to the projected sea level rise. The proposed BDCP operations did not impact the upstream reservoir conditions, both at end-of-May and end-of-September, because of the increased flexibility in the system [i.e., resilience]. The proposed restoration under BDCP has limited effect on the overall system operations" (Draft BDCP page 5A-D157). Considering that the overall rainfall levels at reservoirs are projected to be essentially unchanged but the timing of snow and precipitation will change, there is little doubt that additional Draft BDCP conveyance and storage capacity would be useful in managing water in the Delta, but without including such adaptive management measures in modeling it will be difficult to predict the salinity and temperature levels as well as impacts on habitats downstream.</p> <p>There are also considerable uncertainties associated with any potential effects of climate change and sea-level rise on Draft BDCP actions. This is used as justification for not considering these effects in the DEIR/DEIS. To ignore these potential effects on the conservation measures (primarily habitat protection and restoration) that are intended to be part of achieving net benefits from BDCP, however, may be shortsighted. It is anticipated that any failures of protection and restoration (or other actions) to realize the desired outcomes will be detected by monitoring and adjusted through adaptive management. However, this relies on how well and how quickly monitoring and adaptive management can or will be implemented. We consider this issue, and the wisdom of planning for contingencies in case things do not work out as planned, elsewhere in our report.</p> <p>A second concern has to do with linkages. What happens or is done at one place and time for one species, for example, may have ripple effects that extend to other places at other times and affect other species. Climate change and sea-level rise will likely affect everything in and surrounding the Delta, everywhere, in one way or another. The scope of climate change as a driving force is broad in both space and time, although the consequences may be more localized and short-term or episodic. Consequently, considering the effects of climate change or calculating the potential benefits derived from separate Draft BDCP actions in enhancing the resiliency of each ecosystem component separately may fail to recognize the synergies that result from the linkages among the actions or components, species of concern, or species not even considered. Although the web of direct and indirect linkages among components of the Delta ecosystem are tremendously complex (and therefore plagued by uncertainties), it would be worthwhile to give them more thought, particularly because recognizing linkages and feedbacks may make management actions more effective or avoid unintended consequences. Both the Draft BDCP and the DEIR/DEIS recognize the importance of the linkages that are created by water flows and hydrology; similar attention should be given to biological, physical, and chemical linkages between</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>aquatic and terrestrial elements or among elements of terrestrial landscapes.</p> <p>A third concern is about modeling. A chain of models has been used to predict the 2025/2060 hydrology, salinity, and water temperature. As pointed out above, however, the influence of local adaptive management measures can have an upscaling effect system-wide. The models used are well studied and evaluated, but sometimes they lack critical components. For example, the CALSIM-2 runoff model does not have a good linkage to ground water, the mixing parameterizations used are not valid for very high flow rates (model calibrations may not be applied for extreme precipitations of future climate), and the DSM2 flow-salinity relations may not be valid for extreme future climate scenarios. Thus, uncertainties abound.</p> <p>Finally, two additional points regarding mean conditions and temperature, and regional influences of climate change. First, there is some discussion in both the Draft BDCP and the DEIR/DEIS about the changes in mean conditions, particularly changes in mean temperature. However, what may be most important to fish (and other aquatic organisms), particularly for those species living on the edge of their thermal tolerance, are increases in the highest temperatures. The timings of the increased temperatures and of the fall cooling are also important to aquatic organisms. Some species may benefit from the longer, warmer growing season while others will be stressed by a longer period of warmer temperatures.</p> <p>Second, although Chapter 29 deals mainly with flexibility of water-flow operations and does include climate impacts on physical conditions (e.g. precipitation and sea-level rise) outside of the Draft BDCP area, it ignores potential regional influences of climate change on biological components elsewhere. For example, the survival of anadromous fishes in the ocean or during their migrations to and from the Delta will be affected by climate changes, and range expansions or distributional shifts of species in response to climate-driven habitat changes elsewhere may have impacts on species and communities within the Draft BDCP area, and on the effectiveness of conservation measures undertaken to enhance their populations or mitigate the effects of Draft BDCP actions. While such effects are couched in uncertainty, they should not be ignored.</p>	
1448	200	<p>[From ATT 3]</p> <p>CHAPTER 30: GROWTH INDUCEMENT AND OTHER INDIRECT EFFECTS</p> <p>I. Overall Assessment</p> <p>The material in this chapter is fairly comprehensive with respect to cities, but ignores how the Draft BDCP affects or does not affect the growth of agriculture, any crop changes, and any environmental changes those impacts would entail. With respect to cities, the analyses are interesting, and there is more than enough material to provide more insightful interpretation, for example with respect to uncertainties, than the authors chose to do.</p> <p>II. Scope</p> <p>Chapter 30 explores the extent to which the Draft BDCP might induce economic growth through: 1) tunnel construction expenditures on labor and thereby on housing, etc. in the Delta region; 2) the construction of new or better roads in the process of tunneling in the Delta; and 3) through the effects of increased water deliveries or simply increased reliability of water deliveries for municipalities and industry in the water delivery areas as well as agriculture. The latter, however, is not actually explored on the argument that the</p>	<p>Please note that the preferred alternative is now Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input. The EIR/S analyzes all alternatives, including Alternative 4A.</p> <p>This comment provides a summary of Chapter 30 approach and basic findings, without any specific question or suggested additional analysis. The comparison of growth-inducement effects of the alternatives has been revised to consider the total increase (or decrease) of Delta exports and the regional distribution of these increased deliveries.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>environmental impacts with respect to which crops would be planted under different scenarios and operation plans would be too speculative and therefore beyond scientific analysis (see, for example, page 111, lines 6-12).</p> <p>III. Quality of Analysis</p> <p>A fairly simple accounting framework was used to project population growth effects based on existing projections of population growth, per capita water use, expected improvements in efficiency, and how additional on account of the Draft BDCP, or less if no actions are taken, water could accommodate more population growth. These are highly likely to be over estimates of the population growth inducing potential of more water, or greater reliability, due to numerous other factors promoting and constraining growth including the need for improved wastewater treatment facilities, transportation limitations, etc. No error bars, not even subjective ones, are provided, though the results are presented fairly cautiously.</p> <p>Construction is not likely to induce growth because little labor will be employed. Further, there is little available nearby housing in the Delta, nor special attraction to living near the job site, while the small increase in labor and need for housing would be insignificant for the larger outlying cities.</p> <p>Whether or not the Draft BDCP will induce further population growth in municipal areas served by the SWP depends on which Alternative and operation plan is selected. The projected increases, and sometimes decreases, as a percent of already projected growth, are typically insignificant except for the South Coast Basin served by Municipal Water District (MWD). Here, under some plans, population increases due to increased water deliveries (for Alternative 3) could be as high as 14% of existing projected population increases and 19% of the projected population increase compared to the No-Action Alternative, where municipalities would experience reductions in water deliveries from the SWP.</p> <p>The chapter explores the various possibilities of how water could induce population growth in considerable detail, considers the linkages between population growth and economic growth, and also provides a thorough investigation of municipal and county planning processes for accommodating growth while reducing environmental impacts, mostly in the South Coast Basin where the impacts could be significant.</p> <p>Chapter 30 also lays out which agencies are in charge of growth and its environmental impacts, especially in the South Coast Basin, making it very clear that it is up to them to deal with the problems and not the responsibilities of DWR or U.S. Bureau of Reclamation or other State and Federal agencies. Furthermore, the chapter is informative for local and regional planning agencies. The DWR and USBR do not have the authority to deny going forward on the Draft BDCP because of any induced growth.</p>	
1449	1	<p>Alternatives development in Chapter 3 of the Bay Delta Conservation Plan Draft EIR/EIS is inadequate, and failed to consider a full range of alternatives. A full range of statewide alternatives such as the increased use of recycled water, implementation of desalination facilities, water conservation methods, and modified farming/cropping practices to reduce reliance on surface water supplies should have been included and analyzed in the range of alternatives developed.</p>	<p>This comment pertains to Alternative 4 (known also as the BDCP). 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</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p> <p>Appendix 3A of the Final EIR/EIS 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. Appendix 1C, Water Demand Management, of the 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 project, the Lead Agencies recognize that they are important tools in managing California's water resources.</p> <p>The proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change. The proposed project is not a comprehensive, statewide water plan, but is instead aimed at addressing many complex and long-standing issues related to the operations of the SWP and CVP in the Delta, including reliability of exported supplies and adverse effects on threatened and endangered species that depend on the Delta.</p> <p>Please see Master Response 4 regarding the selection of alternatives analyzed and Master Response 6 regarding demand management. Please see Master Response 3 regarding the project's objectives, purpose, and need.</p>
1449	2	<p>In the Bay Delta Conservation Plan Draft EIR/EIS (Chapter 8, page 437, line 33), for preferred Alternative 4, it is stated "...the percent of days exceeding EC (electrical conductivity) objectives and percent of days out of compliance would increase at..., San Joaquin River at Jersey Point ...." Ironhouse Sanitary District discharges treated effluent year-round just downstream of Jersey Point in compliance with National Pollutant Discharge Elimination System permit No. CA0085260 issued by the Central Valley Regional Water Quality Control Board. In 2010, ISD spent \$68 million to upgrade its wastewater treatment facilities to allow discharge of treated effluent into the San Joaquin River. The EIR/EIS failed to address the impacts higher electrical conductivity levels in the Delta will have on ISD's (and other entities in the Delta) ability to discharge legally permitted treated effluent into the San Joaquin River and other Delta locations.</p>	<p>The preferred alternative, Alternative 4A, would have less than significant impacts on salinity-related parameters bromide and chloride at Delta assessment locations, and less than significant impacts on electrical conductivity (EC) concentrations after mitigation.</p> <p>Please refer to Master Responses 14, Chapter 8, Water Quality, and associated appendices of the Final EIR/ES for additional discussion of water quality and the analysis of salinity effects. Please see Master Response 15 regarding effects of water quality changes on existing NPDES permit holders. Please see also Master Response 5 for further information on the BDCP effects analysis.</p>
1449	3	<p>Chapter 8, Water Quality, of the Bay Delta Conservation Plan Draft EIR/EIS fails to adequately address the water quality impacts of the Bay Delta Conservation Plan. Potable water for the majority of Ironhouse Sanitary District customers comes from the Delta surface water supplies. The proposed project will adversely impact Delta water quality in the western Delta as well as other areas of the Delta. The adverse impact to water quality (salinity increases) will cause ISD's customers to install water conditioning units to mitigate for drinking water supply sources higher in salinity (electrical conductivity), which will result in wastewater higher in salinity. These conditioning units, which typically discharge brine during recharge, will increase the influent salinity to the wastewater treatment plant, and hence the effluent salinity, which could have a major impact on ISD's ability to discharge its legally permitted treated effluent into the San Joaquin River.</p>	<p>Please see Response to Comment 1449-2.</p>
1449	4	<p>As Ironhouse Sanitary District currently recycles one half of its treated effluent on it agricultural fields, increased salinity in effluent water will adversely impact ISD's ability to use its effluent as irrigation water for its fields and crops. ISD is also currently producing a Recycled Water Feasibility study to further recycle its treated effluent for irrigation throughout ISD's service area, for industrial process and cooling waters, as well as for future</p>	<p>Please see Response to Comment 1449-2.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		indirect potable reuse opportunities. Increased electrical conductivity in ISD's treated effluent will adversely limit ISD's ability to recycle its treated water to irrigate crops, to assist with industrial processes, and possibly to use its water for high and better uses like indirect potable reuse.	
1449	5	Increased salinity in the Delta at Jersey Point will adversely impact Ironhouse Sanitary District's ability to utilize its significant water rights on both its mainland and island properties for purposes of irrigation of crops as well as for a water supply for its significant animal resources (2,400+/- head of cattle) on Jersey Island. ISD believes the increase in electrical conductivity in the San Joaquin River, resulting from implementing the preferred alternative in the BDCP will increase the salinity in its groundwater as well as its irrigation water and reduce ISD's ability to farm its ground and recycle its water.	Please see Response to Comment 1449-2.
1449	6	The California Environmental Quality Act (CEQA) provides that the project description for the DEIR/DEIS for the BDCP must include all relevant parts of the BDCP, including reasonably foreseeable future expansion or other activities that are part of the BDCP (Emphasis added.) Laurel Heights Improvement Ass'n v Regents of Univ. of Cal. (1988) 47 C3d 376. CEQA also requires that the lead agency, in this case the BDCP proponents, may not split the BDCP, a single large project, into small pieces so as to avoid environmental review of the entire project. Orinda Ass'n v Board of Supervisors (1986) 182 CA 3d 1145, 1171. The DEIR/DEIS fails to meet this standard and therefore is inadequate because the project description does not include nor does the DEIR/DEIS analyze the 2014 Drought Emergency Temporary Rock Barriers, Steamboat and Sutter Sloughs and False River, California, DWR March 2014, Sheets 1 - 15 ("Barriers").	For information regarding how the lead agencies analyzed the proposed project as a whole, please see Master Response 8. For information regarding drought operations and the proposed project (Alternative 4A, California Water Fix), please see Master Response 47.  The 2014 Drought Emergency Temporary Rock Barriers, Steamboat and Sutter Sloughs and False River, California (Drought Barrier) project was a separate project having independent utility from BDCP or California Water Fix. In 2015, relying on the CEQA suspension within Governor Brown's Executive Order B-29-15, which was issued in response to the continuing drought, DWR installed and removed the temporary rock barrier. The Drought Barrier was an emergency facility outside the scope of the BDCP or California Water Fix project and is therefore appropriately not considered part of the project.
1449	7	The 2014 Drought Emergency Temporary Rock Barriers are both reasonably foreseeable and part of the BDCP for several reasons, including: (1) during the 1976-77 drought, rock barriers were placed in several Delta channels, including Sutter Slough and Dutch Slough, [footnote 1: Protecting Water Supplies and Delta Water Quality with Emergency Drought Barriers, DWR, March 2014, p.l.] and (2) these barriers are addressed in DWR, Delta Drought Emergency Barriers, Administrative Draft, April 2009. Even if the Barriers are not explicitly included in the Project Description of the BDCP DEIR/DEIS, they are defacto an integral part of the BDCP. As the BDCP DEIR/DEIS acknowledges in Chapter 8 that increases in salinity at multiple locations within the Delta will occur as part of the project, the BDCP DEIR/DEIS must analyze the need for rock barriers as part of the project. Although sometimes described with the adjectives temporary or emergency, unfortunately these barriers are likely to become, especially in the western Delta, permanent, routinely used defenses against salinity intrusion in response to implementation of the BDCP and California's cycle of recurring droughts. CEQA demands that the DEIR/DEIS analyze the Barriers because they are both reasonably foreseeable and activities that are part of the BDCP. To allow the Barriers to be analyzed separately in other CEQA documents constitutes impermissible piecemeal. [footnote 2: A lead agency may not split a single large project into small pieces so as to avoid environmental review of the entire project. Orinda Ass'n v Board of Supervisors (1986) 182 CA 3d 1145, 1171.]	As stated in Response to Comment 1449-2, Alternative 4A would have less than significant impacts related to bromide and chloride levels at Delta assessment locations and, with mitigation, a less than significant impact on EC concentrations. The impact analysis in the EIR/EIS is a long-term analysis and does not consider temporary emergency actions by DWR and Reclamation, such as the drought barriers, as long-term facilities. Please see also Response to Comment 1449-6. For more information on how the project is evaluated as a whole, please see Master Response 8.
1449	8	To state it in concrete terms, the authors of the BDCP DEIR/DEIS must revise Chapter 8: Water Quality in order to analyze the short and long term impacts on salinity in the western Delta of the installation of the Barriers. In particular, the BDCP DEIR/DEIS authors must analyze the impacts of the installation of barriers as a result of the implementation of the BDCP as well as how barrier installations in response to future droughts would change once	As stated in Response to Comment 1449-2; Alternative 4A would have less than significant impacts related to bromide and chloride levels at Delta assessment locations and, with mitigation, a less than significant impact on EC concentrations. The effects of all barriers that are proposed as part of the project or its alternatives on salinity were analyzed via the modeling conducted in the EC, chloride, and bromide assessments. Barrier installations in response to future droughts are not part of the project, and it would

DEIRS Ltr#	Cmt#	Comment	Response
		the BDCP is implemented.	be speculative to include them or their locations in the analysis.
1449	9	<p>The DEIR/DEIS does not adequately analyze, in a focused, specific and coherent manner, the impact of the salinity intrusion which will be caused by the BDCP on the riparian and appropriative water rights held by various entities in the western Delta. These entities include but are not limited to Ironhouse Sanitary District.</p> <p>ISD owns lands located along the west bank of Marsh Creek in Contra Costa County and the accompanying riparian right to divert water from Marsh Creek. The water right ID is S018558, Face Value 68.75 acre-ft/year.</p> <p>ISD is also the owner of Jersey Island and the holder of a riparian right to divert water from the San Joaquin and False Rivers, Piper, Taylor and Dutch Sloughs. The water right ID is S023983, Face Value 16,619 acre-ft/year.</p> <p>The DEIR/DEIS presents several discrete, disparate discussions on the subject of salinity intrusion in the western Delta. For example, Appendix 3E discusses Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies. In Appendix page 3E-3 in Section 3E.2.2, the DEIR/DEIS discusses Salinity/Seawater Intrusion. In Chapter 8, Water Quality, the DEIR/DEIS contains numerous references to EC (electrical conductivity) objectives as measured at Jersey Point. Chapter 8 at pages 8-562 and 563 discusses NEPA Effects and presents CEQA conclusions at pages 8-563 and 564.</p> <p>However, as previously noted the DEIR/DEIS does not adequately analyze the impact of the salinity intrusion caused by the BDCP on the riparian and appropriative water rights held by various entities in the western Delta.</p>	<p>As stated in Response to Comment 1449-2; Alternative 4A would have less than significant impacts related to bromide and chloride levels at Delta assessment locations and, with mitigation, a less than significant impact on EC concentrations. The water quality assessment in Final EIR/EIS Chapter 8, Water Quality addresses effects of the project alternatives on diverters of water from the Delta via evaluating changes in compliance with water quality objectives and long-term degradation at the Delta assessment locations. For agricultural beneficial users of the Delta, these locations are the Bay-Delta Water Quality Control Plan compliance locations for EC. For municipal and industrial uses, these included Bay-Delta Water Quality Control Plan compliance locations for chloride. Please refer to Master Responses 14, Chapter 8, Water Quality, and associated appendices of the Final EIR/ES for additional discussion of water quality and the analysis of salinity effects.</p>
1449	10	Figure 14-1 Overview of Agricultural Type contains an error. The purple designation for Field, Truck, Nursery, and Berry Crops shown on Jersey Island is incorrect and should be removed.	Figure 14-1 has been revised as appropriate.
1449	11	<p>At page 29-20, lines 12 through 21, the DEIR/DEIS states:</p> <p>Resilience/Adaptation</p> <p>The BDCP alternatives, with the exception of Alternative 9, would not add resiliency to existing levees; levee fragility would remain high and increase with time as in the No Action/No Project Alternative. However, BDCP Alternatives</p> <p>IA-8 would provide additional adaptability to catastrophic failure of Delta levees. By providing an alternate conveyance route around the Delta, Alternatives IA-8 provide a mechanism to continue making water deliveries to SWP/CVP contractors and local and in-Delta water users with conveyance interties even if the Delta were temporarily disrupted by a catastrophic levee failure. Alternative 9 adds additional resiliency to the Delta by strengthening and reinforcing levees critical to the through-Delta conveyance route, however, this alternative does not increase the adaptive capacity of the system.</p> <p>Ironhouse Sanitary District does not dispute this statement. However, the DEIR/DEIS should, but unfortunately does not, analyze the impacts of "providing an alternate conveyance route around the Delta" on the availability and willingness of the state legislature and State Department of Water Resources (DWR) to provide funding to local reclamation districts for ongoing levee repair and maintenance. In other words, the</p>	<p>Please see Appendix 6A, Sections 6A.2 and 6A.3, of the FEIR/EIS, for discussion on existing levee improvement programs and funding mechanisms, which would not be affected by the proposed project. Levees are an important public safety resource and the proposed project would not change levee policy or replace ongoing programs and grant projects aimed at facilitating and supporting levee improvements in or outside the Delta. It is recognized that levee maintenance and safety in the Delta is an important issue for the residents of the Delta and for statewide interests.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		availability of an alternative conveyance route around the Delta could potentially serve as a disincentive for DWR's funding of levee repair and maintenance because worst case, in the event of levee failure and salinity intrusion into the Delta, there is an alternative means to route fresh water around rather than through the Delta.	
1449	12	The DEIR/DEIS in Figure 20-4: Solid Waste Facilities shows that a Disposal facility is located in the center of Jersey Island. The term Disposal facility is not defined, nor is it discussed in the text of Chapter 20 -Public Services and Utilities. Ironhouse Sanitary District believes this reference to solid waste disposal facility is to an area on Jersey Island where ISD used to receive and store certain salvaged building materials delivered by local contractors until Reclamation District 830 reuses these materials for Jersey Island levee repair. The symbol for disposal should be removed from Jersey Island in Figure 20-4.	DWR appreciates the commenter's clarification about this salvage storage location on Jersey Island. The commenter's request to modify Figure 20-4 is noted. Because the referenced disposal site on Jersey Island would not be affected by the project alternatives and no changes to the alternatives impact analyses would be required, this minor revision has not been made, but ISD's clarification of the site is noted and appreciated.
1449	13	The DEIR/DEIS Glossary in Chapter 35, page 35-29 defines the term Restoration Opportunity Area (REA). Figures 24-3, -5 and -6 show a Restoration Opportunity Area on the former Emerson, Gilbert & Burroughs properties and on the eastern fringe of the ISD Mainland property along the west bank of Marsh Creek. Figure 26-1 also shows the West Delta Restoration Area (ROA) which again includes the eastern fringe of the ISO Mainland property along the west bank of Marsh Creek. Please provide [CUT OFF. ORIGINAL PDF IS INCOMPLETE AND DOES NOT CONTAIN THE REST OF THIS COMMENT.]	The comment provided was incomplete and does not indicate the commenter's concern.
1450	1	The Natural Heritage Institute recommends that the attached addition to Chapter 8 of BDCP be included in the final text.  ===  8.3.5.3.5. State General Fund  Traditionally the state general fund has not been used to pay for habitat restoration or for ecologically necessary flows. But, as described above, there has been extensive use of general obligation bonds for these purposes, and they will continue to be used in the future.  General obligation bonds are repaid using the state's general fund to pay for bond principal and interest. Another way to use the general fund would be to pay for habitat and flows directly from the general fund, thus avoiding bond interest payments. It would be possible to appropriate funds directly from the general fund to the Department of Fish and Wildlife on an annual basis to pay for the state share of habitat or flows necessary for individual fish species. If this were done, it would have to be on an annual basis, since no legislature can require appropriations from future legislatures.  The administration and legislature may consider this payment method as a full or partial alternative to the general obligation bonds described above.	The Lead Agencies will consider this suggested addition to Chapter 8 of BDCP if an alternative with BDCP is selected. Please also note that BDCP is no longer the preferred alternative. Please see Alternative 4A which 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. Funding for Alternative 4A will come entirely from the participating state and federal water contractors.
1451	1	The Los Angeles County Economic Development Corporation (LAEDC) and the leadership Council have been long-time supporters of developing a portfolio of solutions to address our water needs within the Los Angeles County region. Top on this list has been the development of additional locally driven water supplies (such as stormwater capture, groundwater replenishment, water recycling, and storage) to reduce our overall reliance on imported water. Diversifying our portfolio locally-as well as statewide-is critical to maintaining and growing a robust economy. With over 25% of LA County's water supply coming from the Delta, we must embrace a twofold solution: secure the Delta water	The efforts completed by water users in Los Angeles County are supportive of the action alternatives and included in the Existing Conditions, No Action Alternative, and Cumulative Impact analysis assumptions. The 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. It is important to note that the project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need 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

DEIRS Ltr#	Cmt#	Comment	Response
		<p>supply and also develop additional local water supplies.</p> <p>The Bay Delta Conservation Plan provides a real opportunity to improve the system, ensuring reliable and safe supply of water to our homes and businesses for the years to come, while also restoring the damaged ecosystem of the Delta.</p>	<p>Management Measures).</p> <p>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.</p>
1451	2	<p>Here in the Southern California region, we at Los Angeles County Economic Development Corporation continue to work on the development of local water solutions, but we remain overly reliant on volatile imported water supplies that are outside of our control. This imported water supply is and continues to be vulnerable to disruption. To better understand how prepared we are as a region for a disruption and what it would mean to our local economy, we released a report in November 2012, titled Total Regional Economic Losses from Water Supply Disruptions to the Los Angeles County Economy. The report, conducted by a team of University of Southern California economists led by Professor Adam Rose, one of the nation's leading economic risk analysis experts of terrorism and other major disasters, found that Los Angeles County could suffer startling job and gross domestic product (GDP) losses if a major disruption to the region's imported water supplies were to occur from a major shutdown of the California Aqueduct due to a man-made or natural disaster such as an earthquake.</p> <p>The report showed that Los Angeles County could face severely negative economic impacts resulting from a 12-month and 24-month shutdown of the California Aqueduct, for example:</p> <p>--During an "adverse hydrologic" (i.e., drought) year (such as our current experience), a 12-month shutdown would amount to economic losses of as much as 550,000 jobs and \$55.6 billion in GOP if resilience, such as accelerated conservation and diversion of replenishment water to other uses, is minimal.</p> <p>--Under "normal hydrologic" (e.g., rainfall) conditions, a 24-month California Aqueduct shutdown would lead to as much as 740,000 in lost job-years, \$75 billion lost in GOP and \$135 billion in lost total sales revenue for businesses if resilience is minimal.</p> <p>The report demonstrates the importance of protecting imported water sources that are vulnerable to natural disasters (through efforts like the Bay Delta Conservation Plan) while also working on developing local water supplies, maximizing groundwater storage, and implementing locally driven strategies to expedite the development and delivery of critical water infrastructure projects.</p>	<p>This comment is consistent with the results of the comparison of No Action Alternative to Existing Conditions in Chapter 16, Socioeconomics, of the EIR/EIS.</p>
1451	3	<p>At the Los Angeles County Economic Development Corporation (LAEDC) and the Leadership Council, we strongly believe that we may only get one chance in our lifetimes to do this project right and improve water security for generations. With seven-plus years of planning already spent on the BDCP, it is critically important that we get to the doing phase of this long-term planning exercise. We cannot afford to accept the status quo and we should not settle for a scaled down project that only solves part of the problem. We urge you to not wait for that impending catastrophe to strike in order to incite action. Instead, let us move forward now.</p>	<p>Please note that 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 environmental planning processes for both CEQA and NEPA.</p>
1451	4	<p>ATT1: Total Regional Economic Losses from Water Supply Disruptions to the Los Angeles County Economy</p>	<p>The comment describes an attachment to the comment letter. The attachment does not raise any additional issues related to the environmental analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS that are not already addressed in the Final EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1452	1	<p>The Southern Nevada Water Authority (SNWA) appreciates the opportunity to comment on the Draft Bay Delta Conservation Plan and associated Draft Environmental Impact Report and Environmental Impact Statement (Draft Plan). While SNWA does not obtain any water from the California Bay Delta, SNWA shares a portion of the Colorado River with the Metropolitan Water District of Southern California (Metropolitan), an Authorized Entity in the Draft Plan. Therefore, SNWA is acutely aware of how the actions contemplated in the Draft Plan could have water supply consequences to the Colorado River.</p> <p>SNWA and Metropolitan both rely upon a portfolio of water resources with contingency plans for unfavorable resource conditions. The uncertainty of supply coming from the Bay Delta in California forces heavier reliance on Colorado River resources. More than a decade of drought on the Colorado River and expected long-term supply and demand imbalance have resulted in drastically reduced reservoir storage and significant near-term probability of the first ever shortage declaration on the Colorado River. The droughts in both California and on the Colorado River have exacerbated the importance of collaborative and durable solutions. SNWA supports the Draft Plan and the steps taken by Metropolitan to secure a sustainable supply of water for southern California's communities. The Draft Plan represents a significant milestone toward achieving long-term water security through a comprehensive conservation strategy for the Sacramento-San Joaquin Delta.</p>	<p>This comment is consistent with the fundamental purpose of the project to make physical and operational improvements to the SWP system in the Delta, water supplies of the SWP and CVP for users located south of the Delta, and Delta water quality consistent with statutory and contractual obligations of the SWP and CVP, as described in Section 2.3 of Chapter 2, Project Objectives and Purpose and Need, of the EIR/EIS.</p> <p>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.</p>
1452	2	<p>The western United States face substantial water resource challenges. Innovative and sustainable solutions are needed to address these challenges. Southern Nevada Water Authority encourages timely adoption and implementation of the Draft Plan in order to provide future water supply reliability. River drainages and the actions of the communities that rely upon them are increasingly interconnected as is the case between the Sacramento-San Joaquin Delta and the Colorado River.</p>	<p>The project objectives include approaches to make improvements in response to anticipated sea level rise, climate change, and currently planned population growth, as described in Chapter 2, Project Objectives and Purpose and Need.</p> <p>The comment does not raise any environmental issue related to the 2013 DEIR/EIS.</p>
1453	1	<p>Mr. Brown, California is already short in water, and as you well know, most of the water is being carried in from several other states.</p> <p>California does not have water for its own, how can it be possible just think to give our limited supply of water to a few people who are not really helping the state, nature and or the people?</p> <p>Maybe you and some of your friends will become richer, but if you do not have water and food, what will you do with that money? You have to live, survive, eat, and drink first. Then you will think about your home or place where live. What will you do when there is nothing you can buy with money? Water is everything, water is the future money exchange.</p> <p>But with these tunnels plans either you will have water to survive ... [sic]</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>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.</p>
1454	1	<p>You have done your best to shield this project from the voters' will.</p> <p>It would seem you are not doing this for the voters, but for wealthy interests. We suspect this is a quid pro quo deal. You should be ashamed. Back when you were being derided as Governor Moonbeam you had higher aspirations.</p>	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Prior to construction of the proposed project, the EIR/EIS must be certified and adopted by the implementing agencies, and permits must be obtained. However, a public vote is not required to move forward. California Water Code section 12934, subdivision (d)(3), of the Burns-Porter Act and Water Code section 11260 of the Central Valley Project Act authorize DWR to build water facilities in the Delta, as part of the State Water Project, and give DWR broad discretion as to what those facilities may involve. Thus, DWR</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>has the authority to build the proposed project without a public vote.</p> <p>Even so, the proposed project is the result of more than seven years' collaboration and consultation with numerous stakeholders, agencies, public water agencies and environmental organizations. The organizations that have participated in the Steering Committee, public meetings or written letters to provide input on the Plan include: American Rivers, Bay Institute, Defenders of Wildlife, The Endangered Species Coalition, Environmental Defense Fund, The Golden Gate Salmon Association, National Audubon Society, Natural Resources Defense Council, the Nature Conservancy, and Planning and Conservation League. The feedback was used to guide the development and subsequent revisions of the Proposed Project and its associated EIR/EIS to reflect concerns addressed from the various groups. All of the documents, studies, administrative drafts, and meeting materials have been posted online since 2010 in an unprecedented commitment to provide public access and government transparency.</p> <p>Although the RDEIR/SDEIS, EIR/EIS and much of the proposed project has been drafted by scientists working for a private consulting firm (ICF) working for the Lead Agencies, the Agencies' scientists have been intimately involved, and their judgments are reflected throughout the EIR/EIS and the proposed project itself. The State is most interested in putting forth the best project that meets the goals of ecosystem improvement and water supply reliability. To the degree that the current Plan is endorsed by some environmental organizations serves as confirmation that the proposed plan protects species, habitats and the Delta ecosystem in a way that is compatible with their goals. The website includes correspondence from agencies and NGOs received prior to the start of the formal comment period. Comments received during the comment period are to be included in the Final EIR/EIS.</p> <p>For more information on public outreach efforts, please see Master Response 40.</p> <p>The project has been initiated and carried forward by two Governors acting on a mandate from the voters of the State as a whole and not as a result of corporations.</p>
1455	1	I vehemently oppose the construction of the tunnels. It will eventually destroy the ecosystem of the Delta.	<p>No issues related to the adequacy of the environmental impact analysis in the EIR/S documentation were raised. The proposed project was developed to meet the rigorous standards of the federal and state ESAs, and as such the proposed project is intended to be environmentally beneficial. 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.</p>
1456	1	I am a student at the University of California, Los Angeles School of Law studying environmental law writing on my own behalf to highlight the inadequate incidental take permit alternatives evaluated in the Draft Environmental Impact Report /Environmental Impact Statement (DEIR/DEIS) for the Bay Delta Conservation Plan (BDCP). The BDCP is described as a "comprehensive conservation strategy to advance the planning goal of restoring ecological functions of the Sacramento-San Joaquin Delta (Delta) and improving water supply reliability in the state of California." [Footnote 1: The U.S. Department of the Interior, Bureau of Reclamation, the U.S. Department of Fish and Wildlife, the U.S. Department of Commerce, the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service, and the California Department of Water Resources, Draft Environmental Impact Report/Environmental Impact Statement for the Bay Delta Conservation Plan [hereinafter DEIR/DEIS] 1-1 (November 2013) available at <a href="http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftEIR/EIS.aspx">http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftEIR/EIS.aspx</a> .] The Delta Blue Ribbon Task Force referred to these planning goals as "co-equal" [Footnote 2: Id.] but the failure of the DEIR/DEIS to analyze alternatives to the proposed take clearly prioritizes water supply over ecological functions and fails to comply with the requirements	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. {The EIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>The requirement to analyze alternatives to take derives from the ESA, not from NEPA or CEQA. Alternatives to take were analyzed in BDCP Chapter 9. However, see Master Response 6 for more information regarding the BDCP and the Preferred Alternative.</p> <p>Numerous comments were received that focused on various elements of the BDCP. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p> <p>For more information regarding permitting see Master Response 45.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>of the California Environmental Quality Act (CEQA).</p> <p>The issue of take alternatives has already been brought to the attention of the proponents of the BDCP. The National Marine Fisheries Service (NMFS) comment on the DEIR/DEIS highlights that since the proposed action is the issuance of an incidental take permit, the alternatives section of the DEIR/DEIS must examine alternatives specifically to the incidental take permit. [Footnote 3: National Marine Fisheries Service, NMFS "Big Picture" Issues for 2013 Admin Draft BDCP EIR/EIS, 2013 Fed. Agency Comments Received on the Bay Delta Conservation Plan (BDCP) Second Admin. Draft Evtl. Impact Report/Environmental Impact Statement (EIR/EIS) (2013) available at <a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Federal_Agency_Comments_on_Consultant_Administrative_Draft_EIR/EIS_7-18-13.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Federal_Agency_Comments_on_Consultant_Administrative_Draft_EIR/EIS_7-18-13.sflb.ashx</a>.] The NMFS explained that the alternatives section is supposed to "provide a clear basis for choice among options" but the current DEIR/DEIS is inadequate to allow the decision maker to approve a take permit because "none of the alternatives describe the ... proposed action." [Footnote 4: Id. at 1.] The NMFS suggested that the final EIR/EIS include alternatives to the proposed 50-year duration of all issued take permits such as a 25-year permit as is standard in other applications for take permits. [Footnote 5: Id.] This comment is meant to explain the legal authority for the argument that alternative durations for the take permits are necessary in an EIR/EIS and the policy rationale behind examining alternative durations.</p> <p>An examination of the requirements for CEQA alternatives analysis reveals that the purpose of the project is essential to determining the scope of the alternatives. [Footnote 6: See Section III.B.i. of this comment for discussion on this topic.] The first stated purpose of the BDCP is to support the applications for take permits under the federal Endangered Species Act (ESA) and the California Natural Community Conservation Planning Act of 2003 (NCCPA). [Footnote 7: DEIR/DEIS, 2-3.] However, every alternative in the BDCP includes the same 50-year take permit. [Footnote 8: Id. At 3-2.] This is problematic given the provision of the NCCPA akin to the 'No Surprises Rule' in the Federal ESA. [Footnote 9: Cal. Fish &amp; Game Code Ann. [Section] 2823 (West).]</p>	<p>The proposed project is a joint FEIR/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 Final EIR/EIS are intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives for either compliance strategy. As implementation of the proposed project or any of the action alternatives will require permits and approvals from public agencies other than the Lead Agencies, the CEQA and NEPA documents are prepared to support the various public agency permit approvals and other discretionary decisions. These other public agencies are referred to as responsible agencies and 20 trustee agencies under CEQA (State CEQA Guidelines Sections 15381 and 15386) and cooperating agencies under NEPA (e.g., USACE and EPA).</p> <p>For more information please see 1.1.5 of Section 1 Introduction of the RDERI/SDEIS."</p>
1456	2	<p>While mitigation and changes to the incidental take permit may be possible for some of the effects likely to result from climate change, the BDCP claims to have incorporated planning for climate change into the conservation measures and other effects of climate change may be considered unforeseen circumstances that the project proponents would not be forced to mitigate once the BDCP is approved as a natural community conservation plan under the NCCPA. [Footnote 10: See ]</p> <p>The various species covered under the BDCP are important to the California economy, the health of the Delta ecosystem as a whole, and biodiversity in general. The BDCP EIR/EIS is the only opportunity to examine the environmental consequences of permits authorizing the take of these species. The BDCP project proponents need to take their commitment to restoring the Delta ecology seriously and include analysis of take alternatives in the EIR/EIS as required for sufficient information for those agencies deciding on the take permits to make a clear choice between meaningfully different options. [Footnote 11: National Marine Fisheries Service, supra note 3.] The take alternatives should be discussed in the EIR/EIS, instead of just the BDCP. Additionally, for meaningful analysis of the alternatives it is suggested that the alternatives be examined in light of the varying degrees of certainty in regards to California's climate over various lengths of time. This would enable the CDFW to compare the certainty and stability provided to the project proponents with a longer</p>	<p>Since the time of the Draft EIR/EIS analysis a new preferred CEQA and NEPA alternative (Alternative 4A) has been identified that does not include an HCP/NCCP and is analyzed at a substantially shorter time interval (2025) thereby reducing the uncertainty about the influence of climate change and the environmental effects that could occur over a longer time period.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>permit durations with the uncertainty about the state of the Delta's ecology due to climate change over longer periods of time.</p>	
1456	3	<p>The DEIR/DEIS was written to support the "issuance of incidental take permits for restoration activities and operational changes in the State Water Project (SWP) and authorizations related to operational changes in the federal Central Water Project (CWP)." [Footnote 12: DEIR/DEIS at 1-2.] The DEIR/DEIS supplements the BDCP, which is both a habitat conservation plan pursuant to the federal ESA and a natural community conservation plan pursuant to the NCCPA. [Footnote 13: Id.] The DEIR/DIES was prepared for compliance with the National Environmental Policy Act and CEQA. [Footnote 14: Id.] However, the discussion of alternatives to the proposed incidental take in this comment is limited to analysis under CEQA and thus the relevant action is limited to permitting under the NCCPA. For the purposes of this comment letter, the relevant lead agency is the California Department of Water Resources (CDWR) and the relevant permitting agency is the California Department of Fish and Wildlife (CDFW).</p>	<p>No issues related to the adequacy of the environmental impact analysis in the EIR/EIS are raised.</p>
1456	4	<p>While one of the goals of the BDCP is "restore and protect ecosystem health", other goals such as the restoration of water supply and water quality mean that the proposed development in the BDCP such as the new water conveyance facilities will result in the take of multiple species. [Footnote 15: Cal. Dep't of Water Res., Public Draft Bay Delta Conservation Plan [hereinafter BDCP] 1-1, ES-16 (ICF Int'l 2013), available at <a href="http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftBDCP.aspx">http://baydeltaconservationplan.com/PublicReview/PublicReviewDraftBDCP.aspx</a>.] The 'take' of a species includes to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" a species. [Footnote 16: Cal. Fish &amp; Game Code Ann. [Section] 86 (West).] Take will result from the BDCP in a variety of ways including entrainment of important fish species on water intake facilities. [Footnote 17: BDCP, 5.B-i.] The California Endangered Species Act prohibits the take of an endangered or threatened species without an incidental take permit. [Footnote 18: Cal. Fish &amp; Game Code Ann. [Section] 2080.1 (West).] The NCCPA process is one way in which an agency may receive that permit. [Footnote 19: Cal. Fish &amp; Game Code Ann. [Section] 2835 (West).]</p> <p>The NCCPA is a "mechanism for compliance with state endangered species regulatory requirements through the development of comprehensive, broad-scale conservation plans...". [Footnote 20: BDCP, 1-10.] Under the NCCPA, the permitting agency, here the DWF, may "authorize by permit the taking of any covered species... whose conservation and management is provided for in a natural community conservation plan approved by the department." [Footnote 21: Cal. Fish &amp; Game Code Ann. [Section] 2835 (West).] In this case, the BDCP is the natural community conservation plan required by the NCCPA. The purpose of the BDCP is to supplement the application for a permit under NCCPA authorizing the take of BDCP's "covered species" which include 11 fish, 5 mammal, 11 bird, 2 reptile, 2 amphibian, 7 invertebrate, and 18 plant species. [Footnote 22: DEIR/DEIS, 1-16-17.] There are many specific permit requirements that the CDWR and its subsidiaries will have to comply with if the NCCPA permit is issued but of particular interest is that the permit would allow for the take of 56 different plant and animal species over the course of 50 years. [Footnote 23: BDCP, 1-25-26.]</p>	<p>This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative.. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p>
1456	5	<p>The Project Alternatives in the DEIR/DEIS:</p> <p>There are 15 action alternatives and one "No Action" alternative to the BDCP as proposed. [Footnote 24: DEIR/DEIS 3-2.] Every alternative involves a dual conveyance water delivery system, diversion of water from the north Delta, and some "Conservation Components".</p>	<p>Please see Master Response 4 regarding the range of alternatives selected.</p> <p>The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The Lead Agencies carefully all potential alternatives that were proposed during the scoping process and during time of</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>[Footnote 25: Id. at 3-15-16.] There are differences in terms of location, design, conveyance capacity, and other features in the various alternatives. [Footnote 26: Id. at 3-2.] However, the "Associated National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) Action" is always the same, as "[i]ssuance of 50-year Incidental Take Permits (ITPs) and an Natural Community Conservation Plan (NCCP) permit is common to all of the alternatives, with the exception of the No Action Alternative." [Footnote 27: Id.] This lack of alternatives to the take permit is what is at issue in this comment letter and is further discussed in Sections III and IV.</p> <p>Take Alternatives in the BDCP:</p> <p>The BDCP itself, not the DEIR/DEIS, does claim to provide analysis of alternatives to the take permits, including the permit required by the NCCPA. [Footnote 28: BDCP, Chapter 9.] The take alternatives listed in the BDCP each have an "equivalent or similar EIR/EIS alternative" and were created based on the DEIR/DEIS alternatives. [Footnote 29: Id. at 9-8-9.] As a result, the take alternatives are similar to the EIR/EIS alternatives with small changes such as increased natural community restoration or decreased tidal restoration. [Footnote 30: Id. at 9-9.] Just like the DEIR/DEIS alternatives, there is no mention of alternatives to the issuance of a 50-year incidental take permit. The alternatives differ in the amount of take (characterized as increased or decreased take and % change in permanent effects on natural communities) but not in whether or not a take permit is required and how long such a permit would last. [Footnote 31: Id. at 9-20.] As such even if this "take alternative" analysis in the BDCP were incorporated into the DEIR/DEIS the legal and policy arguments regarding the inadequacy of take alternatives analysis would not be resolved.</p>	<p>preparation of the Draft EIR/EIS.</p> <p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input</p> <p>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.</p> <p>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.</p> <p>A biological opinion is not required prior to the release of the Draft BDCP/CWF EIR/EIS. For the Proposed Action, the USFWS and NMFS will conduct an internal ESA section 7 consultation prior to issuance of an Section 10(a)(1)(B) permit for the Proposed Action. These federal agencies will coordinate the ESA consultation process and other environmental review processes, such as the National Environmental Policy Act (NEPA), consistent with federal regulations. In addition, the USFWS and NMFS will consult with the United States Bureau of Reclamation (Reclamation) to complete biological opinions or a joint biological opinion prior to federal action to carry out the proposed project.</p> <p>Regarding development of alternatives for the EIR/EIS, a description of the process the Lead Agencies followed to develop and screen alternatives is provided in Master Response 4. The alternatives included in the FEIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA.</p>
1456	6	<p>Importance of the Listed Species in the BDCP:</p> <p>While the NCCPA is meant to incorporate ecosystem planning and be broader than the California Endangered Species Act by covering even non-listed species [Footnote 32: Cal. Fish &amp; Game Code Ann. [Section] 2810 (West).], many of the species for which a take permit would be granted by approval of the BDCP are endangered or threatened. [Footnote 33: BDCP, 1-25-26.] For example, the delta smelt is threatened and one species of Chinook salmon is endangered under both federal and state endangered species laws. [Footnote 34: Id.] The California Endangered Species Act clearly states California's intent to protect such species, citing that "these species of fish, wildlife, and plants are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of this state, and the conservation, protection, and enhancement of these species and their habitat is of statewide concern." [Footnote 35: Cal. Fish &amp; Game Code Ann. [Section] 2051 (West).] Yet the BDCP will allow for take resulting in the death of many members of these already declining species and as such it is even more crucial that the only method of evaluating alternatives to such take, the DEIR/DEIS, be completed properly and in keeping with its own proclamation of species conservation and restoration. [Footnote 36: DEIR/DEIS, 1-1.]</p>	<p>This commenter's opinion is acknowledged and does not require or request changes to the conclusions or text of Chapter 12 of the Draft EIR/EIS.</p>
1456	7	<p>The Chinook salmon in particular highlights the importance of species within the Bay Delta to all Californians. Overall, the BDCP would allow for the take of three different species of Chinook salmon. [Footnote 37: BDCP, 1-25-26.] According to the Golden Gate Salmon Association, "the state's own analysis shows the tunnel and diversions could literally cook young salmon by causing upstream river temperatures to rise to lethal levels." [Footnote 38: Chris Clarke, An Introduction to California's Delta Tunnel and Salmon Controversy, KCET:</p>	<p>This comment addresses Alternative 4 (known also as the BDCP) or analysis contained within the draft BDCP Effects Analysis. Alternative 4 remains a viable alternative.. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>REWILD, (Dec. 10, 2013), <a href="http://www.kcet.org/news/define/rewild/fish/delta-tunnels-could-wipe-out-salmon-group-says.html">http://www.kcet.org/news/define/rewild/fish/delta-tunnels-could-wipe-out-salmon-group-says.html</a>.] Historically, an average of 1.5 to 2 million Chinook salmon spawned in the Delta each year. [Footnote 39: Doug Obegi, How Water Management in the Bay-Delta Threatens the Future of California's Salmon Fishery, in Natural Res. Def. Council, NRDC Issue Paper July 2008, 9 (2008), available at <a href="http://www.nrdc.org/water/conservation/salmon/salmon.pdf">http://www.nrdc.org/water/conservation/salmon/salmon.pdf</a>.] In contrast, none of the spring-run Chinook salmon, an endangered species covered by the BDCP, spawned in the Sacramento River in 2003 and 2005. [Footnote 40: Id. at 11.] The loss of these species has tangible, economic impacts on the state of California. The closure of a single salmon run in 2008 was estimated to result a loss in \$255 million and 2,263 California jobs. [Footnote 41: Id.] Salmon are also a vital part of the Delta ecosystem. Salmon carcasses provide much needed nutrients for various plants and animals in the delta, as well as nearby agricultural uses that thrive on nitrogen in the water released by decaying salmon. [Footnote 42: Id. at 13.]</p>	<p>feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p>
1456	8	<p>There are also reasons to care about the protection of endangered and threatened species in general. Two categories of rationales exist for saving species: anthropocentric (focusing on ways in which species have instrumental value to humans) and intrinsic (focusing on protecting species for ethical or other non-utilitarian purposes. [Footnote 43: Holmes Rolson III, Duties to Endangered Species, I Encyclopedia of Environmental Biology 517 (Academic Press, 1995), available at <a href="http://amar.colostate.edu/~hrolston/duties-end-sp-Enc-Env-B-rev.pdf">http://amar.colostate.edu/~hrolston/duties-end-sp-Enc-Env-B-rev.pdf</a>.] Part of endangered and threatened species instrumental value to humans is the importance of a vast number and diverse range of species to biodiversity. [Footnote 44: Id.] Biodiversity is a broad term that can encompass genetic, species, and ecosystem diversity. [Footnote 45: Jason M. Patlis, Biodiversity, Ecosystems and Species: Where Does the Endangered Species Act Fit In?, 8 Tul. Envtl. L.J. 33, 36 (1994).] Biodiversity is important for the complex ecological services that depend on many species in a health ecosystem. [Footnote 46: National Wildlife Federation, What is Biodiversity?, <a href="http://www.nwf.org/Wildlife/Wildlife-Conservation/Biodiversity.aspx">http://www.nwf.org/Wildlife/Wildlife-Conservation/Biodiversity.aspx</a> (last visited May 15, 2014).] Land covered by the BDCP includes estuarine habitats, a specific category of wetland habitat. [Footnote 47: BDCP, 1-26.] Wetlands serve a variety of important functions that humans rely on such as climate regulation, storage of surface water, flood control, aquifer replenishment, nutrient cycling and more. [Footnote 48: California Natural Resources Agency, State of the State's Wetlands: 10 Years of Challenges and Progress (2010), available at <a href="http://resources.ca.gov/ocean/SOSW_report.pdf">http://resources.ca.gov/ocean/SOSW_report.pdf</a>.] These services may be at risk if biodiversity in the Delta is not maintained.</p>	<p>This commenter offers their interpretation of the intent of endangered species protection laws and does not suggest a change is needed to Chapter 12 of the Draft EIR/EIS. No text change is needed.</p>
1456	9	<p>The purposes of and specifics of the NCCPA and CEQA are also very important for understanding why the BDCP DEIR/DEIS must consider alternative durations for the incidental take permits.</p>	<p>Please see Master Response 4 regarding the range of alternatives selected.</p> <p>The alternatives included in the Draft EIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The Lead Agencies carefully all potential alternatives that were proposed during the scoping process and during time of preparation of the Draft EIR/EIS.</p> <p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input</p> <p>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</p>

DEIRS Ltr#	Cmt#	Comment	Response
			destruction of critical habitat.
1456	10	<p>The California Endangered Species Act prohibits the "incidental taking of any endangered, threatened, or candidate species" unless authorized by the CDFW through a permit, memorandum of understanding, or natural communities conservation plan pursuant to the NCCPA. [Footnote 49: Cal. Fish &amp; Game Code Ann. [Section] 2080.1 (West).] The NCCPA was enacted at a time when both the California and Federal Endangered Species Acts were seen as failing to prevent the decline of wildlife populations despite costly efforts at compliance. [Footnote 50: Daniel Pollack, Natural Community Conservation Planning (NCCP): The Origins of an Ambitious Experiment to Protect Ecosystems (Part 1 of a Series), (Cal. Research Bureau 2001), <a href="https://www.library.ca.gov/crb/01/02/01-002.pdf">https://www.library.ca.gov/crb/01/02/01-002.pdf</a>.] Legislators were concerned that the single species approach of the past was failing to protect species by failing to protect ecosystems as a whole. [Footnote 51: Id. at 8.] The NCCPA was meant to address the fact that "functioning ecosystems depend on the interactions of a wide variety of plant and animal species, not just those that happen to be listed." [Footnote 52: Id.] Under the NCCPA, the CDFW may enter into an agreement with any person or public entity to create a plan that provides for "comprehensive management and conservation of multiple wildlife species." [Footnote 53: Cal. Fish &amp; Game Code Ann. [Section] 2810 (West).] Such plans can only be approved if the CDFW finds that the plan meets various criteria such as providing for "protection of habitat, natural communities, and species diversity", conservation measures, and monitoring programs. [Footnote 54: Cal. Fish &amp; Game Code Ann. [Section] 2820 (West).]</p> <p>In regards to the take of species, "at the time of plan approval, the [CDFW] may authorize by permit the taking of any covered species." [Footnote 55: Cal. Fish &amp; Game Code Ann. [Section] 2835 (West).] The plan will include specific terms and conditions which if violated would result in suspension or revocation of the permit, in whole or in part and must specifically address what will happen if "plan participant does not maintain the proportionality between the take and conservation measures". [Footnote 56: Cal. Fish &amp; Game Code Ann. [Section] 2820(c) (West).] Also, "the department shall suspend or revoke any permit, in whole or in part, issued for the take of a species ... If the continued take of the species would result in jeopardizing the continued existence of species." [Footnote 57: Cal. Fish &amp; Game Code Ann. [Section] 2823 (West).] Finally, the NCCPA includes a provision akin to the 'No Surprises Rule' of the federal ESA. [Footnote 58: The No Surprises Rule of the Federal Endangered Species Act states that: "If additional conservation and mitigation measures are deemed necessary to respond to changed circumstances and such measures were not provided for in the plan's operating conservation program, the Director will not require any conservation and mitigation measures in addition to those provided for in the plan without the consent of the permittee, provided the plan is being properly implemented. 50 C.F.R. [Section] 17.22.] [Section]2820(f)(2) of the NCCPA states that "If there are unforeseen circumstances, additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources shall not be required without the consent of plan participants... ". [Footnote 59: Cal. Fish &amp; Game Code Ann. [Section] 2820(f)(2) (West).]</p>	<p>This commenter offers their interpretation of the requirements of the California Endangered Species Act and does not request a change or challenge the conclusions in Chapter 12 of the Draft EIR/EIS. No text change is needed.</p>
1456	11	<p>The DEIR/DEIS is intended in part to provide compliance with CEQA for the approval of the BDCP as a conservation plan under the NCCPA. [Footnote 60: DEIR/DEIS, 1-12.] The legislative intent behind CEQA was for "all agencies of the state government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment" give major consideration "to preventing environmental damage, while providing a decent home and satisfying living environment for every</p>	<p>Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP or NCCP. No other issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Californian." [Footnote 61: Cal. Pub. Res. Code [Section] 21000(g).] CEQA is an "environmental full-disclosure statute" that requires government agencies to report all of the environmental consequences of projects the agency permits or undertakes. [Footnote 62: 9 Cal. Real Est. [Section] 25A:1 (3d ed.).] In an environmental impact report, an agency discloses all of the environmental impacts of the proposed project and explains why such a project is necessary. [Footnote 63: 9 Cal. Real Est. [Section] 25A:1 (3d ed.).] CEQA also includes substantive mandates as well. [Footnote 64: Id.] Public agencies "should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects". [Footnote 65: Cal. Pub. Res. Code [Section] 21002.] To ensure this substantive requirement is met, an EIR must include "a range of reasonable alternatives to the project, or to the location of 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." [Footnote 66: Cal. Code Regs. tit. 14, [Section] 15126.6.] While an EIR "need not consider every conceivable alternative to a project" there must be a "reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." [Footnote 67: Cal. Code Regs. tit. 14, [Section] 15126.6.]</p>	
1456	12	<p>The No Surprises Rule Provides Project Proponents with a Safe-Harbor Against Further Mitigation Measures For the Duration of the Permit .</p> <p>As previously stated (see Section II.C.I.), the NCCPA includes a provision similar to the 'No Surprises Rule' under the federal ESA. [Footnote 68: Cal. Fish &amp; Game Code Ann. [Section] 2820(f)(2) (West).] The problem with such a long duration for a take permit is illustrated by criticisms of the federal 'No Surprises Rule'. The federal ESA states that after the issuance of an incidental take permit, equivalent to the take permit that may associate a natural community conservation plan under the NCCPA, in unforeseen circumstances arise, a permittee will not be forced to commit more or place more restrictions on "additional land, water, or financial compensation... Beyond the level otherwise agreed upon for the species covered by the conservation plan without the consent of the permittee." [Footnote 69: 50 C.F.R. [Section] 17.32(b)(5)(iii)(B).] In Environmental Protection Information Center v. California Dept. of Forestry and Fire Protection, the Supreme Court of California held that the California Endangered Species Act does not contain a 'No Surprises Rule' but that the Legislature explicitly authorized such a rule in the NCCPA. [Footnote 70: Env'tl. Prot. Info. Ctr. V. California Dep't of Forestry &amp; Fire Prot., 44 Cal. 4th 459, 508 (2008).]</p> <p>The purpose of the rule is to provide economic and regulatory certainty [Footnote 71: Habitat Conservation Plan Assurances ("No Surprises") Rule, 63 Fed Reg. 8859, 8860 (Feb. 23, 1998) (codified in 50 C.F.R. pt. 17).] but it has undermined species conservation in the past and if take is permitted without requiring another permit application for the next 50 years, the NCCPA equivalent may similarly undermine conservation of species in the Bay Delta. The 'No Surprises' rule has been controversial since before its enactment. When the rule was under consideration, a group of 167 scientists sent a letter to Congress arguing that the rule would prevent adaptive land management and thus did not reflect ecological reality and [rejected] the best scientific knowledge and judgment." [Footnote 72: Steve Vanderheiden, Habitat Conservation Plans and the Promise of Deliberative Democracy, Public Integrity 205, 214-215 (2001).] Part of the problem is that the relationship between species and their environment is constantly changing as is scientific knowledge about that relationship. [Footnote 73: Id. At 214.] The rule diminish the ability of habitat conservation plans (or natural community conservation plans as in the case of the NCCPA) to be adapted to ecological needs as they become evident over time. [Footnote 74: Id. At</p>	<p>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. Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>213.] Noted ESA scholar Holly Doremus has criticized the 'No Surprises Rule' for limiting the flexibility of habitat conservation plans that are meant to provide for adaptive management. [Footnote 75: Holly Doremus, Adaptive Management, the Endangered Species Act, and the Institutional Challenges of "New Age" Environmental Protection, 41 WASHBURN L.J. 50, 72 (2001).] With such a rule, agencies that are supposed to ensure species protection cannot require "reductions in allowable take or increases in required mitigation if monitoring shows that the initial scheme is not working well for the species."</p>	
1456	13	<p>The biggest potential threat that may alter the ecosystem and thus the potential existence of many plant and animal species in the region is climate change. The Intergovernmental Panel on Climate Change recently released a report stating that due to climate change "it is virtually certain that there will be more frequent hot and fewer cold temperature extremes over most land areas on daily and seasonal timescales as global mean temperatures increase." [Footnote 76: IPCC, 2013: Summary for Policymakers. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2013), available at <a href="http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf">http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf</a>.] California in particular should expect hotter and drier conditions as the global temperature rises. [Footnote 77: California Natural Resources Agency, 2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008, 15 (2009), available at <a href="http://resources.ca.gov/climate_adaptation/docs/Statewide_Adaptation_Strategy.pdf">http://resources.ca.gov/climate_adaptation/docs/Statewide_Adaptation_Strategy.pdf</a>.] Of particular concern for the Delta and the endangered and threatened species that rely on a vibrant Delta ecosystem, climate change is expected to result in a 12 to 35% decrease in precipitation levels by 2050. [Footnote 78: Id. at 17.] This may have catastrophic effects on BDCP covered species such as the delta smelt. [Footnote 79: DEIR/DEIS, 1-16-17.] A study by the United States Geological Survey found that due to climate change "the persistence of the delta smelt in much of its current habitat into the next century appears to be uncertain." [Footnote 80: Brown et. al., Implications for Future Survival of Delta Smelt from Four Climate Change Scenarios for the Sacramento-San Joaquin Delta, California (United States Geological Service, 2013), available at <a href="http://ca.water.usgs.gov/pubs/BrownEtAl2013.pdf">http://ca.water.usgs.gov/pubs/BrownEtAl2013.pdf</a>.] Climate change may bring about changes in salinity and water temperature which would effect the sustainability of delta smelt populations in the Delta. [Footnote 81: Id.] If projected higher water temperatures were reached, habitat near the Sacramento and San Joaquin rivers would become largely uninhabitable to the delta smelt. [Footnote 82: Id.]</p>	<p>No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.</p> <p>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.</p>
1456	14	<p>The BDCP at least acknowledges climate change as a "changed circumstance" rather than an unforeseen circumstance, meaning that some of the impacts of future climate change could be mitigated in spite of the 'No Surprises Rule'. [Footnote 83: BDCP, 6-32.] This is because the NCCPA distinguishes between changed and unforeseen circumstances and only applies the provision that is equivalent to the 'No Surprises Rule' to unforeseen circumstances. [Footnote 84: Cal. Code Regs. tit. 14, [Section] 15126.6.] However, if climate change were to effect Delta hydrology more quickly or more severely than the BDCP estimates in Appendix 2.C, the ability of federal and state agencies to require management changes or changes to the take permits is questionable. The BDCP states that the effects of climate change have already been anticipated by the plan. [Footnote 85: BDCP at 6-44.] In fact, the main construction project, the water diversion tunnels, of the plan are "proposed because of climate change". [Footnote 86: Id.] However, changes from the plan as it currently is due to climate change appear to be limited. The BDCP allows for "identifying</p>	<p>Please see Master Response 19 regarding climate change analysis. 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.</p> <p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>alternative locations for implementing natural community restoration or protection actions". However, the BDCP explicitly states that anything beyond what is already anticipated by the plan would constitute an unforeseen circumstance and thus no remedial action could be required. [Footnote 87: Id.]</p>	
1456	15	<p>The Purpose of the BDCP is to Support NCCPA Authorization and the Application for a Take Permit, Thus a Reasonable Range of Alternatives Must Include Varying Permit Durations.</p> <p>A Range of Reasonable Alternatives is Defined by the Project Objectives:</p> <p>The range of project alternatives discussed in an EIR pursuant to CEQA is subject to the rule of reason. [Footnote 88: City of Maywood v. Los Angeles Unified School District, 208 Cal. App. 4th 362, 414 (Dist. Ct. App. 2nd 2012) citing Cal. Code Regs. tit. 14, [Section] 15126.6.] While there is no "categorical legal imperative as to the scope of alternatives" [Footnote 89: Sierra Club v. Tahoe Regional Planning Agency, 916 F.Supp.2d 1098, 1121-22 (E.D. Cal 2013).] nor a hard rule about the number of alternatives to be considered, in a previous case also concerning conservation efforts in the Bay-Delta region, the Supreme Court of California instructed that "The process of selecting the alternatives to be included in the EIR begins with the establishment of project objectives by the lead agency." [Footnote 90: In re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings, 43 Cal.4th 1143, 1163 (2008).] Further, the CEQA Guidelines advise that "a clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR." [Footnote 91: Cal. Code Regs. tit. 14, [Section] 15124(b).]</p>	<p>Please see Master Response 4 regarding development and analysis of alternatives.</p>
1456	16	<p>In the DEIR/DEIS, the project objectives specifically address incidental take permits. [Footnote 92: DEIR/DEIS, 2-3.] The first objective listed is to "respond to the applications for incidental take permits for the covered species." [Footnote 93: Id.] The other two objectives reflect the two co-equal goals to be achieved by the BDCP: improvement of the ecosystem and greater, more reliable water supply delivery. [Footnote 94: Id.] The DEIR goes on to state "additional project objectives that guide the development of the proposed project and alternatives." [Footnote 95: Id.] The very first objective listed here is to ensure the BDCP meets the standards for a natural community conservation plan. [Footnote 96: Id.] However, it is unclear how this objective aided the development of alternatives to the project. Every single alternative listed in the DEIR/DEIS with the exception of the no project alternative, result in the exact same 50-year incidental take permit. [Footnote 97: Id. at 3-2.]</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. {The EIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>See Master Response 5 for more information regarding the BDCP and the Preferred Alternative. The Preferred Alternative does not propose a 50-year incidental take permit.</p> <p>For more information regarding permitting see Master Response 45.</p> <p>The effects of water conveyance facility construction on ecosystem function is addressed throughout Section 4.3.8 of the RDEIR/SDEIS.</p> <p>For more information regarding alternatives development please see Master Response 4 and Chapter 3 of the FEIR/EIS. For more information regarding Alternative 4 compliance with the Delta Reform Act and 4A consistency with the Delta Plan please see Appendix 3I and 3J, respectively.</p>
1456	17	<p>The Agency Bears the Burden of Identifying Feasible Alternatives:</p> <p>CEQA prohibits agencies from approving projects for which there are feasible alternatives that would substantially lessen the environmental effects. [Footnote 98: Cal. Pub. Res. Code [Section] 21002.] In order to help the agency avoid approving projects with such alternatives, the CEQA Guidelines instruct an agency to consider a "range of potentially feasible alternatives". [Footnote 99: Cal. Code Regs. tit. 14, [Section] 15126.6.] Feasible is defined as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." [Footnote 100: Cal. Pub. Res. Code [Section] 21061.1.] The agency, in this case CDWR, is responsible for establishing the range of feasible alternatives but does not need to include alternatives that were determined to be infeasible during the scoping process.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. {The EIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>The alternatives included in the FEIR/EIS represent a legally adequate reasonable range of alternatives and the scope of the analysis of alternatives fully complies with both CEQA and NEPA. The Lead Agencies carefully all potential alternatives that were proposed during the scoping process and during time of preparation of the Draft EIR/EIS.</p> <p>The requirement to analyze alternatives to take derives from the ESA, not from NEPA or CEQA. Alternatives to take were analyzed in BDCP Chapter 9. However, see Master Response 5 for more information regarding</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>[Footnote 101: Citizens of Goleta Valley v. Board of Supervisors of the County of Santa Barbara, 52 Cal.3d 553 (1990).] However, nothing in the DEIR/DEIS suggests that alternatives to the incidental take permit were not discussed because the agency determined such alternatives to be infeasible.</p> <p>The alternatives analysis in the BDCP DEIR/DEIS is distinguishable from the appropriate alternatives analysis reviewed in Mt. Shasta Bioregional Ecology Ctr. V. County of Siskiyou. [Footnote 102: Mt. Shasta Bioregional Ecology Ctr. V. County of Siskiyou, 210 Cal.App4th 184 (Dist. Ct. App. 3d 2012).] While the court rejected the plaintiff's argument that the EIR failed to include adequate alternatives analysis, the court's reasoning reinforces the importance of the project objectives to the scope of alternatives discussed. In Mt. Shasta, a wood veneer manufacturing facility sought approval of expansion to accommodate a biomass-fueled power plant. [Footnote 103: Id. at 189-90.] There were numerous project objectives including renewable energy generation, helping prevent regional energy shortfalls, and offsetting the need for energy from fossil fuels. [Footnote 104: Id. at 197.] Four alternatives were analyzed in the DEIR including a no project alternative, a reduced capacity alternative, and two alternative locations. [Footnote 105: Id. at 197-98.] However, the discussion of all but the no project alternative was limited due to infeasibility of the other options. [Footnote 106: Id. at 197.] The plaintiffs argued that a no project alternative was an insufficient alternatives analysis but the court disagreed primarily because the plaintiffs failed to meet their burden of proof of showing that there were feasible alternatives in contrast to the assertions of the lead agency. [Footnote 107: Id.] The court pointed out that the plaintiffs bore the burden because they were challenging certification of the EIR. [Footnote 108: Id. at 199.] In contrast though, there is a "general obligation on the lead agency to identify alternatives and mitigation measures during the CEQA process." [Footnote 109: Id.] The BDCP DEIR/DEIS is currently in the midst of the CEQA process and as such the burden is currently on the agency to show that all feasible alternatives were considered. There is nothing in the DEIR/DEIS to suggest that analysis of alternatives to the incidental take permit such a shorter duration would make the proposed conservation measures infeasible. If the CDWR wishes to use such an argument, it would need to be explicit in the DEIR/DEIS and supported by evidence. [Footnote 110: Id.]</p> <p>Suggestions for the Final EIR/EIS:</p> <p>The discussion above shows that legal and policy arguments support the NMFS's suggestion that the final EIR/EIS include alternatives to the proposed 50-year duration of all issued take permits such as a 25-year permit. [Footnote 111: Id.] These alternatives should be discussed in the EIR/EIS, not just the BDCP. Additionally, the analysis of each alternative should be conducted so that the CDFW can evaluate the impacts of permits of various durations. An analysis of the increasing uncertainty about the state of climate change over longer and longer periods of time is one suggestion for analysis of alternatives to the proposed take permit with various durations.</p>	<p>the BDCP and the Preferred Alternative.</p> <p>Numerous comments were received that focused on various elements of the BDCP. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p> <p>Please see Master Response 4 regarding alternatives development and analysis.</p> <p>For more information regarding permitting please see Master Response 45.</p> <p>For more information regarding climate change please see Chapter 29 of the FEIR/EIS.</p>
1456	18	<p>Discuss Take Alternatives in the DEIR/DEIS, Not Just the BDCP:</p> <p>While even the take alternatives discussed in the BDCP are insufficient to meet the purposes of CEQA alternatives analysis, the revised take alternatives should be included in the Final EIR/EIS, not just the BDCP. Currently, the BDCP itself, not the DEIR/DEIS, claims to provide analysis of alternatives to the take permits, including the permit required by the NCCPA. [Footnote 112: BDCP, Chapter 9.] However, to fully ensure that analysis of alternatives to the take permits is done correct, the alternatives should be in the EIR/EIS. In Citizens of</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. {The EIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>The requirement to analyze alternatives to take derives from the ESA, not from NEPA or CEQA. Alternatives to take were analyzed in BDCP Chapter 9. However, see Master Response 5 for more information regarding the BDCP and the Preferred Alternative.</p> <p>Numerous comments were received that focused on various elements of the BDCP. Where comments</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Goleta Valley, the California Supreme Court held that it is "only the EIR that can effectively disclose to the public the analytic route ... The agency traveled from evidence to action". [Footnote 113: Citizens of Goleta Valley v. Bd. Of Supervisors, 52 Cal. 3d 553, 568 (1990).] Further, "agency consideration of otherwise reasonable alternatives in the administrative record cannot replace the CEQA mandated discussion of alternatives in the EIR". [Footnote 114: Id.] While the BDCP is undoubtedly part of the administrative record, the EIR is what the approving agency, in this case the CDFW, is supposed to use to determine which alternatives "offer substantial environmental advantages over the project proposal" and may be "feasibly accomplished in a successful manner considering the economic, environmental, social and technological factors involved". [Footnote 115: Id. At 566.] The "administrative record can be studied to determine the decree of discussion any particular alternative deserves" but the actual discussion of those alternatives must be in the EIR. Thus, as part of improving the analysis of the alternatives to the take permits in the BDCP, the new alternatives should be analyzed in the EIR/EIS, not just the BDCP where the only mention of "take alternatives" is currently. [Footnote 116: BDCP Chapter 9.]</p>	<p>submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p> <p>"The proposed project is a joint FEIR/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 Final EIR/EIS are intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives for either compliance strategy. As implementation of the proposed project or any of the action alternatives will require permits and approvals from public agencies other than the Lead Agencies, the CEQA and NEPA documents are prepared to support the various public agency permit approvals and other discretionary decisions. These other public agencies are referred to as responsible agencies and 20 trustee agencies under CEQA (State CEQA Guidelines Sections 15381 and 15386) and cooperating agencies under NEPA (e.g., USACE and EPA).</p> <p>For more information please see 1.1.5 of Section 1 Introduction of the RDERI/SDEIS."</p>
1456	19	<p>Comparing Impacts of Take Permits with Varying Durations:</p> <p>According to CEQA Guidelines, an "EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project." [Footnote 117: Cal. Code Regs. tit. 14, [Section] 15126.6.] The purpose of many projects for which CEQA applies is often construction of a building, residential development or project. When this is the case, CEQA alternatives often include various project locations and then the alternatives are assessed based on the environmental conditions of the various locations. [Footnote 118: Cal. Code Regs. tit. 14, [Section] 15126.6(f)(2).] Analyzing the differences between various alternatives is thus perhaps more difficult when the project is agency approval of a permit and the meaningful alternatives are various lengths of the duration of that permit. However, the EIR/EIS can still provide information to help the CDFW compare the environmental consequences of the various alternatives. One suggestion is to evaluate each alternative in light of the compare the increasing uncertainty about the climate change over longer and longer periods of time. Balancing the increasing uncertainty about climate change the longer the permit lasts for with the certainty that project proponents like the CDWR gain from permits of longer durations may help the CDFW determine which permit duration will be most protective of the environment while still being feasible. [Footnote 119: Note that "Specific economic, legal, social, technological, or other considerations" may make mitigation measures or project alternatives identified in the EIR infeasible. Cal. Code Regs. tit. 14, [Section] 15091.]</p> <p>Climate modeling has greater certainty the closer to the present time that the models are being used to predict. [Footnote 120: Gavin Schmidt, The Uncertainty in Climate Modeling, Bulletin of Atomic Scientists (Nov. 26, 2007), available at <a href="http://thebulletin.org/uncertainty-climate-modeling">http://thebulletin.org/uncertainty-climate-modeling</a>.] Concentrations of carbon dioxide depend on factors such as economics, technology, and population control that are harder to predict father out. [Footnote 121: Id.] In the Intergovernmental Panel on Climate Change models, the range of potential degrees Celsius change in global temperature becomes increasingly large as analysis continues through the next decades. [Footnote 122: IPCC, supra note 76 at 14 (see figure entitled: Multi-Model Averages and Assessed Ranges for</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. Please see Master Response 4 regarding the development, selection, and analysis of alternatives. Please see Master Response 1 regarding the definition of baseline under CEQA and NEPA and how these baselines are used in the analysis of environmental effects. The proposed permit term of Alternative 4 does not vary; all proposed alternatives with an HCP component has a proposed permit term of 50 years. The rationale for the 50-year permit term is described in the 2013 public draft BDCP in Chapter 1.</p> <p>Please see the 2013 public draft BDCP Appendix 2C for an explanation of the climate models chosen for the analysis and their level of uncertainty.</p> <p>For more information regarding length of permitting and permit terms, please see Master Response 45.</p> <p>Comparison tables of impacts of all alternatives have been included in the Executive Summary and each resource area chapter of the FEIR/EIS.</p> <p>For more information regarding climate change please see Chapter 29 of the FEIR/EIS. For more information regarding the collaborative science and adaptive management program please see Chapter 3 of the FEIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		Surface Warming".]	
1456	20	<p>Greater uncertainty is more problematic for species protection given the provisions of the NCCPA akin to the federal Endangered Species Act 'No Surprises Rule'. [Footnote 123: Cal. Fish &amp; Game Code Ann. [Section] 2820(f)(2) (West).] Greater uncertainty makes it more likely that unforeseen circumstances not planned for in BDCP may arise and yet in such a situation the CDFW would not be able to force mitigation measures to ensure that the take of species does not exceed what was originally planned. This uncertainty and potential for diminished protection of species should be examined against the stability that a longer-range permit would provide for project proponents such as the CDWR. While the permitting agencies still may decide that a shorter permit is infeasible (for example it probably would not make sense to have a take permit so short as to stop before funding is received and construction and implementation of the conservation measures of the BDCP actually begins), these alternatives should be included in the EIR/EIS so that CDFW can make an informed choice either way.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.</p> <p>Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p> <p>As such the proposed regulatory assurances language is moot.</p> <p>For more information regarding permitting please see Master Response 45.</p>
1456	21	<p>The current alternatives analysis in the BDCP DEIR/DEIS is inadequate. Just as the NMFS suggested, take permits of alternative durations should be analyzed. [Footnote 124: National Marine Fisheries Service, supra note 3.] CEQA is an "environmental full-disclosure statute" that requires government agencies to report all of the environmental consequences of projects the agency permits or undertakes and to consider alternatives relevant to the purpose of the project. [Footnote 125: 9 Cal. Real Est. [Section] 25A:1 (3d ed.).] The first stated purpose of the BDCP is to support the application for take permits under the federal ESA and the NCCPA. [Footnote 126: DEIR/DEIS, 2-3.] As such, the alternatives analyzed need to provide meaningful differences in the take permits. Such analysis would help protect the commercial, intrinsic, and biodiversity value of species in the Delta such as the Chinook salmon and the delta smelt.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. {The EIR/EIS analyzes all alternatives, including Alternative 4A.</p> <p>Please see Master Response 4 regarding alternatives development and analysis. See Master Response 5 for more information regarding the BDCP and the Preferred Alternative.</p> <p>Numerous comments were received that focused on various elements of the BDCP. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p> <p>For more information regarding permitting please see Master Response 45.</p>
1457	1	<p>This is my public comment on the BDCP. I am a farmer in Tehama County, California. I beseech you not to implement the BDCP as currently envisioned. Instead, you should restore the Delta by reducing the stress on it: buy and retire ag lands that should never have been farmed; restore marshland (as the BDCP rightly calls for); and cap urban and agricultural water use at levels that ensure adequate flows to the Bay even in a dry year, then enforce the cap.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.</p> <p>The Lead Agencies do not have the authority to designate what water deliveries are used for or what types of agricultural practices are used.</p> <p>Although 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.</p> <p>The originally proposed habitat restoration measures and related Conservation Measures (CMs) (i.e., CM2 through CM21) would not be included as part of the Proposed Action, except to the extent required to</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b).</p> <p>Refer to Master Response 6 for further information on demand management measures, including increasing agricultural water use efficiency and water conservation.</p>
1457	2	<p>I respect that the "Twin Tunnels" project was born out of a long-overdue acknowledgement of some of the needs fish have. The BDCP seems to recognize that fish need to not be sucked off course during their migration, and they need to not be ground to pieces in pumps. But the BDCP does not seem to recognize the most fundamental fact of an estuarine system and the most important consideration for anyone who wants to restore the Delta:</p> <p>Fish need water.</p>	<p>The action alternatives were developed to improve Delta habitat conditions while improving SWP and CVP water supply reliability. For example, Alternatives 1, 2, 3, 4, 6, 7, and 8 evaluated in the EIR/EIS decrease monthly total exports of SWP and CVP water as compared to Existing Conditions and No Action Alternative in the summer and early fall months; and increase flows in the winter months when the river flows are high. For example, long-term average flows in the Sacramento River flows at Freeport under Alternative 4H4 could be up to 3 percent higher in June and 5 percent lower in January as compared to the No Action Alternative (as shown in Table C-20.20 of Appendix 5A, Section C, EIR/EIS).</p>
1457	3	<p>While a Twin Tunnels regime may prove marginally better for some species than the existing south Delta pumping regime, and while the BDCP may forestall further deterioration in species abundance, the BDCP/Twin Tunnels scheme will not restore the Delta. The only way to restore the Delta is to leave more water in it. And the only way to do that is to reduce water consumption south of the Delta.</p>	<p>The No Action Alternative and all alternatives were evaluated at 2030 conditions which include assumptions that water users would implement water conservation in the future in accordance with State law. The 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, and recognizes the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures).</p> <p>The range of alternatives considered in the EIR/EIS include Alternatives 6, 7, 8, and 9 which would result in less Delta exports on an average annual basis as compared to Existing Conditions and the No Action Alternative (see Figure C-10-8, Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the EIR/EIS).</p>
1457	4	<p>The \$40,000,000,000 price tag of the BDCP would be better applied to buying up farmland in the thirstiest irrigation districts, and permanently retiring it. There is no reason why water should be moved hundreds of miles so that crops can be planted on land which gets six inches of rain a year.</p>	<p>The commenter's opposition to the project is acknowledged. The BDCP/California WaterFix 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.</p>
1458	1	<p>Please do not proceed with the twin tunnels project. It will destroy the Delta and ruin all of the San Joaquin Delta farms.</p> <p>Governor Jerry Brown I have supported you during the years and had admiration for many of your ideas. The twin tunnel idea is over the top. Why would you wish to turn off the water supply to Delta farmers and destroy their farms to satisfy the wealthy corporate farms in the south? I absolutely will not vote for you again if you keep supporting the tunnels. Though I have only one vote I will do everything in my power to promote the "Save the Delta campaign". Members of my family have had farms &amp; cattle ranches since 1855!</p>	<p>The 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. 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.</p>
1459	1	<p>BDCP Preferred Alternative (No. 4): Santa Margarita Water District supports the BDCP Preferred Alternative (No. 4) provided reasonable assurances are included regarding governance and future decision-making in the process. It is critical to the state's economy and environment that both the state and federal government expeditiously follow through with the decision for adopting and implementing the BDCP.</p>	<p>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.</p>
1459	2	<p>The Santa Margarita Water District also strongly advocates for a seat at the table for the water Permittees in the various oversight groups. The investment and decision-making must be structured to achieve a positive outcome for both the State Water Project (SWP) and</p>	<p>Please note that the preferred alternative is now 2015, RDEIR/SDEIS, Alternative 4A and no longer includes an HCP or Conservation Measures. Alternative 4A has been developed in response to public and agency input.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		Permittees and the ecosystem restoration in a collaborative, partnership manner.	<p>The combined environmental compliance processes for the Endangered Species Act (ESA) and National Environmental Policy Act (NEPA) require that a Biological Assessment (BA) be completed and a Biological Opinion be issued prior to completing the NEPA Record of Decision. A completed BA is not required prior to issuing a Draft Environmental Impact Statement under NEPA.</p> <p>Under Section 7 of the ESA, federal agencies whose actions may impact listed species are required to consult with the United States Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS), as appropriate, prior to taking any such action to ensure the action is not likely to jeopardize species listed under the ESA or result in destruction or adverse modification of critical habitat. At the end of consultation, USFWS and/or NMFS will complete a biological opinion, setting forth an opinion detailing how the agency action affects the species or its critical habitat. Please also see Master Response 5 for information regarding ESA compliance. Also see Chapter 11, Aquatics and Chapter 12, Terrestrial Biological Resources in the EIR/EIS for impacts to species.</p>
1459	3	We oppose the No Action Alternative.	<p>The commenter does not offer any evidence on how the project would result in significant impacts.</p> <p>The proposed project was developed to meet the rigorous standards of the federal and state Endangered Species Acts, as such, 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.</p>
1459	4	Co-Equal Goals: The BDCP must be implemented in a manner consistent with the Delta Reform Act of 2009's co-equal goals adopted by the State. Preferred Alternative (No. 4) is consistent with those goals.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1459	5	New Facilities and In-Delta Operational Flexibility: The modernization of the Delta conveyance system is essential in order for habitat restoration and conservation to have its intended effect. Preferred Alternative (No. 4) provides the best balance between operational flexibility and modernizing the conveyance system for environmental benefit and water supply reliability.	No issues related to the adequacy of the environmental impact analysis in the EIR/S were raised.
1459	6	Plan Implementation and Regulatory Assurance: The BDCP must provide the needed implementation and regulatory structure and assurances to help achieve the co-equal goals. To us, this means that it is virtually impossible to predict the outcome of the BDCP habitat restoration efforts and endangered species population dynamics, and such a standard should not be required in the DEIR/DEIS. Furthermore, this means that changed circumstances under the operation of the BDCP, including the potential for new species listing, be incorporated in such a manner so as to result in a minimum impact on future water supply exports.	<p>Please see Master Response 5 regarding governance structure and implementation. 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.</p> <p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. The EIR/EIS analyzes all alternatives, including Alternative 4A.</p>
1459	7	<p>Further comments on the BDCP Draft Implementing Agreement:</p> <p>Shortfall in Funding -- The Implementing Agreement provides that in the event of a shortfall in state or federal funding, the permits will not be suspended or revoked provided the "shortfall in funding is determined to have no more than a minimal effect on the capacity of the plan to advance the biological goals and objectives." What is meant by "minimal effect" needs to be defined in order to protect the 'Permittees' from backstopping the obligations</p>	This comment addresses the 2014 Draft Implementing Agreement (IA), a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). 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 State and Federal government.	
1459	8	Neutrality of Permitting Decision Tree Outcomes -- All Decision Tree outcomes should be described equally and fully evaluated before a decision is made.	Please see Master Response 44 for additional detail on the Decision Tree approach for Alternative 4. Please note that the new preferred alternative, Alternative 4A, does not utilize the Decision Tree approach for operations. Alternative 4A is modeled with a starting operational scenario of H3+. Please see Chapter 3, Description of Alternatives, of the Final EIR/EIS for additional detail.
1459	9	Real-Time Operations -- Real time operations short-term adjustments should be water supply neutral within a specified time frame and should not compromise the discretion of the Project Operations for purposes of maximizing conservation benefits to covered species and maximizing water supplies as described in section 10.2.2.	Real Time Operations are described in Chapter 3, Description of Alternatives, of the Final EIR/EIS, 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.
1459	10	Signatories: It is not clear who will be obligating the commitments of the United States and the State of California that are beyond those of the Authorized Entities. It is recommended that the Secretary of the Interior and the Governor sign the agreement to help ensure that those commitments will be met.	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.
1459	11	Cost Allocation: Santa Margarita Water District supports the "beneficiary pays principle" in cost allocation for all responsible parties and beneficiaries.	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).
1459	12	Economy, Environment and Water Management: The SWP is critically important to the Orange County economy, environment and water management. Implementation of the BDCP is critical to Orange County's future. We have invested heavily to diversify our water portfolio but the SWP remains a critical source of low salinity water supply that is currently unacceptably jeopardized by the unsustainability of the current Bay-Delta system. At the same time, Orange County relies on the SWP to support groundwater conjunctive use programs and water recycling programs. It is an essential part of our water reliability strategy that sustains our citizens and businesses.	This comment does not raise any issues related to the environmental analysis in the EIR/EIS.
1459	13	Reduced Future Reliance: The 2009 Delta legislation called for water agencies to reduce future reliance on the Delta. While strides in this area will continue to be made, it is important to note that "reduced reliance" does not equate to and was never intended to require a move to 100 percent "self-reliance." The thinking behind the co-equal goals was never meant to result in a future with significant reduction in exports from levels achieved before the 2008 bio-opinions.	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 more information 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.
1459	14	Natural Community Conservation Plans and Habitat Conservation Plans: As a landowner participant in the South Orange County Sub-region Habitat Conservation Plan, the District is a firm supporter of efforts and commends the effort to develop a long-term plan to address the co-equal goals. The planning efforts in Orange County have shown that thoughtful plans can successfully meet multiple goals to the benefit of the environment.	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).
1460	1	I absolutely oppose the construction of these or any other tunnels.  And I suggest that we begin to remove from production much of the farmland that should never have been planted with water-intensive crops like nut trees. It takes 5 to 9 gal of water to grow one walnut, and 1.1 gal of water to grow one almond.  We cannot throw money --- that we do not have --- at this drought. We cannot spend money -- that we do not have -- to move water -- that we are almost out of --- to land that has been planted in crops that we cannot support.	This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.  The commenter's opposition to the project is acknowledged. The BDCP/California WaterFix 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. State constitutional restrictions require the reasonable and beneficial use of water and state law

DEIRS Ltr#	Cmt#	Comment	Response
			requires that water supplied from the Delta be put to beneficial uses. The Lead Agencies do not have the authority to designate what water deliveries are used for. Please refer to Master Response 34 regarding the potential uses of water delivered via BDCP proposed conveyance facilities.
1461	1	I do not need to even read all the political/scientific arguments on either side to understand what has been happening to our state water supply. Regardless of how much water is available (in any given year), too many people are trying to profit from its existence. The business/ political interest have somehow superseded the real need for the balanced approach of economy vs environmental balance.	The overview of the project background presented in Chapter 2, Project Objectives and Purpose and Need, of the EIR/EIS discusses that one of the primary challenges facing California is to address ecological needs of Delta habitat that have been and continue to be adversely affected by a wide range of human activities, while providing more reliable water supplies for people, communities, agriculture, and industry.
1461	2	<p>When the San Joaquin-Sacramento Delta was first settled, the actions taken for best overall use was to;</p> <ul style="list-style-type: none"> <li>- Dredge the exiting water channels and build levees to stop annual flooding to cities, towns, and settlements, promote profitable farming, create a man-made barrier to salt water intrusion and (as added benefit) reduce the mosquito population. Everything was in balance for a while.</li> <li>- As our state population grew, we came to a point after WWII where competing interest for water between the central valley and major population areas gave us dams, reservoirs, and by the fifties the water transportation system to the south valley.</li> <li>- As soon as this water became available, the south valley farmers reaped great profits (and political influence) from tomato, cotton and various seasonal crops.</li> <li>- Then Southern California municipalities (backed by millionaire developers) join in to politicize their water interests.</li> <li>- By this time corporate farming has gained control of the south valley and decided to grow fruit and nut orchards. These are high-profit, long term operations that require massive amounts of year round water.</li> <li>- These competing natural resource demands then caused politically motivated gerrymandering of San Joaquin County (where the water is).This left San Joaquin County (by design), with no collective voting power as it was split into four parts, each able to be out-voted by their added constituents.</li> <li>- The last re-alignment is still a partisan divide for political party gain and continues to divide our collective interests.</li> <li>- To support a false ecological narrative, the politicians/bureaucracy then decided to stop the long-accepted practice of re-dredging the San Joaquin-Sacramento Delta (except for the shipping lanes required by federal law). Dredging also helps keep pressure off the levees during high tides and seasonal run-off.</li> </ul> <p>I refuse to take the bait and get into another distraction brought to us by people who think if you can have a contest to rename the San Joaquin- Sacramento Delta, it can re-brand this ridiculous natural resource grab. If the state politicians were truly accountable to their constituents, there would be logical efforts to increase our fresh water potential through alternate technologies other countries currently use.</p> <ul style="list-style-type: none"> <li>- Desalinization</li> </ul>	<p>Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure 1, EIR/EIS, describes the range of conveyance alternatives considered in the development of the EIR/EIS. Appendix 1B, Water Storage, EIR/EIS, describes the potential for additional water storage and Appendix 1C, Water Demand Management, EIR/EIS, describes conservation, water use efficiency, and other sources of water supply including desalination. While these elements are not proposed as part of the proposed project, the Lead Agencies recognize that they are important tools in managing California’s water resources.</p> <p>Please see Master Response 4 regarding the selection of alternatives analyzed, and Master Response 6 regarding demand management and Master Response 37 regarding water storage. For more information regarding beneficial use of water please see Master Response 34.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<ul style="list-style-type: none"> <li>- Additional storage for wet years and to help keep pressure off the levees during seasonal run-off.</li> <li>- Re-dredging the San Joaquin-Sacramento Delta</li> <li>- Governmental oversight of agricultural land use and urban development as related to current water resources available</li> </ul>	
1461	3	<p>This water project in its so wrong, on so many levels, it is hard to know where to start (also probably by design). The science is not logical and everything is either being hidden, forced, or agendized, for profit by our state government that is no longer able to divert our attention from its true nature; resources for profit.</p>	<p>The Lead Agencies respectfully disagree with the general assertion that public participation/outreach/science was somehow fundamentally flawed. The documentation generated by this proposed project has undergone extensive public and scientific input, discussion, and transparency, including the posting of administrative draft chapters online and providing many more opportunities for public participation than is normally required by the CEQA/NEPA processes (see Master Response 41 [Transparency]). Refer to Chapter 32 (Public Involvement, Consultation, and Coordination) in the Draft EIR/EIS and Master Response 40 (Public Outreach Adequacy). Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative (see Section 4 of the RDEIR/SDEIS). The environmental documentation and project approval will be acted on by the decision makers from each lead agency at the conclusion of the environmental planning processes for both CEQA and NEPA.</p>
1462	1	<p>Chapter 8. Water Quality</p> <p>Please explain what mitigation WQ11 does. It concludes the increase in Electrical Conductivity levels is "significant and unavoidable". There are 38 other significant and unavoidable impacts under Alternative 4 according to table 31-1. Many of them pertain to water quality and quantity for above and underground water.</p>	<p>Mitigation Measure WQ-11 describes actions that would be taken to lessen the impacts on EC of the, however, because the effectiveness is uncertain, the impact call remained significant and unavoidable for Alternative 4. 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.</p> <p>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, Master Responses 4 for information on the development of the alternatives, and Master Response 5 for additional information on the BDCP. Alternative 4A would result in substantially lesser water quality impacts to salinity-related parameters, including EC, as compared to the preferred alternative in the Draft EIR/EIS. Alternative 4A would still have significant impacts to EC; however, feasible mitigation measures were introduced to reduce the identified impacts to less than significant levels to protect beneficial uses and achieve compliance with SWRCB D-1641 standards. Please also see Master Response 10 for more information on significant and unavoidable impacts.</p>
1462	2	<p>Chapter 7. Groundwater section 7.3.3.9 dewatering</p> <p>Will any wells more than 2600 feet from the sites be monitored and if so when and where will they be monitored? Will the monitoring be all along the route? If there is no additional monitoring are we assured our wells will not be affected?</p>	<p>Chapter 7, Groundwater in the Draft EIR/EIS addresses the potential effect of groundwater dewatering that may affect wells located adjacent to the project construction (See Impact GW-1 on page 7-46). The estimate of monitoring 2,600 feet from construction sites represents a worst-case estimate of the zone of impact from dewatering as presented in the analysis. Additionally, the text of Mitigation Measure GW-1 has been modified in the RDEIR/SDEIS to present the process for determining the area of influence from construction dewatering, which wells would be monitored and how monitoring data would be used to reduce dewatering</p>

DEIRS Ltr#	Cmt#	Comment	Response
			effects on adjacent wells. Please also refer to Master Response 22 for more information on mitigation measures.
1462	3	<p>Channel Margin Enhancement. CM6</p> <p>Where are the specific projects and when will the affected property owners be notified? There are many properties along the Sacramento River, Sutter Slough and Steamboat Slough in addition to Simpson Tract. We owners have no idea of the future of our properties and have been in this same state for several years with no answers to our questions. How will we be compensated for this extended period of uncertainty? Do we proceed with an improvement or project? Do we make repairs, complete a home already started, plant trees etc. This is detrimental to our property values. In the event an owner needs or wants to sell this information must be disclosed. Who wants to buy property that may be underwater in the next 5 or 10 years?</p>	<p>See response to comment 1462-1. 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. Although Alternative 4A no longer includes an HCP or Conservation Measures, limited elements of BDCP conservation measures (including CM6) are included in Alternative 4A, as Environmental Commitments that will be used to mitigate for the proposed project.</p> <p>. The comment raised concerns about future restoration projects. Habitat restoration projects will proceed under separate analysis and the current status of planned projects can be found on the EcoRestore website, including channel margin habitat projects. <a href="http://resources.ca.gov/ecorestore/">http://resources.ca.gov/ecorestore/</a></p> <p>Construction of water conveyance facilities would be sequenced over approximately 10 years. Construction of individual components (e.g. intakes, tunnels) would range from one to six years. Temporary construction-related impacts include noise, visual, and transportation, among others. The construction-related impacts are disclosed in individual resource area chapters in the 2013 Draft EIR/EIS. All impacts would be minimized and mitigated to the degree feasible and are described under each alternative in the RDEIR/SDEIS individual resource chapters and in Appendix 3B, Environmental Commitments, in the Final EIR/EIS. An analysis of economic impacts of the proposed project, including impacts related to agriculture, recreation, water rates, and taxes are also evaluated and described in the Statewide Economic Impact Report (<a href="http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx">http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Draft_BDCP_Statewide_Economic_Impact_Report_8-5-13.sflb.ashx</a>).</p>
1462	4	As an alternative to the down stream tunnels consider desalination.	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.</p> <p>Please see Master Responses 6 and 7, which describes why an alternative focused on desalination is not included in the EIR/EIS. Desalination is one strategy used in California to develop new supplies, yet it is not the primary solution for the State's water shortage due to many factors, including limited capacity and technology, high costs and energy demands, and regulatory uncertainty.</p>
1462	5	How is the habitat conservation plan being funded?	See response to comment 1462-1. 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.
1462	6	We are opposed to including any mitigation using our properties based on the fact there is no proven science showing a net benefit to the project. All that is shown is a negative recreation impact and a cloud on the titles of the affected properties.	See response to comment 1462-1. 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 new preferred alternative, 4A, has been optimized to reduce impacts as much as possible across all resources. Wherever feasible and as much as possible, the document has included mitigation measures and environmental commitments to reduce impacts. Unfortunately, some impacts are unavoidable. Socioeconomic impacts related to recreation are discussed in Chapter 16, Socioeconomics in the Final EIR/EIS, under Impacts ECON-5, 11, and 17. When required, DWR would provide compensation to property owners for economic losses due to implementation of the alternative.
1462	7	After all of this expense there would still be no increase in total available water. There have been no new federal or state water storage facilities since the water project in the	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

DEIRS Ltr#	Cmt#	Comment	Response
		60's. Additional water storage up and down the state, although it would not add to the total amount of fresh water, would increase the capture rate of fresh water before runoff. The state needs to require more recycling of water, conservation, and invest in new water storage and desalination.	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 Final EIR/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 Final EIR/EIS.
1463	1	After reviewing the documents available for the BDCP I discovered funding must be shown to be sufficient for all planned activities, and all financial contributors and planned allocation of funds must be identified. To this date no formal funding proposals for the entire project have been made available to the public, nor is there an accurate projected cost for the entire project. In fact, as of this writing, the legislature continues to work on proposals for a state water bond without successfully identifying a specific dollar amount or identified areas for the money that " might" be raised will be spent.	This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.  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.. Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.
1463	2	"Delta restoration" is a very vague term; I propose that it is unlikely the voters will support such a bond. In fact, many legislators have noted that any bond should be "tunnel neutral" further confounding the issue of what monies would be available for the BDCP as proposed. Given this lack of real vision or planning for the funding of the BDCP it is entirely unacceptable that this plan should be adopted; any permits to do so should be withheld.	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.Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.
1463	3	I find the plan entirely unbalanced in its water delivery proposal, requiring overlooking or changing existing water rights in order to unfairly benefit users in the western portion of the central valley, and leaving much of the Northern part of the state with frequent dead pools	The action alternatives could only change the amount of water diverted under the existing SWP and CVP water rights and the existing and future related regulatory requirements based upon river water levels and flow, water available in the system, the presence of threatened and endangered fish species, and water

DEIRS Ltr#	Cmt#	Comment	Response
		in place of our recreational lakes and basic day to day water supplies.	<p>quality standards.</p> <p>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 Other Indirect Effects, of the EIR/EIS, including a reduction of water demand by up to 20 percent. These changes would result in “dead pool” conditions in SWP and CVP reservoirs upstream of the Delta even without action alternatives. The “dead pool” conditions presented in the CALSIM II monthly model in the EIR/EIS occur 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.</p>
1463	4	<p>The documents provided for this plan are entirely unwieldy, over 40,000 pages, making it nearly impossible for a well-educated person to review and address, say nothing about the average voter. Additionally, revisions and changes are being submitted to this date, making it absolutely impossible for anyone but a paid attorney to keep up with.</p> <p>I am requesting that the BDCP document be deemed unacceptable for adoption.</p>	<p>Please see Master Response 38. It explains that the length and complexity of the Draft EIR/EIS reflect an unprecedented effort to analyze a proposed project and 18 alternatives under both state and federal laws for special status species protection.</p> <p>In addition, as explained, in Master Response 38, the lead agencies attempted to balance readability with the need for accurate and thorough technical analysis.</p>
1464	1	Please do not spend money on these tunnels. Why not spend the money on desalinating the ocean waters? They do that for the ships and they do it in Arabia. Makes more sense!	Please see Master Response 6 regarding desalination as an option that could replace the proposed project.
1465	1	I do not understand why we are spending billions of dollars building tunnels and diverting water when we can spend that money on de-salinization plants for the cities of San Diego, Los Angeles, and San Francisco. California continues to divert water when what we need is a source of new water where it is used. All of the major coastal cities have all the water they need right at their beaches. How do you think that they built Dubai? The California water system will never be fixed until we de-salinate water for the major coastal cities. I challenge our Governor to respond to this e-mail about this concept.	<p>This comment letter is in part a form letter that has been submitted by many commenters. To locate the response to the form letter portion of the comment, please refer to the index of commenters in Chapter 4 of Volume II of the Final EIR/EIS, and cross reference the Form Master letter number shown there with the index of Form Masters also provided in Chapter 4 of Volume II of the Final EIR/EIS. The text below responds to the specific substantive portions of the comment letter that were submitted by the commenter.</p> <p>Although conservation components 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 or California WaterFix. 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, water recycling, etc. For more information regarding water demand management and desalination please see Master Response 6 and 63, respectively.</p> <p>For more information regarding purpose and need please see Master Response 3.</p>
1466	1	The entire BDCP proposal (especially EIS section ES.5) is fatally flawed because it does not even attempt to consider real alternatives to the concept of building a new conveyance structure through the delta. The proposal starts with the assumption that some new conveyance is required and proceeds from there, but that is not actually offering any meaningful alternatives. It is probably too late in the process to fix this huge oversight unless the entire project gets scrapped by the voters.	Please note that the preferred alternative is now Alternative 4A (i.e., the California Water Fix Project) and no longer includes an HCP. The Lead Agencies respectfully disagree that the environmental documentation does not provide a thorough environmental evaluation of the alternatives to the proposed project. Since 2006, the proposed project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings. Fifteen alternatives and 3 new sub-alternatives were analyzed in the Draft EIR/S and the RDEIR/SDEIS, respectively. Four major alignments have been included in the environmental documentation: Through-Delta, East of the Sacramento River, West of the Sacramento River, and a Tunnel under the Delta. Other proposals by public and private individuals and organizations have also been evaluated and described in Chapter 3 of the Draft EIR/S and Appendix 3A of the RDEIR/SDEIS. For further information on alternatives, a description of the process the Lead Agencies followed is provided in Master Response 4. The California WaterFix Project has been

DEIRS Ltr#	Cmt#	Comment	Response
			developed in response to public and agency input and is the new CEQA Preferred Alternative. It is also the NEPA Preferred Alternative, a designation that was not attached to any of the alternatives studied in the Draft EIR/EIS. 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 it is 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 Draft EIR/EIS may be utilized by other programs for implementation of the long- term conservation efforts.
1466	2	Raise water rates across the board for all users. That is the single most effective way to encourage conservation, and could also help pay for conservation efforts.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS. The lead agencies do not have any authority to mandate water rates on a statewide basis. Rather, there are dozens of independent water agencies and city water departments in California that exercise authority over their own service areas. Only these individual agencies have the authority to impose water rates and water conservation measures on their customers.
1466	3	Build conservation and water reuse projects, not new conveyances. Start by covering all existing water conveyance canals to reduce evaporation, for example by building rows of solar panels over the canals like they have been doing recently in India. How much water could we save annually if we spent \$20-30 billion on conservation measures instead of a new conveyance? It would have been helpful to see this calculation put in the BDCP EIR/EIS.	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input. 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 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.</p> <p>Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the proposed project. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California’s water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.</p> <p>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. For more information regarding purpose and need please see Master Response 3.</p>
1466	4	<p>Start building large-scale water desalination plants along the California coast, and keep doing that until we have enough water supply from desalination to meet most urban water needs from San Diego to San Francisco. There are downsides to desalination and that is something which could have been documented in the BDCP EIS, but desalination is the obvious best way to ensure a reliable water supply for California in the future.</p> <p>Once we have the desalination plants built, turn off the pumps sending water over the mountains into LA and San Diego, and allocate that water to central valley farmers. That ought to be enough water to eliminate the need for a new Bay-Delta conveyance, which would be a real alternative to the current proposal. This alternative approach would both</p>	<p>Although conservation components 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 or California WaterFix. 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, water recycling, etc. For more information regarding water demand management and desalination please see Master Response 6 and 63, respectively.</p> <p>For more information regarding purpose and need please see Master Response 3.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		increase California's total water supply and make us better prepared to deal with droughts, which the new conveyance does not do. (What good is a new conveyance if there is not enough rainfall to supply it?)	
1466	5	The current BDCP proposal is ridiculous. Does anyone really think that pumping water out of the north Delta will have fewer environmental impacts than pumping water out of the south Delta? That would be funny if it was not so expensive and such a monumental waste of time and effort. The real goal here should be to eliminate the need for pumping that much water out of the Delta, and the EIS should have started from that assumption.	The commenter does not offer any evidence on how the project would result in significant environmental impacts not previously addressed in the 2015 RDEIR/SDEIS or the 2013 Draft EIR/EIS.
1467	1	Dear BDCP: I cannot find one positive thing to say about the plan to take the fresh water from our beautiful Delta, and allow the salt water to intrude and kill the natural flora and fauna. This multi-billion dollar project is funded by whom? Yep, us taxpayers. And who does it benefit? Yep, the large water re-sellers, and land developers. There are so many flat out lies, and half-truths that are being touted to try and get the public to agree to this boondoggle it is ridiculous. All you need to do is drive from Tracy to Los Angeles and read the signs, "orchards are dying because of lack of water." What about all of the newly planted orchards? How dumb do you think the public is?	Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. Since 2006, the proposed project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings. Fifteen alternatives and 3 new sub-alternatives were analyzed in the Draft EIR/S and the RDEIR/SDEIS, respectively. Other proposals by public and private individuals and organizations have also been evaluated and described in Chapter 3 of the Draft EIR/S and Appendix 3A of the RDEIR/SDEIS. For information on the alternatives for the EIR/EIS, see Master Response 4. The commenter is also referred to Master Responses: 3 (Purpose and Need) and 5 (Overview of Restoration and Enhancement Activities). For more information on funding and costs, see Chapter 8, cost-benefit analysis on the project website, and Master Response 5.
1467	2	Just a few bullets on the no side of this issue: 1) Way too expensive for taxpayers with little direct benefit 2) The Delta will be destroyed as we know it 3) Remember Mono Lake, and the movie China Town...the destruction of the Delta is going to be reality if this is allowed to go forward 4) It is Governor Moon Beams wet dream.....how much money will he, and his cronies [gain?] 5) My biggest fear is that it is already too late.....too much big money behind it.	Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. The premise of the California WaterFix is that it will provide environmental benefits while stabilizing water supplies for a large population of California residents, consistent with statutory policy as found in the Delta Reform Act of 2009 (see, e.g., California Public Resources Code, §§ 85001(c), 85002, 85004(a), 85020.) Refer to Master Response 31 (Compliance with the Delta Reform Act). The Lead Agencies also acknowledge the discussion of community character in Chapter 16 of the Draft EIR/EIS and RDEIR/SDEIS Appendix A (Socioeconomics), which identifies unique Delta features and describes the potential effects on Delta communities. The project has been initiated and carried forward by two Governors acting on a mandate from the voters of the State as a whole. As a document prepared to meet the rigorous standards of the federal ESA and the state NCCPA, the California WaterFix 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, along with other conservation measures, including those requiring tens of thousands of acres of restored habitat, the proposed project is designed to improve native fish migratory patterns and habitat conditions and allow for greater operational flexibility. Since 2006, the proposed project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings. For more information on funding and costs, see Chapter 8, cost-benefit analysis on the project website, and Master Response 5.
1467	3	There are 5 registered voters in my household who do not want to see the tunnels built, please register 5 votes against it.	Please note that the preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP.
1469	1	I am writing this email to express deep concern of the Bay Delta Conservation Plan. I feel as a Sacramentan, my everyday life will be negatively impacted if this plan is implemented.	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. Instead, 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.

DEIRS Ltr#	Cmt#	Comment	Response
1470	1	<p>As a community literally in the heart of the Delta, we are understandably very concerned with any proposed activities that could adversely affect the ecosystem of the Delta. We assert, and you well know, that that the overall health and vitality of the Delta is critical to millions of Californians.</p> <p>The Oakley City Council has concluded that the BDCP is fundamentally flawed and the Plan should be revised substantially to address these flaws before it is further pursued.</p>	<p>Please note that the preferred alternative is now Alternative 4A (i.e., the California Water Fix Project) and no longer includes an HCP. The Lead Agencies respectfully disagree that the environmental documentation does not provide a thorough environmental evaluation of the alternatives to the proposed project. Since 2006, the proposed project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings.</p>
1470	2	<p>Just one of the critical defects includes:</p> <p>Failing to establish operational rules and in-Delta flow criteria, necessary for a reliable water supply and protection of water quality, while accepting as "unavoidable" over 50 significant and unmitigated adverse environmental impacts.</p>	<p>The EIR/EIS presents a range of alternatives with defined operational criteria, as described in Section 3.5 of Chapter 3, Description of Alternatives, in the EIR/EIS. Changes in over 20 different environmental resources with implementation of each of the alternatives are described in comparison to conditions under the Existing Conditions and No Action Alternative. Impacts that are considered to produce significant adverse and unavoidable are disclosed for the reviewers and the decision makers.</p> <p>The No Action Alternative and all of the alternatives include assumptions for future climate change, sea level rise, and planned population growth. Therefore, many of the adverse impacts related to water supply and water quality under the alternatives as compared to the Existing Conditions are related to changes due to climate change, sea level rise, and planned population growth; and are not related to changes due to implementation of the EIR/EIS alternatives. The comparison of the alternatives to the No Action Alternative indicate the changes related to implementation of the alternatives, only.</p> <p>The significant and unavoidable impacts, as summarized in Table 31-1 of Chapter 31, Other CEQA/NEPA Required Sections, of the EIR/EIS, include impacts that occur during construction and operations. These impacts were considered by DWR and Reclamation when developing the Final EIR/EIS.</p>
1470	3	<p>Just one of the critical defects includes:</p> <p>Proposing to extract water from the Delta during relatively wet periods yet ignoring the lack of adequate storage to retain that water for use in dry periods.</p>	<p>Alternatives 1, 2, 3, 4, 6, 7, and 8 evaluated in the EIR/EIS decrease monthly total exports of SWP and CVP water as compared to Existing Conditions and No Action Alternative in the summer and early fall months; and increase flows in the winter months when the river flows are high. The CALSIM II model includes water delivery assumptions for SWP and CVP water users located south of the Delta, including users that have surface water and groundwater storage. Many of the SWP water users have access to more storage as compared to CVP agricultural water users in the San Joaquin Valley; and therefore, the incremental difference in water deliveries to the SWP water users as compared to the No Action Alternative under many of the alternatives is greater than for the CVP water users, as shown in Tables C-13-1-1 through 13-25-1 in Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the EIR/EIS.</p>
1470	4	<p>Just one of the critical defects includes:</p> <p>Proposing to obligate billions of dollars of ratepayer and public monies before evaluating whether a smaller and less costly facility could achieve the same or better result.</p>	<p>Please see Master Response 5 for additional discussion of public benefits and funding.</p>
1470	5	<p>Just one of the critical defects includes:</p> <p>The lack of representation from elected officials of Delta communities in the development of the Plan.</p>	<p>Please refer to Chapter 32 in the EIR/EIS and Master Response 40 regarding the adequacy of outreach conducted for California WaterFix and the BDCP.</p>
1470	6	<p>The Oakley City Council strongly supports the "balancing act" efforts of developing a reliable water supply and protection, restoration, and enhancement of the Delta ecosystem, but these flaws in the BDCP cannot be ignored and must be addressed.</p>	<p>The comment does not raise any environmental issue related to the 2013 DEIR/EIS. The proposed project was developed to meet the rigorous standards of the federal and state Endangered Species Acts, as such the proposed project is intended to be environmentally beneficial. 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.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1470	7	<p>The State needs a cohesive, long-term, sustainable water plan that includes at least the following:</p> <ul style="list-style-type: none"> <li>* Science-based analysis;</li> <li>* Protections for the critical infrastructure, economic activity and recreation in the Delta;</li> <li>* Effective habitat preservation and restoration;</li> <li>* Clear operational rules for any water transfer activities;</li> <li>* Expanded analysis of the need for additional water storage;</li> <li>* Further studies of the opportunities for development of additional water resources such as conservation, re-use and desalination;</li> <li>* A sound benefit-cost scenario; and</li> <li>* Representation of elected officials from Delta communities in the development of the Plan.</li> </ul>	<p>All the points made by the commenter are part of the preferred Alternative 4A (the California Water Fix Project), as well as all of the action alternatives. Since 2006, the proposed project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings. Fifteen alternatives and 3 new sub-alternatives were analyzed in the Draft EIR/EIS and the RDEIR/SDEIS, respectively. Other proposals by public and private individuals and organizations have also been evaluated and described in Chapter 3 of the Draft EIR/EIS and Appendix 3A of the RDEIR/SDEIS. For discussion on the initial development of alternatives, a description of the process the Lead Agencies followed is provided in Master Response 4. The Lead Agencies acknowledge the discussion of community character in Chapter 16 of the Draft EIR/EIS and RDEIR/SDEIS Appendix A (Socioeconomics) identifies the unique features of the Delta and describes the potential effects on Delta communities. Refer to Chapter 15 for a discussion on recreation. Additionally, the Draft Statewide Economic Impact Report has also been published, which indicates that the project would result in a substantial economic net benefit to the State. Further clarification on governance structure and implementation is provided in Master Response 5 and in the 2013 Draft BDCP Chapter 7 (Implementation Structure). For more information on funding and costs, see BDCP Chapter 8, cost-benefit analysis on the project website, and Master Response 5.</p>
1470	8	<p>We are convinced that the continued pursuit of the flawed BDCP will simply mire the BDCP in protracted litigation, wasting critical years and diverting energy and resources from development of a solution that would truly meet California's water needs and protect the ecosystem of the Delta.</p>	<p>The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 Draft EIR/EIS.</p>
1470	9	<p>The BDCP makes some claim to be a "Habitat Conservation Plan." Habitat Conservation Plans, generally, have been a successful way of providing certainty for those pursuing economic development while protecting and preserving the environment. The BDCP does neither of these. The BDCP includes no operational rules or through-Delta flow criteria, so it provides no certainty for those intending to rely on that facility as a dependable water supply. Simultaneously, the BDCP EIR/EIS identifies over fifty significant and unmitigated adverse environmental impacts and concludes these are "unavoidable." From a public policy standpoint, either of these results, water supply uncertainty or significant environmental harm, is unacceptable. Together, they clearly indicate the BDCP is the wrong path to achieving the co-equal goals of providing a reliable water supply and preserving and enhancing the Delta's ecosystem.</p>	<p>The EIR/EIS presents a range of alternatives with defined operational criteria, as described in Section 3.5 of Chapter 3, Description of Alternatives, in the EIR/EIS. Changes in over 20 different environmental resources with implementation of each of the alternatives are described in comparison to conditions under the Existing Conditions and No Action Alternative. Impacts that are considered to produce significant adverse and unavoidable are disclosed for the reviewers and the decision makers.</p> <p>The significant and unavoidable impacts, as summarized in Table 31-1 of Chapter 31, Other CEQA/NEPA Required Sections, of the EIR/EIS, include impacts that occur during construction and operations. These impacts were considered by DWR and Reclamation when developing the Final EIR/EIS.</p>
1470	10	<p>The underlying premise of the BDCP's North Delta Diversion (the "Preferred Project") is that it will draw "excess" water from the Delta during wet periods, which can be used during dry periods. For such a strategy to succeed, the water extracted during wet periods must be stored to buffer the dry periods, yet the BDCP ignores the lack of storage facilities necessary to store the extracted water. Increased storage is essential if any water transfer facility is to provide a stable and reliable water supply. The EIR/EIS does not evaluate the necessary integration of these major components. By ignoring the need for additional storage, the BDCP EIR/EIS is incomplete, at best.</p>	<p>Please note that the BDCP is no longer the preferred alternative. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.</p> <p>While water storage is a critically important tool for managing California's water resources, it is not a topic that must be addressed in the EIR/EIS for the proposed project. This is because the proposed project does not, and need not, propose storage as a project component. Although the physical facilities contemplated by the proposed project, once up and running, would be part of an overall statewide water system of which new storage could someday also be a part, the proposed project is a stand-alone project for purposes of CEQA and NEPA, just as future storage projects would be. Appendix 1B, Water Storage, of the FEIR/EIS, describes the potential for additional water storage.</p> <p>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.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1470	11	<p>The Preferred Project is sized to convey 9,000 cubic feet per second (cfs); however, the analytical rationale for the selection of a 9,000 cfs transfer facility is absent. Chapter 5 of the EIR/EIS contains results of various alternative-sizing scenarios. Modeling results present the combined export annual flows using both through-Delta conveyance and North Delta diversion systems. Examination of that data indicates that the combined annual export volumes could be greater for 3,000 cfs and 6,000 cfs capacity North Delta Diversion systems than for the Preferred Project (Chapter 5, Figures 5-17, 5-18 &amp; 5-19).</p> <p>If a major objective of the BDCP is to achieve water system reliability, it would seem that the optimum-sized North Delta Diversion facility would be that which, when combined with through-Delta conveyance, maximizes the opportunity to supply water to those relying on the system. At the very least, these results compel a closer examination of those smaller-sized alternatives with their resultant costs and environmental impacts before billions of dollars of ratepayer and public funds are committed to an effort with acknowledged, significant adverse environmental consequences.</p>	<p>The tunnels are a component of the overall water conveyance system, and their size and capacity is closely tied to the overall operating permits and the capacity of the intakes, sedimentation basins, pumping plants and forebays. As a complete system, the water conveyance facilities are designed to move up to 9,000 cfs and cannot be operated at higher levels without significant changes to the physical facilities, and modifications to the operational permits. Additionally, the tunnels are sized and designed to optimize such factors as: the geotechnical conditions in the Delta, minimizing internal pressures, and reducing long-term energy costs by using gravity flow. The dual-bore 40-foot-inside-diameter tunnel constructed under Alternative 4 would be wider than tunnels constructed for the alternatives under the pipeline/tunnel alignment to facilitate the gravity-fed system proposed under Alternative 4 (instead of being pressurized and pumped through an intermediate pumping plant).</p>
1470	12	<p>Perhaps best explained by Dr. Jeff Michaels of the University of the Pacific (<a href="http://forecast.pacific.edu/articles/BenefitCostDeltaTunnel_Web.pdf">http://forecast.pacific.edu/articles/BenefitCostDeltaTunnel_Web.pdf</a>) the Preferred Project (using the results of the BDCP's own economic benefit and cost studies) has a cost of anywhere between \$1.90 and \$3.36 for every \$1 in economic benefits. Dr. Michaels explains, "this benefit-cost ratio is 80% lower than those estimated for the State's high-speed rail project."</p>	<p>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. Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p>
1470	13	<p>Of the many BDCP flaws, we explain the following: Representation of elected officials from Delta communities in the development of the Plan. Local leaders should be at the table to help promote local input and representation on a plan so far reaching as the BDCP. A lack of local input and representation undermines the credibility of the Plan.</p>	<p>Please refer to Chapter 32 in the 2013 EIR/EIS and Master Responses 40 and 41 for information related to outreach, transparency of the planning process and stakeholder engagement.</p>
1470	14	<p>The Oakley City Council understands the critical importance to the State's economy of improved water infrastructure and a reliable water supply. It also very much understands the critical importance of preserving and enhancing the Delta's ecosystem. The BDCP, as proposed, is fundamentally flawed and does not represent a step towards solving to either of these significant goals. We further believe that the cost of the BDCP's Preferred Project is not in the best interests of the State's taxpayers.</p>	<p>See Master Response 5 for additional information on project funding. The issue expressed by the commenter does not raise any issues with the environmental analysis provided in the EIR/EIS documentation.</p>
1471	1	<p>On behalf of the San Francisco Chamber of Commerce, representing over 1,500 local businesses, we are pleased to express our support for the Bay Delta Conservation Plan (BDCP) as a solution to California's water challenges.</p> <p>The San Francisco Bay Area depends on the Delta for a significant portion of its drinking water supply. Ensuring a system exists to maintain water for our urban and agricultural areas is key to maintaining a secure water transport system while protecting the sensitive</p>	<p>This comment is consistent with the fundamental purpose of the project to make physical and operational improvements to the SWP system in the Delta, water supplies of the SWP and CVP for users located south of the Delta, and Delta water quality consistent with statutory and contractual obligations of the SWP and CVP, as described in Section 2.3 of Chapter 2, Project Objectives and Purpose and Need, of the EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		ecosystem. The Bay Delta Conservation Plan will provide California with much needed reliability for our water sources, stabilizing supplies while responding to climate change and protecting against natural disasters.	
1471	2	Shoring up the reliability of imported water supplies recognizes the role water plays in supporting the health of our state and businesses. The current plan is expected to provide, on average, reliable water supplies for residents, businesses and agriculture throughout the state for about \$5 a month. Urban water supply alternatives are much more expensive than the current plan, and do not provide the same amount.	Please refer to Master Response 5 regarding funding.
1471	3	The BDCP calls for the construction of two tunnels to carry water under the Sacramento-San Joaquin River Delta. These twin conveyance systems will not only protect our public water supplies if a seismic event were to occur, but will also contribute to the creation of more than 1 million full-time equivalent jobs over the BCDC's 50 year implementation period. In the counties of Sacramento, San Joaquin and Contra Costa alone, nearly 20,000 jobs will be created from the construction of the new water facility.	Please note that 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.
1471	4	Without an effective conservation and renewal strategy, the Delta's sensitive ecosystem will continue to be pushed to a breaking point. The loss of a reliable water supply system threatens the millions of residents served and will have significant negative impacts on conservation efforts in the area. As currently drafted, the Bay Delta Conservation Plan is the best and most comprehensive approach to maintaining this vitally important ecosystem for California. On behalf of the San Francisco Chamber of Commerce, we appreciate the opportunity to submit our comments of support for this important project.	Please note that 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.
1472	1	<p>I am a 30-year Delta resident and concerned citizen. Through personal observation, I have watched the Delta slowly deteriorate over time.</p> <p>The BDCP which advocates for a northern diversion will only worsen the problems. BDCP is not a Habitat Conservation Plan. The diversion through the proposed Twin Tunnels will be removing habitat from the Delta. Fish need flows to survive. Shipping water under the Delta will deprive it of needed habitat and the nutrients needed for the survival of aquatic species. As explained last year by the U.S. Fish and Wildlife Service (USFWS) "There is clear evidence that most of the covered fish species have been trending downward." (USFWS Staff BDCP Progress assessment, Section 1.2, p. 4, April 3, 2013). The National Marine Fisheries Service (NMFS) has pointed out that the water tunnels threaten the "potential extirpation of mainstem Sacramento River Populations of winter-run and spring-run Chinook salmon over the term of the permit ... " (NMFS Progress Assessment, Section 1.17, 12, April 4, 2013). As explained by EPA in its 2013 letter to the SWRCB, "The State Board . . . has recognized that increasing freshwater flows is essential for protecting resident and migratory fish populations." (EPA letter to SWRCB re: EPA's comments on the Bay-Delta Water Quality Control Plan; Phase 1; SED, pp. 1-2, March 28, 2013). The EPA has also explained with respect to Administrative Drafts of the BDCP documents that "many of these scenarios of the Preferred Alternative 'range' appear to decrease Delta outflow (p. 5-52), despite the fact that several key scientific evaluations by federal and State agencies indicate that more outflow is necessary to protect aquatic resources and fish populations." (EPA Comments on Administrative Draft EIR/EIS, III Aquatic Species and Scientific Uncertainty, Federal Agency Release, July 18, 2013). BDCP lacks having flow criteria.</p> <p>The SWRCB did develop flow criteria, published at:</p>	<p>As described in Section 3A.9.4.2 of Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, a potential alternative based upon the State Water Resources Control Board 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem was considered during development of the range of alternatives to be evaluated in detail in the EIR/EIS. This potential alternative was not evaluated in detail because the flow recommendations in the 2010 report could not be achieved without adverse impacts to cold water management for fisheries in the Sacramento, Feather, and American rivers, and without reductions in non-SWP and non-CVP water rights diversions. The purpose and need of this EIR/EIS would not allow changes to these water rights users.</p> <p>In addition, the 2010 report stated that "Any process with regulatory or adjudicative effects must take place through the State Water Board's water quality control planning, water rights processes, or public trust proceedings in conformance with applicable law. In the State Water Board's development of Delta flow objectives with regulatory effect, it must ensure the reasonable protection of beneficial uses, which may entail balancing of competing beneficial uses of water, including municipal and industrial uses, agricultural uses, and other environmental uses."</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>www.swrcb.ca.gov/waterrights/water_issues/bay_delta/flow on August 3, 2010, p. 5.</p> <p>The criteria include:</p> <p>75% of unimpaired Delta outflow from January through June;</p> <p>75% of unimpaired Sacramento River inflow from November through June; and</p> <p>60% of unimpaired San Joaquin River inflow from February through June.</p>	
1472	2	The BDCP EIR/EIS fails to include the San Francisco Bay and Pacific Ocean in its analysis. They too are part of the San Francisco Bay/Sacramento-San Joaquin Delta.	Chapter 11 of the EIR/EIS was revised to include a robust discussion of the potential effects on the bays downstream of the Delta, relevant to both operations and the habitat restoration proposed for some alternatives.
1472	3	The Delta Reform Act of 2009 mandated that, "The co-equal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place". This is at odds to Table 31-1, Summary of Significant and Unavoidable Adverse Impacts in the BDCP reveal 52 items including cancer risk. The Significant and Unavoidable Adverse Impacts are not a short period of time as construction of the tunnels is estimated to be 9 to 10 years.	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. Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.
1472	4	[ATT 1: Column from Burt Wilson published in Public Water News, 7/7/14.]	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.
1473	1	<p>On behalf of the California Conference of Carpenters which represents tens of thousands of working and retired union Carpenters throughout the state of California I am writing to indicate our support for the goals of the Bay Delta Conservation Plan (BDCP).</p> <p>We are in full agreement with the dual goals of restoring the Sacramento-San Joaquin Delta ecosystem and securing reliable water supplies through a new Delta conveyance system.</p> <p>The ecological health of the Delta is fundamental to the future of California. The largest watershed on the west coast of North America, the Delta supplies 25 million Californians fresh water, irrigates millions of acres of farmland in the Central Valley and supplies water to drive much of California's economy.</p> <p>Please approve this plan so that work can start as soon as possible. Our future rests on the success of this effort. Thank you.</p>	Please note that 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 upon by the decision makers from each lead agency at the conclusion of the final environmental documentation for both CEQA and NEPA.
1474	1	<p>I am writing to you to voice my concern over the twin tunnels.</p> <p>I have lived in Stockton since 1967. Other parts of the state have made many attempts to</p>	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. The documentation generated by this proposed project has

DEIRS Ltr#	Cmt#	Comment	Response
		<p>get our Delta water.</p> <p>When my grown children were growing up here, one of the quotes that was going around was "Flush the toilets kids -- L.A. needs the water."</p> <p>Two 40-foot tunnels is a very real problem for the Delta, and our part of this great state of California. If you could get through the 34,000 page analysis, and read the fine print, it is a big mess that involves a land and water grab.</p> <p>We voted down the Peripheral Canal in 1982. This does not fly. The powers that be can not be this dumb, or be so ignorant that they think we the people are going to go along with this.</p>	<p>undergone extensive public and scientific input, discussion, and transparency, including the posting of administrative draft chapters online and providing many more opportunities for public participation than is normally required by the CEQA/NEPA processes (see Master Response 41 [Transparency]). Refer to Chapter 32 (Public Involvement, Consultation, and Coordination) in the Draft EIR/EIS and Master Response 40 (Public Outreach Adequacy). By establishing a point of water diversion in the north Delta and new operating criteria with the goal of improving water volume, timing, and salinity, the project is designed to establish a more natural east-west flow for migratory fish, improve habitat conditions, and allow for greater operational flexibility--refer to Master Response 3 (Purpose and Need). It does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. The project is not the Peripheral Canal (refer to Master Response 36). For other points raised by the commenter, see Master Response 5 (Conservation Measure 1 as a CM) and Master Response 5 (Overview of Restoration and Enhancement Activities). The planning, designing, and environmental processes have been initiated and carried forward by two Governors acting on a mandate from the voters of the State as a whole.</p>
1475	1	<p>I am writing to you today, on behalf of Sun City Roseville Community Association with 3,110 homes representing over 5,000 residents, to ask that any Delta solution that is developed by the State of California does not come at the expense of those who live and work in the Sacramento region. The proposed solutions in the Bay Delta Conservation Plan (BDCP) focus on solving the Delta's environmental problems and Central and Southern California's water supply needs. However, the current draft of the BDCP continues to ignore the needs of Northern California -- upstream of the Delta -- posing serious risks to our economy, environment and quality of life.</p> <p>Please note that many residents of Sun City made a deliberate decision to settle and invest in a home in Roseville, most in retirement, for the quality of living which includes a reliable water supply. Without a reliable water supply, the existence of our lifestyle and economy come into question. Because there are so many unanswered questions, bad assumptions, faulty data and no operational plan, the BDCP reduces the ability of Northern California communities like Sun City to rely on water rights and contracts that ultimately serve our residents.</p>	<p>It is important to note that the project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in agricultural and municipal/industrial water conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures). Please see Master Response 3 for more information about the project objectives, purpose and need.</p> <p>Please note that the BDCP 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. The BDCP (Alternative 4) remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p>
1475	2	<p>In the ongoing drought, we have been dismayed by the operation of the state and federal water projects, particularly Folsom Lake and the Lower American River. The lake and river are key .to the Sacramento region's economy, lifestyle and environment and are crucial in providing water for California's water system and to the Sacramento-San Joaquin Delta. The over-drafting of Folsom Lake in 2014 to dangerously low levels in the hope that the drought was over was extremely short-sighted, and requires that a new operating plan be developed that always keeps Folsom Lake and the lower American River healthy. Today's current drought also illustrates the type of potential threats that are illustrated in the BDCP's modeling projections.</p>	<p>This comment is consistent with the results of the model results for the No Action Alternative Conditions which include assumptions for climate change and currently planned population growth, as described in Chapter 5, Water Supply of the Final EIR/EIS. Please see Master Response 6 for more information about water demand management.</p>
1475	3	<p>The current draft of the BDCP's Environmental Impact Statement/Environmental Impact report states that Folsom Reservoir could go to "dead pool" approximately once every ten years under future climate scenarios. BDCP acknowledges the possibility of Folsom Lake going dry, but while addressing the climate change issue for their export customers. However, it is clear that the reliability of our region's water supply is not being addressed as it should.</p> <p>In this "dead pool" scenario, significant urban populations in Sacramento, Placer and El</p>	<p>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 Other Indirect Effects, of the Final EIR/EIS, including a reduction of water demand by up to 20 percent. These changes would result in "dead pool" conditions in SWP and CVP reservoirs upstream of the Delta even without action alternatives.</p> <p>The "dead pool" conditions presented in the CALSIM II model results in the EIR/EIS are developed from</p>

DEIRS Ltr#	Cmt#	Comment	Response
		Dorado counties -- including Granite Bay and the cities of Folsom and Roseville -- would be essentially cut off from critical surface water supplies for several months. This would devastate the region's economy; devalue property and likely lead to depopulation of cities. It would also ultimately devastate the same environment that the BDCP is looking to restore -- the San Francisco-San Joaquin Bay Delta. These economic and environmental impacts would not only harm the Sacramento Region, but would harm the entire state.	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 more information about upstream reservoir effects, please see Master Response 25.
1475	4	The current draft of the BDCP is fundamentally inconsistent with existing water rights and contracts held by diverters from Folsom Reservoir (cities of Roseville and Folsom; and the San Juan Water District). These longstanding water rights and contracts must be observed because they provide a level of certainty that is critical to our region's water supply and economy.	See response to comment 1475-1.  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.
1475	5	The current plan does not meet the basic federal and state criteria to be considered complete. Among other omissions, it does not address any impacts to the region's lifestyle and livelihood, even though it is required by state and federal law.	Please see Master Response 24 for more information regarding the community and socioeconomic impacts considered for the Delta as a place. For additional information regarding socioeconomic impacts of the proposed project please see also 4.3.12 Section 4 of the RDEIR/SDEIS and Chapter 16 of the Final EIR/EIS.
1475	6	The BDCP lacks an operational plan for the proposed twin tunnels, and the overall governance of the twin tunnels is unclear. Without clarity in the BDCP about the operation of the twin tunnels and the participation in the Plan by the federal government, the impacts to Folsom Reservoir remain unclear and our region continues to face the potential of "dead pool" with no clear solutions.	Please see Master Response 25 regarding upstream reservoir effects.
1475	7	Sun City Roseville Community Association believes that the current draft of the BDCP should be considered incomplete at this point. With too many unanswered questions, errors and questionable assumptions, we ask that you direct the Department of Water Resources to do a better and more complete job and provide the public with a document that clearly defines a solution to the Delta and also supports a good, comprehensive water plan for all of California.	The lead agencies believe that the EIR/EIS is complete in its evaluation of impacts, direct and cumulative, that project description is complete and satisfies the requirements of NEPA that the project objectives are also precise and complete and satisfy the requirements of CEQA. The lead agencies agree that the 2013 Public Draft EIR/EIS and 2015 RDEIR/SDEIS provided the public and decision-makers with sufficient information on which to make informed comments which have been considered and incorporated into the Final EIR/EIS.
1476	1	The City of Garden Grove is a retail water supplier in Orange County that is governed by a publicly elected Board of Directors/City Council.  In spite of the world-class efforts of Orange County to provide greater water supply certainty for eight percent of California's population and the \$200 billion economy they represent, Orange County remains dependent on imported water to meet approximately 45 percent of its average annual demand, with the State Water Project deliveries from the Delta meeting approximately half of those needs. The Delta ecosystem and water supply conveyance problems have long been recognized, and have remained in a continuing state	This comment is consistent with the fundamental purpose of the project to make physical and operational improvements to the SWP system in the Delta, water supplies of the SWP and CVP for users located south of the Delta, and Delta water quality consistent with statutory and contractual obligations of the SWP and CVP, as described in Section 2.3 of Chapter 2, Project Objectives and Purpose and Need, of the EIR/EIS.  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 was developed to meet the rigorous standards of the federal and state Endangered Species Acts, as such the proposed project is intended to be environmentally beneficial. 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

DEIRS Ltr#	Cmt#	Comment	Response
		of degradation, conflict, and stalemate.	fish migratory patterns and allow for greater operational flexibility.
1476	2	Many years and hundreds of millions of dollars have been spent on study efforts while the Delta system continues to be used for water conveyance in a manner for which it was not intended. The longer it takes to begin the resolution, the more expensive it will become. This stalemate has been punctuated by droughts, floods, economic losses, environmental degradation and litigation every decade since the construction of the State Water Project in the 1960's. We can no longer delay action in the Delta, and urge the State and federal government to quickly move forward with the Preferred Alternative. Failing to act and move forward is not an acceptable alternative.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1476	3	In recent years the endangered species Biological Opinions for protection of Delta and Longfin Smelt and Chinook Salmon have resulted in massive cutbacks in exports by over 1.5 million acre-feet per year and without the BDCP further cuts of another 1.0 million acre-feet per year could occur with new endangered species listings according to the BDCP briefing documents. This situation is untenable and a solution must be found to stop this hemorrhaging of this critical foundational water supply to Southern California. The BDCP is the best hope we have and it must be approved and implemented in a timely and cost-effective manner.	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.. Instead, a modified proposed project (Alternative 4A/California WaterFix) is being considered. Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.
1476	4	The City of Garden Grove strongly supports the BDCP Preferred Alternative (No. 4) and oppose the No Action Alternative. It is critical to the state's economy and environment that both the State and federal government expeditiously follow through with the decision for adopting and implementing the BDCP.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1476	5	Co-Equal Goals:  The BDCP must be implemented in a manner consistent with the co-equal goals adopted by the State. Preferred Alternative (No. 4) is consistent with the Delta Reform Act of 2009's co-equal goals.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1476	6	New Facilities and In-Delta Operational Flexibility:  The modernization of the Delta conveyance system is essential in order for habitat restoration and conservation to have its intended effect; Preferred Alternative (No. 4), which incorporates the 9,000 cubic feet per second (cfs) three intake, twin tunnel conveyance system, provides the best balance between operational flexibility and modernizing the conveyance system for environmental benefit and water supply reliability.	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.
1476	7	Reduced Future Reliance:  The 2009 Delta legislation called for water agencies to reduce future reliance on the Delta, not to become 100 percent "self-reliant". While our major efforts in these areas will continue, it is important to note that "reduced reliance" does not equate to and was never intended to require a move to 100 percent "self-reliance" and the notion of co-equal goals	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		was never intended to result in a future with significant reduction in exports from levels achieved before the 2008 Bio-Opinions.	
1476	8	<p>Plan Implementation and Regulatory Assurance:</p> <p>The BDCP must provide the needed implementation and regulatory structure and assurances to help achieve the co-equal goals.</p> <p>a) To us, this means that it is virtually impossible to predict the outcome of the BDCP habitat restoration efforts and endangered species population dynamics, and such a standard should not be required in the DEIR/DEIS.</p> <p>b) Furthermore, this means that changed circumstances under the operation of the BDCP, including the potential for new species listing, be incorporated in such a manner to result in a minimum impact on future water supply exports.</p>	<p>Numerous comments were received that focused on various elements of the BDCP. Where the comments focused on elements of the BDCP that overlap with the elements of Alternatives 2D, 4A, or 5A (e.g., CM1 as it comprises of the North Delta Diversions, tunnels, and supporting facilities), specific responses are presented. Where comments raised issues as to whether the BDCP and other HCP/NCCP alternatives in the 2013 Draft EIR/EIS were potentially feasible and could function as an alternative for purposes of meeting CEQA and NEPA's requirements to analyze a reasonable range of alternatives to the proposed project (e.g., issues regarding the BDCP Effects Analysis or financial feasibility), responses are presented generally in Master Response 5. Where comments submitted on the BDCP were focused on elements outside the scope of the environmental analysis or viability of the BDCP and other HCP/NCCP alternatives within the context of CEQA/NEPA (e.g., request of specific revisions to the BDCP related to mapping or references), no specific responses are provided and further consideration will be given to these comments, and any revisions to the Draft BDCP would only be made, if an HCP/NCCP alternative was ultimately approved at the conclusion of the CEQA/NEPA process.</p>
1476	9	<p>Sound science: It is critical that sound science is provided in order to assure the long-term success of the BDCP. Los Angeles County Economic Development Corporation strongly supports the inclusion of independent scientific investigation and research to be included in the BDCP process.</p> <p>Cost allocation: We support the "beneficiary pays principle" in cost allocation for all responsible parties and beneficiaries.</p>	<p>Since 2006, the project has been developed based on sound science, data gathered from various agencies and experts over many years, input from agencies, stakeholders and independent scientists, and more than 600 public meetings, working group meetings and stakeholder briefings. Please see Master Response 5 for information on project funding.</p>
1476	10	<p>Implementing Agreement:</p> <p>The Implementing Agreement is a contractual, legally binding agreement that spells out the commitments and assurances as well as the terms and conditions for on-going implementation of the BDCP. Clarity in this agreement is essential as well as the balance in implementation of the co-equal goals.</p>	<p>For more information regarding the Implementation Agreement please see Master Response 5.</p>
1476	11	<p>Economy, Environment and Water Management:</p> <p>The State Water Project (SWP) is critically important to the Orange County economy, environment and water management. Implementation of the BDCP is critical to Orange County's future.</p> <p>a) Orange County and our agency have invested heavily to diversify our water portfolio but the SWP remains a critical source of low salinity water supply that is currently unacceptably jeopardized by the unsustainability of the current Bay-Delta system.</p> <p>b) Orange County relies on the SWP to support groundwater conjunctive use programs and water recycling programs- it is an essential part of our water reliability strategy that sustains our citizens and businesses.</p> <p>c) We support the 9,000 cfs twin tunnel Preferred Alternative (No. 4) provided reasonable assurances are included regarding governance and future decision-making in the process. We strongly advocate for a seat at the table for the water Permittees in the various oversight groups. The investment and decision-making must be structured to achieve a positive outcome for both the SWP and Permittees and the ecosystem restoration in a</p>	<p>The efforts completed by Orange County are supportive of the action alternatives and included in the Existing Conditions, No Action Alternative, and Cumulative Impact analysis assumptions. 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. It is important to note that the BDCP/California WaterFix is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, storage, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage (as described in Section 1.C.3 of Appendix 1C, Demand Management Measures).</p> <p>Please note that the new preferred alternative is now Alternative 4A (California WaterFix) and does not involve an HCP component. However, the lead agencies maintain that the new preferred alternative continues to meet the co-equal goals of a reliable water supply and a restored Delta ecosystem to benefit all water users.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>collaborative, partnership manner.</p> <p>Orange County has invested heavily to diversify our water portfolio but the SWP is a critical source of low salinity water supply that is currently unacceptably jeopardized by the unsustainability of the current Bay-Delta system.</p> <p>It is now time for the State and Federal government to adopt and move the BDCP to implementation in order that we can achieve the 2009 legislation's co-equal goals of improving water supply reliability and ecosystem restoration and improved function by implementing the BDCP Preferred Alternative (4).</p>	
1477	1	<p>This is a proposal I have been thinking about and working on for a long time now. I have written my idea down, it is true, but I do not know how to go about sharing my ideas for a better way to solve California's water problems. We need this plan because it will solve our water problems for a very long time to come. It is not a quick fix. It will not take water away without a plan to return the water back to where it was taken from. I am asking you to help me get these ideas out to the people. Perhaps you may know other people like yourself who are actively working to better our state, or maybe legislators who are on committees to solve our problems of the state or people who know lots of influential people who may be in a position to help. If enough people become versed in the real problems of managing and supplying a large state like ours with fresh quality water without doing real harm to any part of the state like that done to places like Owens Valley, California. We can have a world-class system. One we can be most proud of because we did it for the whole state without sacrificing even the smallest part of our state.</p> <p>The New Sacramento Co. and San Joaquin Co. Water Project Proposal 2014:</p> <p>Most California residents know the name Edmond G. Brown. Perhaps that is the driving force for our current Governor Brown wanting a Peripheral Canal albeit tunnels under and over ground. Today's newspaper said 24.7 Billion however, some experts are saying 67 Billion. I had not realized how far back our water problems reach. You might find it of interest to check this out for yourself. At least you will see how things tend to go. Their plan to send Northern California water south whatever the cost will not solve California's water problems. Yes, they can take the water at Hood and send it south. It is doable. If they keep doing this what are the long-term affects? Do they plan on the water always being there? Is rainfall the only means of replenishing the water levels in the Delta? Look at the current and previous rain amounts. Compare them to current and previous rain and snow amounts. O.K. Governor Brown what is your plan? Suppose it is a drought year. The Sacramento has been heavily affected by no rain. In Northern California, the tributaries are hurting themselves. Now what, Governor? You got yourself a new Owens Valley. If you do not know Owens Valley, please Google it. You may find this interesting. How about the court granting ownership to L.A. water district of all the snow that falls on the mountains and hills above Owens Valley? If you have no viable, workable plan then those who designed it are short-sighted and narrow-minded.</p> <p>My proposal to end California's water problem is to build a dam across the narrowest point of the Delta at some point along the Carquinez Straits or perhaps from Vallejo to Martinez. See the map, one is provided at the end of this paper. [see ATT 1] The dam should have good fish ladders, ship locks, and spillways. Over the course of several good wet years, the Delta, because of the dam's prevention of saltwater intrusion from San Pablo Bay, should rise and the Delta will become a fresh water lake. The dam will make it possible to control the water depth in the Delta. Fresh water means better health for fish and wildlife and</p>	<p>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.</p> <p>The proposed project is just one element of the state's long-range strategy to meet anticipated future water needs of Californians in the face of expanding population and the expected effects of climate change. The 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, including reliability of exported supplies, and the recovery and conservation of threatened and endangered species that depend on the Delta.</p> <p>Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the proposed project. It is important to note that the proposed project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>better water for the people to drink, as well as much needed quality water for agricultural needs of the farmers for all the people both north and south.</p> <p>We need to build small ponds and lakes 10 to 50 acres in size all up and down the valley from the northern most point to the southernmost point of the valley. The ponds and lakes shall be filled by water collected in Northern California during wet years. There will be some natural water seepage that will contribute to the underground aquifers. Over usage of wells to supply cities and rural areas with needed water has depleted much of our underground water supply. We need to replenish the aquifers. If we can restore the underground water levels all up and down the state we will have good water we can pump for our crops and for people's needs during really bad dry years.</p> <p>When we are able to raise the water levels in the Delta, some of the rivers like the Mokelumne River, Calaveras River, and the Mormon slough may receive more water again.</p> <p>We need to have smaller pumps all around the Delta fitted with smaller screens to keep fish safe as they migrate up to or through the Delta to spawn. These smaller pumps located around the Delta in place of huge pumps will do less harm to the fish and keep the water from going stagnant by increasing the water's circulation. As we begin to accumulate more fresh water, we can use the pumps, which we will have located around the Delta to send water to lakes and reservoirs or send water south to raise the level of ponds, and small lakes. We need to supply fresh water to new and larger lakes for storage as well.</p> <p>There is something else to consider. This dam might well be built with hydroelectric generators. This Dam by preventing salt waters from entering the Delta by way of the San Pablo Bay, may one day help prevent some people from losing their home by floodwaters. Most little towns and small cities along the Delta are located at or below sea level. We all must have heard the term global warming by now. What we do know is that the North Pole is seeing continued loss of glaciers, which is thought to be the result of global warming. What will be the results or how long this trend will continue, no one seems to know. They cannot say how high the oceans will rise if it does continue. We should all, by now, admit that the weather patterns are changing.</p> <p>Please encourage the people you know to question what is happening in our own state. It did indeed start a century ago and continues even now. Even the Delta Mendota and California Aqueducts have not solved our water problems. We do need large yields of grains and produce. We need a good plan for the whole state. We need to stop Governor Brown from employing another quick fix. "You cannot tunnel your way out of this one Governor Brown."</p> <p>Thank you for reading this letter. Please pass it on. Help where you can. We need this dam, for tomorrow's sake. In my opinion, this plan that Governor Brown has been pushing and has already started spending tax payer money on is so very wrong and bad for California's future.</p>	
1477	2	[ATT 1: Map of where proposed dam structure could be placed.]	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.
1479	1	Provide an alternate analysis to the computer-generated model. Please use analysis similar to Corps of Engineers Bay Model to graphically demonstrate maximum quantity of salt-water intrusion into the Delta and Sacramento River due to planned Tunnels	The models used to simulate hydrologic changes in tributaries to the Delta, CALSIM, and hydrodynamic changes in the Delta, DSM2, are commonly used models for statewide water planning and Delta water quality assessment, as described in Chapter 8, Water Quality, Section 8.3.1.1, Models Used and Their

DEIRS Ltr#	Cmt#	Comment	Response
		operations.	Linkages. The water quality assessment of the diversion of Sacramento River water under the project alternatives addresses effects on salinity-related parameters in the Delta, including electrical conductivity (EC) and compliance with related agricultural and fish and wildlife objectives in the Bay-Delta Water Quality Control Plan and degradation relative to these uses in Impact WQ-11 in Chapter 8, Water Quality. 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.
1480	1	Do not destroy the Delta! Do not allow the tunnels.	The issue raised by the commenter addresses the merits of the project and does not raise any issues with the environmental impact analysis provided in the EIR/EIS documentation.
1481	1	<p>I'm writing you today, as a concerned citizen, to ask that any Delta solution developed by the state does not come at the expense of those who live and work in the Sacramento region. The proposed solutions in the Bay Delta Conservation Plan focus on solving the Delta's environmental problems and Central and Southern California's water supply needs. However, it continues to ignore the needs of Northern California upstream of the Delta. This poses serious risks to our economy, environment and quality of life.</p> <p>In early 2014, I was shocked and saddened by the drought's impacts upon Folsom Lake and the lower American River. The lake and river are key to the Sacramento region's economy, lifestyle and environment and are crucial in providing water for California's water system and the Sacramento-San Joaquin Delta.</p>	<p>The proposed project would not affect upstream water rights. The proposed project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. The CALSIM II modeling performed for conveyance facility operations takes into account projected future demand for water supply in areas upstream of the Delta (as part of the future No Action baseline) prior to calculating proposed project diversion estimates to ensure that no area-of-origin protections or upstream water rights are affected by project conveyance facilities. Please see Appendix 5A of the FEIR/FEIS for additional modeling details. Please see Master Response 26 regarding water resources in northern California.</p> <p>See Master Response 25 regarding impacts to upstream reservoirs and Chapter 16 regarding socioeconomic impacts.</p>
1481	2	<p>The current draft of the BDCP's Environmental Impact Statement/Environmental Impact report states that as the BDCP is implemented, Folsom Reservoir could go to "dead pool" approximately once every ten years. Folsom Lake is crucial not only to our water supplies, but for the entire state. The BDCP acknowledges the possibility of Folsom Lake going dry, but the state is not proactively working toward solving this critical issue.</p> <p>In this "dead pool" scenario, significant urban populations in Sacramento, Placer and El Dorado counties -- including Granite Bay and the cities of Folsom and Roseville -- would be essentially cut off from critical surface water supplies for several months. This would devastate the region's economy, devalue property and likely lead to depopulation of cities. It would also ultimately devastate the same environment that the BDCP is looking to restore -- the San Francisco-San Joaquin Bay Delta. These economic and environmental impacts would not only harm the Sacramento Region, but also harm the entire state.</p>	<p>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 Other Indirect Effects, of the EIR/EIS, including a reduction of water demand by up to 20 percent. These changes would result in "dead pool" conditions in SWP and CVP reservoirs upstream of the Delta even without action alternatives.</p> <p>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.</p>
1481	3	<p>The Sacramento region's water agencies, cities and counties have worked together on a comprehensive review of the current draft of the BDCP and its related documents and have identified fatal flaws. As a concerned citizen of California, I feel it is critical to reiterate the fatal flaws in the current draft of the BDCP.</p> <p>The current draft of the BDCP is fundamentally inconsistent with existing water rights and contracts held by diverters from Folsom Reservoir (cities of Roseville and Folsom and San Juan Water District). The current plan does not meet the basic federal and state criteria to be considered complete. The BDCP lacks an operational plan for the proposed twin tunnels, and the overall governance of the twin tunnels is unclear. Without clarity in the BDCP about</p>	<p>The proposed project would not affect upstream water rights or entitlements. It aims to allow the federal and State water projects to deliver more reliable water supplies, in a way less harmful to fish. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. The CALSIM II modeling performed for conveyance facility operations takes into account projected future demand for water supply in areas upstream of the Delta (as part of the future No Action baseline) prior to calculating Proposed Project diversion estimates to ensure that no area-of-origin protections or upstream water rights are affected by project conveyance facilities. Please see Appendix 5A of the FEIR/FEIS for additional modeling details. Please see Master Response 26 regarding water resources in northern California.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the operation of the twin tunnels, the impacts to Folsom Reservoir remain unclear and our region continues to face the potential of "dead pool" with no clear solutions.</p> <p>With too many unanswered questions, errors and questionable assumptions, I strongly feel that the current draft of the BDCP should be considered incomplete. I ask that you direct the Department of Water Resources to do a better and more complete job and provide the public with a document that clearly defines a solution to the Delta and also supports a good, comprehensive water plan for all of California.</p>	<p>Alternative 4A, also known as California WaterFix, has been developed in response to public and agency input and is the new CEQA Preferred Alternative. Alternative 4A is also the NEPA Preferred Alternative, a designation that was not attached to any of the alternatives presented in the 2013 Public Draft BDCP Draft EIR/EIS. Alternative 4 (the BDCP) remains a potentially viable alternative and is being carried forward in this FEIR/FEIS 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.</p> <p>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. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. Please see Chapter 3, Description of Alternatives for additional information on proposed project operations.</p>
1482	1	<p>My parcel is only 17 acres, a pittance in terms of other larger properties threatened by the Delta Tunnel project, but it is my piece of the American Dream that I have worked hard for, paying off the mortgage after 40 years as in the spirit that drove the Western Expansion of this nation: the Kincaide Act and the Homestead Act. Same thing. If you worked for it, it is yours. Now it seems maybe not. I am devastated. I am now 80 years old, a bad time to lose all that I have worked for. It is Holy Ground here in these plowlands. My wife died here, my daughter died nearby in an accident. This was to be my estate to pass on to my children and their children. I will not have much else to give them. This has become a place of gathering, like birds they come back to restore their spirits in a place called the family home. It will be lost to all my future generations.</p> <p>It's on Scribner Road, a little orphan County Road near Highway 160 that goes past half a dozen or so homes. One of them mine. Nearby would be where the Highway would be cut and intakes put in. The road will be closed and this State Scenic Highway will be move across my property, across my shop, my domestic well, my septic system and across my front yard. My neighbors would be similarly affected; agriculture will be disturbed. This land is one of the most fertile areas in the planet. We produce food and fiber here that feed humanity world wide. This was once swamp land, nurtured by generations of American Farmers who gave their work lives make it productive. We have a sense of duty that this was not all in vain.</p>	<p>The BDCP/California WaterFix 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. Although both the construction of new physical facilities in the Delta and the restoration of habitat will lead to the conversion of some amounts of agricultural land in the Delta, effects of the BDCP will be subject to aggressive mitigation efforts. Land that is not directly affected by construction or habitat restoration should remain productive. Please see Master Response 18 for more information regarding agricultural impact mitigation. 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.</p>
1482	2	<p>Because the aquifer will be pumped out to allow tunneling, our domestic supply would be in jeopardy. This is ancient water, formed over eons, not easily replaced, if ever. Thousands of acres of tunnel muck plan to be stored nearby and creation of buffer lakes will cover more land and create habitat for mosquitos in an age where we saw the last of malaria, and face the current challenge of West Nile Virus.</p>	<p>As described in Section 7.3.3.2 of Chapter 7, Groundwater, of the EIR/EIS, dewatering would occur at the construction sites for the intakes, forebays, pipelines (not the tunnels), and tunnel shafts. Near Scribner Road, dewatering would occur during construction only near the intakes. Following construction, the groundwater elevations would rise towards pre-construction elevations. Mitigation measures have been identified in the EIR/EIS; and specific measures would be defined during design and construction phases based upon more detailed analyses.</p> <p>Impact PH-1 in Chapter 25, Public Health addresses this issues of creation of mosquito habitat under project alternatives. Impacts are considered less than significant/not adverse because standard mosquito vector controls would be implemented in project construction sites to reduce this potential health issue.</p>
1482	3	<p>In terms of the American Experience, it would be a dark chapter where the needs of the Common Good are not well defined and land be taken away. Land ownership is one of the centerpieces of what has made America different in a unique way compared to the days of the Domesday Book in England. I am the son of immigrants, as many here are, but within</p>	<p>When required, the project proponents would provide compensation to property owners for losses due to implementation of the alternative, which would reduce the severity of economic effects related to this physical impact.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>the last century, my group was not allowed to own land at one time so it has special meaning to me. We have a history and a place of belonging, things hard to measure, and certainly cannot be bought with a bag of silver. Home and land ownership has been one of the bright spots of this, the American Century; these human values should be valued.</p>	
1484	1	<p>The Carmichael Water District (CWN) supports the goals of the BDCP. CWD is located outside the boundaries of the legal Delta and obtains its surface water from the American River in conjunction with seasonal groundwater extraction. The implementation of the BDCP raises issues of substantial concern to the CWD with regard to how other regulatory agencies could influence the implementation of actions of Authorized Entities, the issues of concern being:</p> <ol style="list-style-type: none"> <li>1. Safeguards protecting the water rights of senior water right permittees and licensees located upstream from the legal Delta; and</li> <li>2. New fees in the form of a public goods charge (tax) for water. CWD subscribes to the concept of direct beneficiary pays for the benefit received; and</li> <li>3. Clarity as to how the State Water Resources Control Board (SWRCB) intends to manage the United States Bureau of Reclamation's operation of Folsom Reservoir to meet Delta needs. Other BDCP-related regulatory requirements could result in the operation of Folsom Reservoir in a way that could reduce the CWD's ability to divert water from the lower American River; and</li> <li>4. The impacts of climate change have not been fully vetted in the BDCP, and that the Permit Oversight Group controlling the BDCP permit may not fully understand how to operate the water system under these new conditions which could lead to reduced water supply reliability for the CWD.</li> </ol> <p>The Board of Directors of the Carmichael Water District [have determined] that the CWD cannot endorse the Bay Delta Conservation Plan unless and until there is adequate disclosure of long-term impacts to the CWD from linked BDCP activities noted herein, and there is an inclusion of a clear and unambiguous statement of assurance and protections for senior upstream water rights users from various permit controlling agencies.</p> <p>The Directors of the Carmichael Water District conclude that ambiguities contained in the BDCP must be eliminated. For example, Chapter 7 of the BDCP contains ambiguities that do not firmly assure the CWD and other agencies in the source water areas that our water rights and supply will not be impaired, or that costs will not be placed on our ratepayers for which they receive no benefits. Clarity of authorities and actions to those receiving the permits an government agencies supporting the permits is necessary before the BDCP can be endorsed as beneficial to the people we serve and to the State of California.</p>	<p>This comment pertains to Alternative 4 (known also as the BDCP) or analysis contained within 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 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p> <p>Please refer to Master Response 26 for a discussion of effects on existing upstream water rights and Master Response 32 for a general description of the water rights allocated by the SWRCB to DWR for the operations of the SWP and to Reclamation for the operations of the CVP. Please see also Master Response 25 regarding upstream reservoir effects.</p> <p>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. Regarding BDCP funding in particular, please see Master Response 5.</p> <p>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.</p> <p>The State of California has acknowledged that sea level rise threatens coastal and near coastal resources (such as the Delta and Delta water supplies) and that adaptation and resiliency planning to protect these resources from expected levels of sea level rise is appropriate. (OPC, 2013) <a href="http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/">http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/</a></p> <p>(CCC, 2013) <a href="http://www.coastal.ca.gov/climate/SLRguidance.html">http://www.coastal.ca.gov/climate/SLRguidance.html</a></p> <p>EO S-3-05. <a href="http://gov.ca.gov/news.php?id=1861">http://gov.ca.gov/news.php?id=1861</a></p> <p>EO S-13-08 <a href="http://gov.ca.gov/news.php?id=11036">http://gov.ca.gov/news.php?id=11036</a></p> <p>AB 32 also mentions sea level rise as a threat to California.</p> <p>California WaterFix would help to address the resilience and adaptability of the Delta to climate change</p>

DEIRS Ltr#	Cmt#	Comment	Response
			<p>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.</p> <p>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.</p> <p>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, and associated appendices, and Appendix 3E, Potential Seismic and Climate Change Risks to SWP/CVP Water Supplies, of the Final EIR/EIS,. The aforementioned Master Response 25 also provides information related to climate change impacts to upstream operations. The proposed project no longer includes a permit oversite group; however, more information regarding adaptive management is provided in Master Response 33.</p>
1487	1	This is a necessary and vital project for the State of California and I urge that this be expedited. Without it, our economy is headed for a disaster.	No issues related to the adequacy of the environmental impact analysis in the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS were raised.
1488	1	<p>Operating Folsom Reservoir to dead pool 10 percent of years violates existing water rights and contracts</p> <p>The City of Roseville diverts its primary water supplies using an intake within Folsom Reservoir. That intake would be dry if the level of the reservoir were to drop below the top of the intake. This dead pool condition has never occurred previously, but probably would occur when the reservoir has approximately 100,000 or fewer acre-feet of water in storage. Such a dead pool condition would have a severe detrimental impact on the City's residents, businesses and economic health.</p> <p>The BDCP inappropriately assumes that the U.S. Bureau of Reclamation could operate Folsom Reservoir so that it would drop below the water-supply intake that supplies the City - to dead pool - in 10 percent of years and to levels that would create serious water-supply and fishery problems even more frequently.</p> <p>Operational scenarios in the BDCP assume that Reclamation would operate, and would be allowed to operate, Folsom Reservoir to eliminate deliveries through the reservoir's water-supply intake for at least three months in 10 percent of years. This indicates that BDCP implicitly assumes that Reclamation would operate, and would be allowed to operate, Folsom Reservoir so that the approximately 500,000 people that currently rely on the reservoir as their primary water supply would be denied that water supply for those three months in 10 percent of years. Notwithstanding the numerous other flaws, inaccuracies and faulty assumptions that pervade the BDCP and its Draft EIR/EIS, this assumption in the BDCP is extremely troubling for the City of Roseville, would violate numerous laws and by itself underscores the City of Roseville's conclusion that this document is fundamentally flawed.</p> <p>The assumed future operation in the BDCP's No Action Alternative and the proposed project</p>	<p>This comment pertains to Alternative 4 (known also as the BDCP) or analysis contained within 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 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p> <p>As described in Draft EIR/EIS Chapter 3, Section 3.5.1, the No Action Alternative assumes future operation of CVP and SWP facilities without the proposed project, consistent with NEPA and CEQA requirements and was used to compare the EIR/EIS action alternatives. The No Action Alternative (ELT at 2025 and LLT at 2060) includes changes due to climate change and sea level rise that would occur with or without the BDCP, California WaterFix, or other alternatives. This allowed the effects of each alternative to be assessed under assumed future climate change conditions. Climate change is projected to increase the number of years in which most reservoirs approach the minimum level needed for power operations (i.e., “minimum storage”). The Folsom reservoir minimum storage was assumed to be 90 taf, corresponding to an elevation of 320 feet (to allow water supply releases). Modeling simulations indicate this condition would occur in 3 years under the existing conditions (CEQA baseline), in 6 years under the No Action Alternative (ELT) and in 9 years under the No Action Alternative (LLT).</p> <p>Because the CALSIM model used the same assumed reservoir operations rules for each alternative, the</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>would violate contracts for diversions from Folsom Reservoir and the terms of Reclamation's water-right permits for Folsom Reservoir. In particular, in 1958's Decision 893, the State Water Rights Board imposed a term on Reclamation's water-right permits for Folsom Reservoir to protect, among others, the City of Roseville, which, at that time, was pursuing a competing water-right application that would have priority under California's area-of-origin laws. (See Decision 893, p. 72 (Term 14).) Decision 893 explained that term's effect as follows:</p> <p>Permits are being issued to the United States to appropriate enough American River water to adequately supply the applicants naturally dependent on that source and availability of water to such applicant is reasonably assured by the terms to be contained in the permits to be issued to the United States restricting exportation of water under those permits insofar as exportation interferes with fulfillment of needs within Placer, Sacramento and San Joaquin Counties. Other applicants in more remote areas must if necessary seek water from other sources.</p> <p>(Decision 893, p. 54 (emphasis added).)</p> <p>The impacts of BDCP's No Action Alternative and its proposed project on the City of Roseville and other diverters from Folsom Reservoir would prevent approving the BDCP's proposed north Delta diversion because operations assumed by the BDCP would injure legal users of water including the City of Roseville.</p> <p>Any notion that would require the City of Roseville to forego CVP contract water diversions to make the BDCP a success is not only inconsistent with California law, but contradicts statements made by the Governor and his Secretaries, meant to assuage communities, like Roseville, by stating that, "State and U.S. governments will make sure implementation of BDCP will not result in adverse effects on the water rights of those in the watershed of the Delta, nor will it impose any obligations on water users upstream of the Delta to supplement flows in and through the Delta." (July 25, 2012) The City of Roseville is neither a party to nor a direct beneficiary of the BDCP, thus there must be no resultant impacts, by the activities and projects proposed in the BDCP, to Roseville water supplies, economy or environment.</p> <p>In addition, it is important to recognize that the operation of Folsom Reservoir, from an electric generation perspective, serves an important role in the region during certain electric system emergency conditions. As operations of the Folsom Reservoir may change in the future due to the BDCP, it is essential that the corresponding implications on electric generation be clearly understood as not to jeopardize the ability for Western to address electric system emergency conditions in the region, if necessary.</p>	<p>comparison between alternatives and the baseline cases are unbiased. As shown in Chapter 5, Figure 5-12, Folsom Lake End of September Storage, of the 2013 Draft 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 the BDCP or currently proposed project.</p> <p>If the actual CVP operations target higher minimum storage or other water conservation measures (e.g., reduced deliveries in dry years) that were not included in the CALSIM modeling, some of the lowest reservoir storage occurrences (for the baselines and the alternatives) would actually be higher in future operations. This would likely reduce the impacts of these simulated low storage levels. The impacts of the alternatives (i.e., changes from the assumed baseline) are accurately shown, although the impacts may be slightly less than simulated. Actual operations would protect Roseville's diversions and contract terms; the CALSIM results are assumed to protect all existing water rights, water contracts, and other agreements. The model protects the minimum storage needed for the water supply intakes; actual operations are based on projected inflows and water supply diversions and minimum required releases. Additional releases for downstream water uses (including minimum Delta outflow) would be controlled by CVP, just as they are today.</p> <p>Folsom Reservoir releases during dry year conditions do not provide much energy generation, but the ability to provide some peak energy for several hours each day (allowing the releases to be re-regulated in Lake Natoma) remains a useful feature. The minimum reservoir level protects the energy generation from Folsom Dam, unless low level outlet releases are used for temperature control. The effects of climate change on the hydrology or the effects of action alternatives are not expected to interrupt the Roseville water supply or the ability to generate some energy at the Folsom Power Plant during dry years with reduced storage.</p> <p>Please also see Master Response 19 and 25 for more information regarding climate change and GHGs and upstream reservoir effects respectively.</p>
1488	2	<p>Lack of an operational plan within the BDCP creates uncertainty for CVP contractors: The proposed BDCP and its Draft EIR/EIS creates a significant risk to water users who are not BDCP proponents in that their water uses will be affected by events that would be within what the draft BDCP defines as unforeseen circumstances. (See draft BDCP, pp. 6-45 to 6-46.) Under the proposed BDCP, BDCP proponents presumably would be immune from most impacts of these unforeseen circumstances, but BDCP contains no explanation of how the existence of those assurances could affect other water users, and especially CVP contractors who are not BDCP proponents.</p> <p>If the draft BDCP had contained an operations plan demonstrating how Reclamation would operate in conjunction with BDCP to address the needs of those non-BDCP CVP contractors,</p>	<p>As noted above, the preferred alternative and proposed project is now Alternative 4A, not the BDCP. The proposed project would not affect upstream water rights. It aims to allow the federal and state water projects to deliver more reliable water supplies, in a way less harmful to fish. The project does not increase the amount of water to which DWR holds water rights or for use as allowed under its contracts. The CALSIM II modeling performed for conveyance facility operations takes into account projected future demand for water supply in areas upstream of the Delta (as part of the future No Action baseline) prior to calculating Proposed Project diversion estimates to ensure that no area-of-origin protections or upstream water rights are affected by project conveyance facilities. Please see Appendix 5A of the FEIR/FEIS for additional modeling details. Please see Master Response 26 regarding water resources in northern California.</p> <p>Please also see Master Response 30 for additional information regarding the modeling conducted for the</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>it might have been possible for the EIR/EIS to explain how granting BDCP proponents' desired assurances might affect those other water users.</p> <p>Unfortunately, no such operations plan exists within the draft BDCP and its draft EIR/EIS. Instead, as discussed elsewhere in these comments, BDCP's hydrologic modeling assumes that, in the case of climate change, Reclamation generally would operate upstream reservoirs so that they would go dry in 10 percent of years, which would cut off supplies to many CVP contractors. Without a well-described operations plan that explains how the BDCP's terms would be integrated with CVP operations outside the scope of BDCP, especially the regulatory assurances its proponents would receive, the draft BDCP and its EIR/EIS are too vague to support the necessary findings or provide adequate environmental analysis under NEPA and CEQA. For the City of Roseville, this vagueness underscores the inadequacy of the draft BDCP and its EIR/EIS and does not provide upstream water diverters, like the City of Roseville, the level of information and sound analysis that we should reasonably and legally expect as part of this public review process.</p>	<p>RDEIR /SDEIS and Final EIR/EIS WaterFix alternatives. Please also see Master Response 28 regarding the proposed operational criteria and Master Response 25 regarding potential effects to upstream reservoirs and water supply.</p>
1488	3	<p>City of Roseville water demands are incorrect in the BDCP's modeling</p> <p>The draft BDCP's hydrologic modeling assumes future demands by the City of Roseville that are substantially too low and therefore does not accurately depict the impacts of the No Action Alternative and the proposed project on the city. The City's two primary water supplies are a CVP water-service contract with Reclamation for 32,000 acre-feet per year and a contract with Placer County Water Agency (PCWA) for up to 30,000 acre-feet per year of water that PCWA appropriates under its own water rights for its Middle Fork Project. While the assumptions for BDCP's hydrologic modeling correctly assume that the City has a demand for 32,000 acre-feet of CVP contract water per year, now and in the future, those assumptions incorrectly state that the city's demand for water under its PCWA contract will be only 5,000 acre-feet per year in the No Action Alternative. (BDCP EIR/EIS Appendix SB, p. SA-B135, Table B19 (depicting the City's demand for "Water Rights" water).) In fact, the City anticipates using its full 30,000 acre-feet per year allotment under its contract with PCWA in the future. As discussed in Table 3.13 of the City of Roseville's 2010 Urban Water Management Plan, the City anticipates having a demand for the full amount of the PCWA contractual supply by 2025. The BDCP draft documents' contrary assumption causes those documents to inadequately disclose project impacts on the City of Roseville, Folsom Reservoir and all resources that depend on that reservoir.</p>	<p>As noted above in Response to Comment 1488-2, the proposed project would not affect upstream water rights. The assumptions for the No Action Alternative were based on information that was available as of 2009 when the Notice of Preparation and Notice of Intent were published.</p>
1488	4	<p>Stormwater impacts: Insufficient justification for Conservation Measure (CM) 19</p> <p>CM19 is described in seven pages of the BDCP with little detail, numerous inaccuracies on urban runoff contaminants and water quality regulations, and without any evidence that CM19 control measures could provide any measurable benefits to the covered species. CM 19 (CM19, BDCP Section 3.4.19) intends to decrease urban runoff contaminant discharge to support Objective L2.4 to provide water quality to help restore native fish habitat. However, there is no technical analysis demonstrating the potential benefits of CM19 aside from incomplete descriptions of pyrethroid research in upstream urban tributaries; this research has not demonstrated relevance to impacts on covered species in the Delta. No technical justification is provided for the primary inclusion of urban runoff sources as a Conservation Measure over all other contaminant stressor sources that are described throughout the BDCP and EIR/EIS but are absent as Conservation Measures. As proposed, CM19 provides no new benefits to downstream covered species. Furthermore, CM19 proposes measures that</p>	<p>The current proposed project (Alternative 4A) is no longer a NCCP or HCP; therefore 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 project except to the extent required to mitigate significant environmental effects under CEQA and meet the regulatory standards of ESA Section 7 and California Endangered Species Act (CESA) Section 2081(b).</p> <p>Draft EIR/EIS Chapter 3 provides an overview of CM19, but the effects of CM19 as part of the BDCP are discussed in Draft EIR/EIS Chapter 5 and Appendix 5D. Uncertainty associated with CM19 is recognized, and it is expected that this uncertainty would be reduced through implementation of CM19 and subsequent monitoring to quantify the benefit.</p> <p>Please also note that all comments received during the 2013 and 2015 public comment periods are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>are already generally implemented by stormwater management programs and local planning departments with new development requirements.</p> <p>The City of Roseville echoes and incorporates the request, made by the Sacramento Stormwater Quality Partnership, in their comment letter on the BDCP that CM19 be removed because it is not justified as an action that would reasonably improve the covered species populations in the Delta.</p>	
1488	5	<p>Inadequate financing</p> <p>A habitat conservation plan must ensure that there is adequate funding to implement its conservation actions. The draft BDCP does not meet this standard. It depends not only on funding from the current proposed bond - which is subject to amendment and general election vote, and has already been delayed four years - but also a second, as yet undefined, bond and equally vague federal funding.</p> <p>Moreover, the draft BDCP does not contain adequate assurances that the water agencies that would receive regulatory coverage under the federal Endangered Species Act and the state Natural Community Conservation Planning Act are the only agencies that would be asked to contribute funding to the project.</p> <p>The City of Roseville needs strong assurances that implementation of any BDCP will adhere to the principle that the beneficiary must pay for financing the activities that would be required for BDCP proponents to receive their desired regulatory coverage. The current draft of the BDCP does not provide those assurances or a level of confidence that financing assumptions are more than just speculative.</p>	<p>Regarding BDCP implementation costs and funding sources, please refer to Master Response 5. As noted above, the current proposed project (Alternative 4A) is no longer a NCCP or HCP; please see Response to Comment 1488-4.</p> <p>As also note above, all comments received during the 2013 and 2015 public comment periods are included in the FEIR/EIS. Regarding responses to other comment letters, please refer to the table of commenters to locate the letter of interest.</p>
1488	6	<p>The current draft of the BDCP is fundamentally flawed and needs more work to allow the public and agencies to assess the true impacts.</p> <p>As was pointed out specifically in the comment letters from the North State Water Alliance and the American River Water Users, the current draft BDCP and its Draft EIR/EIS are based on flawed hydrologic modeling and a flawed scientific analysis. Significant errors in the underlying hydrologic model, from which all effects were analyzed, call into question the analyses and conclusions throughout the entire draft BDCP and its related documents.</p> <p>Given these shortfalls, the draft BDCP and its EIR/EIS fail to adequately provide the environmental documentation necessary for our community and public decision makers to reach an informed and thoughtful assessment as to how the BDCP will impact our water supply from Folsom Reservoir. As pointed out in the American River Water Users comment letter, this lack of clarity in the BDCP's EIR/EIS violates NEPA's readability requirement and violates CEQA's requirement that the document adequately inform the public of the scope and potential impacts of a proposed project. It is well-established that an EIR must be "prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences." CEQA Guidelines [Section] 15151.</p>	<p>To the extent this comment refers to the program-level analysis of some components of the BDCP, please see Master Response 2. As Master Response 2 explains, the Draft EIR/EIS analysis of CM 1 Water Facilities and Operation fulfills the CEQA and NEPA requirements for project-level review</p> <p>Please refer to Response to Comment 1488-1 regarding assumptions included in the CALSIM II model regarding higher demands associated with upstream water rights holders as well as assumed future effects of sea level rise and climate change. These factors could affect upstream SWP and CVP water deliveries, and such changes in deliveries would occur under all scenarios. The Draft EIR/EIS analysis compares effects resulting from implementation of the BDCP to Existing Conditions and future conditions under the No Action Alternative. For more information regarding water supply please see Chapter 5 of the FEIR/EIS.</p> <p>Please also see Master Response 30 for additional information regarding the modeling conducted for the RDEIR /SDEIS and Final EIR/EIS WaterFix alternatives.</p> <p>As noted in responses above, the FEIR/EIS includes all comments received during the 2013 and 2015 public comment periods. Regarding responses to other comment letters, please refer to the table of commenters to locate the letter of interest.</p>
1488	7	<p>As the Supreme Court has said, an EIR must disclose to the public the "analytic route the agency travelled from evidence to action" and in doing so, the EIR "must contain facts and analysis, not just the agency's bare conclusions or opinions." Citizens of Goleta Valley v. Board of Supervisors, {1990} 52 Cal.3d 553, 568. CEQA Guidelines Section 15151 recognizes that the evaluation of the effects of a project "need not be exhaustive" and that the courts</p>	<p>The proposed project would not affect upstream water rights, as stated in Response to Comment 1488-2. However, future conditions that are assumed to occur under all alternatives could affect deliveries; please refer to Response to Comment 1488-1.</p> <p>Pease see Chapter 5 and Appendix 5A of the Final EIR/EIS for more detail discussion of water supply and</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>have "looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."</p> <p>The draft BDCP and its EIR/EIS fails this good faith effort test because it leaves the City of Roseville with many unanswered questions as to how the proposed activities and projects will impact its future water supply reliability.</p> <p>As a result, the current draft BDCP documents are incomplete and inadequate to inform the public of the consequences of implementing the BDCP. The City of Roseville expects that the State of California will address these shortcomings outlined in this and the other referenced comment letters, if the State of California wishes to continue with this process. This would require that another draft of the BDCP be released to the public with another public comment period that provides sufficient time to assess the impact of the BDCP and its related documents.</p>	<p>modeling assumptions.</p> <p>Regarding responses to other comment letters, please refer to the table of commenters to locate the letter of interest.</p>
1489	1	The Board of Directors of the Pasadena Chamber of Commerce would like to see a permanent resolution to the challenges facing water delivery systems and the environment in California. A safe, reliable and environmentally supportive water conveyance system for California is essential to our growth, economy and quality of life.	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. Please see Alternative 4A which no longer includes an HCP. Alternative 4A has been developed in response to public and agency input.
1489	2	The Pasadena Chamber Board is supportive of the Bay Delta Conservation Plan. The Board favors an approach, such as Alternative 4, which provides for appropriate water conveyance and still preserves habitat and protects the ecosystem. The proposal also provides for seismic and other safety measures which will help protect citizens, habitat, and the economy of California in the event of a disaster. We certainly anticipate that the Bay Delta Conservation Plan can provide the resolution to California's water challenges and support approval of Alternative 4.	The comment does not raise any environmental issue related to the 2015 RDEIR/SDEIS or the 2013 DEIR/EIS.
1490	1	There are several fisheries listed under the federal Endangered Species Act present in the waters of the San Francisco Bay-Sacramento River-San Joaquin River Delta (Bay Delta), including species of smelt and salmon and steelhead trout. In connection with proposed activities that may adversely impact species protected species, the ESA contains provisions that allow parties who would conduct such activities to propose "habitat conservation plans/habitat conservation programs" (HCPs) to the federal wildlife agencies, the United States Fish and Wildlife Service (USFWS) and the National Marine Fisheries Services (NMFS). Pursuant to Section 10 of the ESA, the federal wildlife agencies may only approve an HCP if the plan/program and underlying project activities "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild."	<p>This comment pertains to Alternative 4 (known also as the BDCP) or analysis contained within 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 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p> <p>While Alternative 4A would not serve as an HCP/NCCP, it would mitigate for impacts and restore habitat for fish and wildlife listed in Section 4.3.7 and 4.3.8 of the RDEIR/SDEIS. Regarding compliance with the Endangered Species Act (ESA) please see Master Response 29.</p>
1490	2	There are two large water infrastructure projects that operate diversion facilities in the Bay Delta specifically and water diversion/storage facilities in the Sacramento River-San Joaquin River watershed more generally - the federal Central Valley Project (CVP) and California's State Water Project (SWP). The CVP is operated by the United States Bureau of Reclamation (Bureau of Reclamation) and the SWP is operated by the California Department of Water Resources (DWR). In addition to the CVP and the SWP, there are also many other	This comment is consistent with information presented in Chapter 1, Introduction, of the Draft EIR/EIS.

DEIRS Ltr#	Cmt#	Comment	Response
		<p>non-CVP/non-SWP diverters of water and operators of water storage facilities in the Sacramento River-San Joaquin River watershed.</p> <p>The BCDP process has been underway for many years and to date has focused on the relationship between the impacts of the water diversion/storage operations of the CVP and State Water Project on fish species listed under the Endangered Species Act. More specifically, the Bureau of Reclamation and Department of Water Resources have initiated development of the BCDP as a multi-species Habitat Conservation Plan pursuant to Section 10 of the ESA, with the goal of creating a plan/program that would enable the CVP/SWP to operate going forward in a manner that would "not appreciably reduce the likelihood of the survival and recovery" of the endangered smelt, salmon and steelhead fisheries in the Bay Delta watershed.</p>	
1490	3	<p>There are several stressors that have contributed and are contributing to the decline of the smelt, salmon and steelhead fisheries that pass through the Bay Delta, but three in particular that are pertinent to evaluating the BCDP. The first stressor on these fisheries is the significant reduction in fresh water flows moving through the Bay Delta which has resulted in seawater intrusion and elevated salinity levels in the Sacramento River-San Joaquin River Delta. The second stressor on these fisheries is the problem of entrainment of fish in the CVP/SWP diversion pumps that pull water from the south Delta. The third stressor on these fisheries is the reduction in the amount and quality of habitat (particularly spawning habitat) due to changes in land uses (levees, development, fill) along waterways.</p> <p>Of these three noted stressors, the multi-species Habitat Conservation Plan proposed as the BCDP has so far paid little attention to the first stressor (inadequate fresh water flows into and through the Delta) and in fact anticipates increased fresh water diversions (meaning a further reduction in fresh water flows). Instead of focusing on this first stressor, to date the BCDP has instead focused on the second stressor (entrainment in the south Delta CVP/SWP pumps) and the third stressor (reduced fishery habitat). To address the second stressor (entrainment of endangered fisheries in the south Delta CVP/SWP pumps) the BCDP has proposed shifting the main point of CVP/SWP diversion upstream from the south Delta to the north Delta, and then transporting this diverted water south in two tunnels. To address the third stressor (reduced fishery habitat) the BCDP has proposed a set of projects in the watershed to increase and improve spawning habitat.</p> <p>The current BCDP approach to fisheries restoration and recovery aligns with the water supply interests of recipients of CVP water (mostly Central Valley farms) and SWP water (mostly cities) in that this approach does not call for curtailing CVP/SWP diversions of water. Equally important to recipients of CVP and SWP water, moving the point of diversion to the north Delta will place the CVP/SWP pumps in a location further upstream from the intruding seawater and rising salinity levels. Water with high salinity levels is not suitable for either irrigation or drinking water supplies. If the CVP and SWP are able to divert water further upstream as the BCDP now proposes, then CVP and SWP water is not likely to be affected by the rising salinity levels/seawater intrusion further downstream in the Delta. The BCDP's proposed north Delta point of diversion would therefore help insulate the CVP and SWP (and the recipients of CVP/SWP water) from the adverse water quality impacts of their own diversions - impacts which are getting ever closer to the existing CVP/SWP diversion pumps in the south Delta.</p> <p>The December 2013 Draft EIR/EIS contains analysis presented in support of the BCDP's approach to fisheries, which in essence is the proposition that the endangered smelt,</p>	<p>Operational criteria were developed for Alternatives 2, 4 (H2, H3, H4), and 5 through 9, and for Alternatives 4A (preferred alternative), 2D, and 5A, which resulted in reduced SWP and CVP water deliveries as compared to the Existing Conditions, as shown in Figure 5-17 of Chapter 5, Water Supply, of the Final EIR/EIS. Alternative 4A maintains outflows during key periods of the year.</p> <p>Under all of the alternatives, it is assumed that all existing water quality requirements would be maintained in the central and southern Delta, and operations of CVP and SWP export facilities would take into account these requirements. The north Delta diversion intakes would only be used when flows in the Sacramento River were high enough to maintain the necessary bypass flows per the operational criteria. As such, the CVP and SWP exports would still occur in the south Delta and these exports would not be 'insulated' from Delta water quality. Regarding other stressors contributing to the decline of the Delta, please see Master Response 23.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		salmon and steelhead in the Bay Delta will be able survive and recover even if additional fresh water is diverted for the CVP and SWP because the benefits of BDCP-proposals for reduced entrainment and improved fishery habitat will outweigh the adverse impacts of reduced fresh water flows.	
1490	4	<p>California's 2009 Delta Reform Act was enacted after preparation of the BDCP had already begun. Among other things, the 2009 Delta Reform Act required the State Water Board (by September 2010) to establish quantitative criteria for what instream fresh water flow was needed to protect public trust resources in the Delta. The purpose of requiring the State Water Board to develop these flow criteria was to establish a solid scientific foundation for the levels of fresh water flow needed to sustain the Delta's fisheries.</p> <p>Section 85086 of the 2009 Delta Reform Act explained the relationship between the State Water Board and the BDCP, noting that the State Water Board public trust flow criteria adopted for the Delta were 11for the purpose of informing the planning decisions for the Bay Delta Conservation Plan.11 That is, the public trust Delta flow criteria established by the State Water Board were intended to serve as a reliable objective benchmark to help evaluate the extent to which a proposed BDCP would effectively achieve fishery restoration.</p> <p>In terms of the State Water Board public trust Delta flow criteria process set forth in the 2009 Delta Reform Act, California public trust law provides that the State of California has a continuing trustee obligation to preserve instream uses of water (e.g. fisheries) for the public's benefit whenever feasible. Pursuant to previous decisions by the California Supreme Court and the State Water Board, the starting point for public trust determinations is to first identify the level of protection required to fully protect the public trust resources at issue, and to then evaluate whether such levels of full protection are economically and technically feasible. [footnote 1: See National Audubon Society v. Superior Court of Alpine County, 658 P.2d 709 (1983) and Mono Lake Basin Water Right Decision No. 1631 of State Water Board.] Section 85086 of the Delta Reform Act directed the State Water Board to only make the initial public trust determination, that is to identify what level of instream flow was needed to fully protect Delta fisheries. [footnote 2: Paul Stanton Kibel, The Public Trust Navigates California's Bay Delta, 51 Natural Resource Journal 35 (2011).]</p>	<p>This description of the Delta Reform Act requirements is consistent with information presented in Sections 3A.9.3 and 3A.9.4.2 of Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, of the Draft EIR/EIS. Regarding compliance with the Delta Reform Act, please see Master Response 31 and Final EIR/EIS Appendices 3I and 3J. For additional discussion of the Public Trust Doctrine please see Master Response 13.</p>
1490	5	<p>After nine months of public comments and hearings, the State Water Board issued its public trust Delta Flow Criteria Report in August 2010. In this report, the State Water Board adopted the following criteria: 75% of the unimpaired Delta outflow from January through June; 75% of the unimpaired Sacramento River inflow from November through June; 60% of unimpaired San Joaquin River inflow from February through June. The August 2010 Delta Flow Criteria Report also compared its public trust flow criteria with historic flows over the past two decades, noting that during this period Delta outflows were 30% of unimpaired flow in drier years, Sacramento River inflows were 50% of unimpaired flow from April to June, and that San Joaquin River inflows were 20% of unimpaired flows in driers years and 50% of unimpaired flows in wetter years. This comparison made clear the State Water Board's scientific finding that, to fully protect the public trust fisheries in the Delta, there would need to be significant reductions in the amount of water diverted upstream of and from the Delta to increase the amount of instream flow going through the Delta.</p> <p>The 2010 Delta Flow Criteria Report issued by the State Water Board was endorsed by NMFS (the lead federal agency responsible for salmon and steelhead fisheries listed under the Endangered Species Act). As noted above, along with the USFWS, NMFS is one of the federal wildlife agencies with responsibility for approving the proposed BDCP to ensure compliance</p>	<p>The comment is consistent with information presented in the State Water Resources Control Board 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem which was considered during development of the range of alternatives to be evaluated in detail in the EIR/EIS, as described in Sections 3A.9.3 and 3A.9.4.2 of Appendix 3A, Identification of Water Conveyance Alternatives Conservation Measure 1, of the Draft EIR/EIS.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>with the ESA. In its July 2010 comment letter to the State Water Board, NMFS stated:</p> <p>The purpose of the flow criteria is to inform both the Bay Delta Conservation Plan process and the Delta Stewardship Council in their development of a comprehensive long-term Delta management plan. The State Water Board was successful in fulfilling this purpose by developing flow criteria through a public process, applying the best available science, and considering the broad goals of the planning efforts the criteria are intended to inform...The Delta flow criteria provide a solid foundation for considering how to manage Delta flows in a manner that is more beneficial to native aquatic species ." [footnote 3: NMFS July 29, 2010 Comment Letter to State Water Board.]</p> <p>The State Water Board's public trust Delta flow criteria were also praised in a July 2010 comment letter submitted jointly by the Bay Institute, the California Coastkeeper Alliance, California Sportfishing Alliance, California Water Impact Network, Defenders of Wildlife, Environmental Defense Fund, Natural Resources Defense Council, Planning and Conservation League, and Sierra Club California. This letter to the State Water Board stated:</p> <p>Our organizations collectively represent hundreds of thousands of Californians concerned about keeping the Bay Delta Estuary alive and healthy and restoring our dwindling salmon and other aquatic species. We applaud the draft [of the public trust Delta flow criteria] that you have prepared identifying the flow needs of the Estuary's public trust resources, and particularly commend your careful analysis of the overwhelming scientific support that has demonstrated for many years that we are, and have been, extracting too much water from the Estuary and its watershed to support those trust resources sustainably." [footnote 4: Joint July 29, 2010 Comment Letter to State Water Board.]</p> <p>While acknowledging that there are other non-flow stressors (such as entrainment in the south Delta pumps and reduced spawning habitat) that may also be contributing to the decline of the smelt, salmon and steelhead that pass through the Delta, the State Water Board's conclusion was that significant additional fresh water flows are an essential prerequisite to restore and sustain these fisheries.</p>	
1490	6	<p>To address the problem of fish entrainment, a central component of the proposed BDCP is to change to main point of diversion for the Central Valley Project and State Water Project from the south Delta to the north Delta (and to then convey this water south in two new proposed tunnels). The entitlement of the CVP and the SWP to divert water from their current south Delta pumps is set forth in the terms in a series of appropriate water licenses issued to the Bureau of Reclamation and Department of Water Resources by the State Water Board. These appropriate water licenses specify the "point of diversion" so to implement the BDCP (or at least the components of the BDCP involving the proposed new north Delta point diversion which would then deliver water into the proposed new tunnels) the Bureau of Reclamation and Department of Water Resources would first need to petition the State Water Board to approve the proposed new north Delta point of diversion. In its review of a petition to modify the appropriate water licenses of the Bureau of Reclamation and Department of Water Resources to change the point of diversion, California Water Code [Section] 1257 provides that the State Water Board must determine the benefit of the proposed change to the "preservation and enhancement of fish and wildlife." If the State Water Board determines that the BDCP proposed north Delta diversion will not benefit the fisheries that pass through the Delta (because this change is expected to reduce rather than increase fresh water flows) then the State Water Board would have discretionary authority to deny the petition.</p>	<p>As noted in Response to Comment 1490-1, the current proposed project is Alternative 4A, which is not an HCP or NCCP.</p> <p>As noted in this comment and Comment 1490-5, in 2010 the State Water Resources Control Board prepared a Delta Flow Criteria Report. As described in Appendix 3A, Sections 3A.9.3 and 3A.9.4.2, of the 2013 Draft EIR/EIS, the Delta Flow Criteria Report was prepared in accordance with the requirements of the Sacramento-San Joaquin Delta Reform Act of 2009. Information from that report included "determinations of flow criteria for the Delta ecosystem to protect public trust resources. The report makes clear, however, that the flow criteria do not consider the balancing of public trust resource protection with public interest needs for water. The flow criteria also did not consider other public trust resource needs such as the need to manage cold-water resources in reservoirs tributary to the Delta. Nonetheless, the flow determinations contained in the Delta Flow Criteria Report, together with recent scientific conclusions of other State and federal agencies, including the Department of Fish and Wildlife, National Marine Fisheries Service, and the Interagency Ecological Program provide a useful guide to establish one side of a reasonable range of alternatives" (State Water Resources Board letter dated April 19, 2011). The information in the flow criteria report was used to inform the development of the proposed project.</p> <p>Please also see Appendix C of the RDEIR/SDEIS Supplemental Modeling Requested by State Water Resources Control Board Related to Increased Delta Outflows.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>With this context in mind, in July 2013 the State Water Board submitted comments on the draft of the BDCP EIR/EIS. In its comments, the State Water Board criticized the draft BDCP and the draft BDCP EIR/EIS for failing to propose or evaluate an alternative for CVP/SWP operations that would reduce diversions and increase fresh water flow into the Delta, for overestimating the likely effectiveness of proposed fishery habitat projects, and highlighted that the proposed north Delta point of diversion constitutes a change in water rights subject to the review of the State Water Board.</p> <p>In terms of the lack of BDCP proposals to increase fresh water flow into the Delta, the July 2013 State Water Board comments on the BDCP Draft EIR/EIS stated:</p> <p>"The decision tree for the Delta outflow include four operational scenarios. Compared to the no project alternative (which appears to be appropriate comparison point for long-term effects) it appears that all of these operational scenarios decrease Delta outflow scenarios in the late long-term. The justification for this limited range of Delta outflow scenarios is not clear given that there is strong information on the possible need for more Delta outflow for the protection of aquatic resources and the uncertainty that other conservation measures will be effective in reducing the need for flow." [footnote 5: July 2013 State Water Board Comment Letter on BDCP, page 4.]</p> <p>The "strong information" referenced in the State Water Board's July 2013 comments on the BDCP Draft EIR/EIS would include the comprehensive body of scientific data and analysis submitted to the State Water Board in 2010 in conjunction with the proceedings that culminated in the August 2010 Delta Flow Criteria Report.</p> <p>In terms of overestimating the likely effectiveness of the BDCP's proposed habitat conservation project, the July 2013 State Water Board comments on the BDCP Draft EIR/EIS stated:</p> <p>"The fishery and aquatic resource impact analysis does not appear to analyze scenarios in which conservation measures are not 100% successful...the EIR/EIS appears to assume that all of the conservation measures will be successful in meeting biological goals and objectives. The lack of certainty regarding the success of the conservation measures should be a consideration in the impact analysis and significance determinations reported in the EIR/EIS.[footnote 6: July 2013 State Water Board Comment Letter on BDCP, pages 32-33.]</p> <p>Here and other places in the document, aquatic natural community restoration appears to assume 100% success. Is there an assumption of success for any of the restoration projects? If so, it would be helpful to disclose that assumption and detail support for it." [footnote 7: July 2013 State Water Board Comment Letter on BDCP, page 35.]</p> <p>In terms of State Water Board role in reviewing and approving the BDCP's proposed change of diversion (to the north Delta) in CVP and SWP appropriative water licenses, the July 2013 State Water Board comments on the BDCP Draft EIR/EIS noted:</p> <p>"Before the State Water Board may approve a change in a water right permit or license needed to implement the BDCP, including a change to the point of diversion specified in the permit or licenses, the Board must find that the change will not injure any legal user of water (Wat. Code [Section] 1702). Information concerning the extent, if any, to which fish and wildlife would be affected by the change shall also be considered. (Wat. Code [Section] 1701.2). The State Water Board has an independent obligation to consider the effect of the BDCP on public trust resources and to protect those resources when feasible. [footnote 8:</p>	<p>The FEIR/EIS has been 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 FEIR/EIS, along with the Draft EIR/EIS and the RDEIR/EIS, is intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives. As implementation of the proposed project or any of the action alternatives will require permits and approvals from public agencies other than the Lead Agencies, the CEQA and NEPA documents are prepared to support the various public agency permit approvals and other discretionary decisions. 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).</p> <p>DWR and Reclamation are not pursuing a new water right and the changes being sought do not include any changes to the allowable rates of diversion, maximum diversion to storage, or the season of use. Please see also Master Response 26 for a discussion of effect on existing upstream water rights and Master Response 32 for a general description of the water rights allocated by the SWRCB to DWR for the operations of the SWP and to Reclamation)for the operations of the CVP.</p> <p>Alternative 4A 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.</p> <p>Please note that only Alternative 4/BDCP takes a decision tree approach. Operations under the current proposed project (Alternative 4A) will be guided by the H3+ operational scenario (similar to the H3 and H4 operational scenarios for spring Delta outflow under Alternative 4), rather than a decision tree. Please see Master Response 44 for additional detail about the decision tree approach and Section 4 of the RDEIR/DSEIS and Chapter 3 of this Final EIR/EIS regarding Alternative 4A.</p> <p>Please also note that all comments received during the 2013 and 2015 public comment period are included in the FEIR/EIS. Please refer to the table of commenters to locate the letter of interest.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>July 2013 State Water Board Comment Letter on BDCP, page 2.]</p> <p>...</p> <p>The Executive Summary (in the draft EIR/EIS) indicates the project proponents anticipate approval from the State Water Board for new SWP points of diversion in the Delta...It further states that such changes 'would not include changes in water rights; however, there are concerns that the BDCP could result in the potential for increased exports of water.' This statement is incorrect. Implementation of the BDCP will require changes to water rights and water rights requirements. [footnote 9: July 2013 State Water Board Comment Letter on BDCP, page 8.]</p> <p>...</p> <p>Similar to the executive summary, the EIR/EIS states that the project proponents anticipate approval from the State Water Board for new points of diversion in the Delta for the proposed project. The EIR/EIS further states that such changes would not include changes in water rights, but there are concerns that the BDCP could result in the potential for increased exports of water. These statements are unclear and contradictory and should be clarified. The proposed project would result in changes to water rights and could potentially affect other legal uses of water. As explained above, these issues should be fully described and analyzed in the EIR/EIS." [footnote 10: July 2013 State Water Board Comment Letter on BDCP, page 9.]</p> <p>From a legal standpoint, the viability of the BDCP's current approach appears contingent on the State Water Board's discretionary approval of modifications to CVP/SWP appropriate water licenses to authorize the new proposed north Delta point of diversion. Yet, in its comments on the Draft BDCP and Draft BDCP EIR/EIS, the State Water Board has indicated its view that the current BDCP approach takes insufficient account of the need for additional fresh water flows into the Delta and that the current BDCP approach places unwarranted reliance on the anticipated effectiveness of the proposed habitat conservation projects. Moreover, the current BDCP approach does not take into account the findings and recommendations in the State Water Board's 201 Delta Flow Criteria Report.</p> <p>Under these circumstances, it is unclear why the Bureau of Reclamation and DWR are confident and assume that the State Water Board will approve the water rights changes that are a prerequisite for the current BDCP to move forward.</p>	
1490	7	<p>The BDCP is being proposed as a multi-species Habitat Conservation Plan pursuant to Section 10 of the Endangered Species Act, and the United States Fish and Wildlife Service and National Marine Fishery Service may only approve the BDCP if these federal wildlife agencies determine that the plan and underlying project activities "will not appreciably reduce the likelihood of the survival and recovery of the species in the wild." With this standard in mind, it is pertinent to examine the previous ESA-compliance approach taken by the USFWS in regard to endangered smelt fisheries in the Delta (which was upheld in April 2014 by the Ninth Circuit Court of Appeals in <i>San Luis v. Jewell</i>). [footnote 11: No. 11-15871 (issued in April 2014).]</p> <p>The <i>San Luis v. Jewell</i> litigation involved a challenge by recipients of Central Valley Project/State Water Project water to the terms of an "incidental take permit" issued by the USFWS to the Bureau of Reclamation and DWR pursuant to the ESA. The basis for the inclusion of these USFWS terms in the incidental take permit was the analysis in the 2008</p>	<p>As noted above and in Response to Comment 1490-1, Alternative 4A, the proposed project, is not an HCP or NCCP.</p> <p>The range of alternatives included in the Draft EIR/EIS would result in a wide range of changes in Delta 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). The Final EIR/EIS analyzes all alternatives, including Alternative 4A and the other new alternatives that were identified and evaluated in the RDEIR/SDEIS.</p> <p>The amount of water DWR can pump from the new north Delta facilities is set by Federal regulating agencies, ESA compliance, and project design. Operations for the proposed project would still be</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>USFWS Biological Opinion (2008 BiOp) concerning the anticipated impacts of CVP/SWP south Delta pumping on the delta smelt. The purpose of the terms the USFWS included in this incidental take permit was to prevent CVP/SWP operations from resulting in a "take" of the endangered delta smelt. Under ESA regulations, a "take" is defined as "an act which kills or injures wildlife ...Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns including breeding, feeding and sheltering." [footnote 12: SO CFR [Section] 17.3.] Section 9 of the ESA prohibits the "take" of a species listed under the ESA unless the party undertaking the proposed action first obtains a lawful incidental take permit from the appropriate federal wildlife agency.</p> <p>In the San Luis v. Jewell litigation, recipients of CVP/SWP water took aim at analysis in the 2008 Biological Opinion and subsequent incidental take permit in which USFWS determined that, to protect and restore endangered delta smelt, CVP/SWP operations would need to be managed to ensure enhanced fresh water outflow to prevent rising salinity levels due to seawater intrusion. In its April 2014 ruling, the Ninth Circuit Court of Appeal rejected this challenge and upheld the USFWS determination that additional fresh water flow was needed to protect and restore delta smelt, explaining:</p> <p>"The Fish and Wildlife Service found that Reclamation and DWR's proposed operation 'are likely to negatively affect the abundance of delta smelt' by 'substantially decreasing the amount of suitable abiotic habitat for delta smelt.'" BiOp at 236-37. To address the loss of habitat, the FWS proposed...that Reclamation and the DWR must provide sufficient Delta outflow to maintain a monthly average X2 no more eastward than 74 km from the Golden Gate in wet years and 81 km in 'above normal' immediate water years. BiOp at 272, 369. The FWS has previously found that the amount and quality of spawning habitat available to delta smelt is linked to the location of X2. BiOp at 239,240. As we previously discussed, X2 is the point in the Bay-Delta estuary where the salinity is two parts per thousand ...which is considered suitable spawning habitat for the smelt. X2 in turn, depends on Delta outflow, which is largely determined by the difference between the total inflow from the Sacramento and San Joaquin River and the total amount of water exported through the pumping station. BiOp at 236....As the BiOp found, 'CVP/SWP operations control the position of X2 and therefore are a primary driver of delta smelt habitat suitability.' BiOp at 234." [footnote 13: No. 11-15871 at pp. 74-75 (issued in April 2014).]</p> <p>"The BiOp, in analyzing the predicted location of X2, estimated that median X2 would move 10 to 15 percent farther upstream under the proposed action relative to the historic median X2 baseline. BiOp at 265." [footnote 14: No. 11-15871 at p. 76 (issued in April 2014).]</p> <p>"As we have previously explained, as the combined pumping operations of the SWP/CVP removed hundreds of gallons of fresh water from the Bay-Delta ,X2 - the salinity-defined location of the smelt's primary spawning habitat - shifts eastward towards the delta. BiOp at 373 ... The BiOp determined that the 'long-term upstream shift in X2 during fall has caused a long-term decrease in habitat area availability for delta smelt,' and it set forth an adaptive management program to minimize the effect of Project pumping on X2." [footnote 15: No. 11-15871 at p. 86 (issued in April 2014).]</p> <p>In the San Luis v. Jewel/ litigation, the Ninth Circuit upheld the determination by the USFWS (in its 2008 BiOp) that additional fresh water flows into the Delta were necessary under the ESA to protect and restore delta smelt. In the currently proposed BDCP and December 2013 Draft EIR/EIS, however, the Bureau of Reclamation and DWR have presented a HCP</p>	<p>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). As noted in Response to Comment 1490-6, Alternative 4A will maintain compliance with Delta outflow regulatory requirements for all water years.</p> <p>The information in the Final EIR/EIS and the Final Biological Assessment prepared by Reclamation will be considered by USFWS and NMFS in accordance with Section 7 of the Federal Endangered Species Act. Similarly, information in the Final EIR/EIS and information included in permit applications prepared by DWR will be considered by CDFW in preparation of permits. The recommendations of these agencies have not been completed at this time; and therefore, it is difficult to project the outcomes of these recommendations at this time.</p> <p>With regard to previous comments submitted on draft documents, those comments were considered and included in the revised versions. All comments received during the 2013 and 2015 public comment period are included in this FEIR/EIS.</p> <p>For more information regarding Endangered Species Act please see Master Response 29.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>that does not provide additional fresh water flows and actually anticipates reduced fresh water flows. Yet, it is the USFWS (and its sister federal wildlife agency NMFS, which is responsible for endangered salmon and steelhead fisheries) that will ultimately determine whether the BDCP complies with the standards for HCP issuance pursuant to Section 10 of the ESA. If the 2008 USFWS BiOp found that increased fresh water flows into the Delta was needed (was a "primary driver") to protect delta smelt, it would follow that the USFWS would also be inclined to reject a BDCP (which is a multi-species HCP that covers the delta smelt) that disregarded the need for additional fresh water flows into the Delta and proposed to further reduce such flows.</p> <p>Beyond the 2008 USFWS BiOp and the Ninth Circuit's April 2014 ruling in San Luis v. Jewell, there are additional reasons why the USFWS (and NMFS) may not be receptive to the current BDCP approach to fisheries restoration.</p> <p>First, in March 2012, the USFWS prepared a draft "red flag" memo on the BDCP which found that that the BDCP's approach to fisheries "continues to downplay Bay Delta hydrodynamics as system-wide drivers of ecosystem services to the San Francisco Estuary ... It is critical that the BDCP effects analysis forthrightly address the many important aspects of the dependency and its constituent species on flow ... Until the roles of flows and flow alteration are properly developed in the effects analysis, the analysis will remain inadequate and potentially misleading."</p> <p>Second, in November 2010 the California Department of Fish and Game (CDFG, a state wildlife agency) released a report titled Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta (2010 CDFG Flow Report). The 2010 CDFG Flow Report (whose preparation was mandated under California's 2009 Delta Reform Act) began by explaining the agency's particular regulatory responsibilities in the arena of water resources: "As a trustee agency for the fishery resources in the State, the Department of Fish and Game has an interest in assuring that water flow into and out of the Delta is maintained at levels which are adequate for long-term viability of native fish and the aquatic resources they depend on."</p> <p>The background section of the 2010 California Department of Fish and Wildlife Flow Report then noted:</p> <p>Fish declines coupled with hydrological and physical changes in the Delta suggest that the current water flow available for environmental resources is not adequate to maintain, recover, or restore the functions and processes that support native Delta fishes. Salmon in the Central Valley are also in decline. Two of the four runs of Chinook salmon are listed under the State and federal Endangered Species Act and fall-run Chinook salmon is at historic low abundance. Delta smelt is both State and federally listed as threatened and longfin smelt is listed under the California Endangered Species Act, reflecting their precipitous declines in abundance.</p> <p>Water flow through the Delta is one of the primary drivers of ecosystem function. The timing, magnitude, and quality of flows all influence habitat features such as temperature, turbidity, transport, residence time, nutrient loadings, pollutant dispersal and other factors.</p> <p>The 2010 CDFG Flow Report acknowledged that although the direct entrainment of fish in the Delta pumps has contributed in the declines of Delta fisheries, a "more important" effect may be the indirect effects caused by reduced instream flow caused by water diversion operations. The 2010 CDFG Flow Report concluded: "[r]ecent Delta flows are</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>insufficient to support native Delta fishes in habitats that now exist in the Delta and that "[f]low is the critical factor in maintaining suitable habitat conditions that support all or some of the life stages (spawning, rearing, and adult) of native fish species that depend on the Delta and its tributaries." Table 15 of the 2010 CDFG Flow Report then went on to recommend specific numerical Delta outflow criteria, San Joaquin River base and pulse flows, and Sacramento base and pulse flows that were significantly higher than current flows.</p> <p>Much like the State Water Board's 2010 Delta Flow Criteria Report, the 2010 CDFG Flow Report found that the best available science established that significant increases in fresh water flow through the Delta and its two main contributing rivers were a prerequisite to restoring the Delta's fisheries. Although CDFG (renamed the California Department of Fish and Wildlife in 2013) does not have direct authority to approve HCPs under the ESA, it is foreseeable and likely that the USFWS and NMFS will take into account the finding of the 2010 CDFG Flow Report in terms of evaluating whether the BDCP proposed by the Bureau of Reclamation and DWR complies with ESA requirements.</p> <p>Third, in February 2014 the California Advisory Committee on Salmon and Steelhead Trout submitted comments on the BDCP. [footnote 16: February 26, 2104 Letter from California Advisory Committee on Salmon and Steelhead Trout to Charlton Bonham, Director of California Department of Fish and Wildlife.] The California Advisory Committee on Salmon and Steelhead Trout was established pursuant [Section] 6920 of the California Fish and Game Code to advise CDFG on the protection of these fisheries. In its February 2014 comment letter to the Director of CDFG, this Committee stated:</p> <p>"BDCP promotes the unproven scientific hypothesis that habitat restoration can substitute for flow. However, the State Water Resources Control Board has already indicated that Delta inflows and outflows are presently insufficient to help listed species recover their former abundance. BDCP would reduce Delta outflow, which contributed to the decrease to salmon smolt survival rates modeled by the BDCP.</p> <p>The concept of improving riparian and subtidal habitat to create an aquatic food supply for the Delta to make up for too water diverted is an unproven theory that has been criticized extensively by federal agencies in their 'red flag' comments on the BDCP/</p> <p>...</p> <p>None of the alternatives considered in the BDCP Draft Environmental Impact Statement and report would lead to the recovery of Sacramento River Winter Run and Spring Run Chinook salmon. None of the alternatives analyzed reduces the amount of water diverted upstream of or within the Delta. None of the alternatives analyzed considers meeting or moving towards meeting the State Water Resource Control Board's Delta Outflow Criteria of 2010 that was specifically required by the legislature in 2009 to 'inform planning decisions for the ... BDCP.'"</p> <p>Fourth, in 2009, pursuant to the ESA the NMFS issued a BiOp for CVP/SWP operation impacts on endangered salmon/steelhead. Much like the 2008 USFWS BiOp for CVP/SWP operation impacts on delta smelt, the 2009 NMFS Bi-Op found that CVP/SWP operations would destroy or adversely modify the critical habitat of these fisheries, and therefore proposed increased flow requirements and curtailment of CVP/SWP diversions on the San Joaquin</p>	

DEIRS Ltr#	Cmt#	Comment	Response
		<p>River.</p> <p>Under these circumstances, again it is difficult to understand why the Bureau of Reclamation and DWR believe that the USFWS and NMFS are likely to determine that the current BDCP approach satisfies the HCP requirements of Section 10 of the ESA. To make this determination, the USFWS would need to disavow the findings of its 2008 USFWS BiOp for smelt, NFMS would need to disavow the findings of its 2009 BiOp for salmon and steelhead, and USFWS and NMFS would both need to disregard the findings and recommendations in the 2010 CDFG Flow Report and the State Water Board's 2010 Delta Flow Criteria Report.</p>	
1490	8	<p>A starting point for environmental impact analysis under both CEQA and NEPA is the information provided regarding "baseline conditions" (sometime also referred to as the environmental and regulatory "setting"). If the baseline conditions of the project are not accurately described, then the analysis in an EIR/EIS of a proposed project's impacts and effects on such baseline conditions will necessarily be flawed.</p> <p>A leading case on CEQA baseline conditions is the California Court of Appeal's 2003 decision in Friends of the Eel River v. Sonoma County Water Agency ( Friends of the Eel River). [footnote 17: 108 Cal.App.41 859 (2003).] This case involved a water agency project that would increase diversions of water from the Eel River, in which the petitioner alleged that the CEQA EIR section pertaining to impacts on Eel River salmon and steelhead species did not adequately describe baseline conditions. More specifically, the petitioner in Friends of the Eel River maintained that the EIR in question failed to disclose the previously documented impacts of diversions on salmon/steel head fisheries and failed to disclose proposals from other agencies to curtail such diversions to protect these fisheries. In its decision, the California Court of Appeal agreed with the petitioner, finding that EIR's inadequate discussion of baseline conditions failed to properly set the stage for the project impact analysis that followed.</p> <p>In terms of CEQA compliance, the facts and holding in Friends of the Eel River are particularly on point with respect to the BDCP's fisheries analysis. In both instances, the proposed projects involved additional out of stream diversions that would reduce instream fresh water flow. In both instances, the waterways where the additional diversions were to take place involved declining salmon and steelhead fisheries where there had been detailed findings by other agencies that additional instream flow was needed to protect these fisheries. In Friends of the Eel River the California Court of Appeal ruled that the EIR's disregard and non-disclosure of the previous regulatory findings linking reduced fresh water flow to fisheries decline was inconsistent with CEQA's requirements concerning baseline conditions.</p>	<p>The comment does not include specifics to support the implication that the CEQA baseline used for the BDCP/California WaterFix impact analysis is inappropriate. Consistent with CEQA, the impact analysis uses existing conditions as a starting point for the CEQA analysis. Regarding the environmental baselines assumed for the NEPA and CEQA analyses, please see Master Response 1.</p>
1490	9	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced fresh water flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>11.1.5.1</p> <p>This section is titled "Water Development and Conveyance" and contains a 4-page subsection under the heading "Water Diversions." In the subsection on "Water</p>	<p>Please see section 11.1.5.2, Hydrograph and Hydrodynamic Alterations in Draft EIR/EIS Chapter 11, which discusses issues related to effects on Delta outflow and salinity.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>Diversions" there are 3 pages of discussion regarding the problem of entrainment of fish in the Central Valley Project/State Water Project south Delta pumps but no disclosure or discussion about well-established body of scientific evidence regarding the effects of CVP/SWP diversions on reduced fresh water flow, seawater intrusion and salinity (and how this salinity impacts smelt, salmon and steelhead).</p>	
1490	10	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced fresh water flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>11.1.5.2</p> <p>This section is titled "Hydrograph and Hydrodynamics Alterations" and contains an 8-page section on "Water Quality." In the subsection on "Water Quality" there is discussion of water quality impacts (on fisheries) related to nutrient input, ammonia, sediments, mercury, selenium, agricultural runoff, herbicides and pesticides. In the subsection on "Water Quality" there is no disclosure or discussion of water quality impacts (on fisheries) of salt/salinity resulting from seawater intrusion.</p>	<p>The subsection entitled Low Salinity Zone in Section 11.1.2.2, Noncovered Aquatic Natural Communities, which is cross-referenced from FEIR/EIS Chapter 11, Section 11.1.5.2, discusses the relationship between species abundance and factors such as salinity. Please also see Section 11.2.2.2, Flow Passage Salinity and Turbidity, in Draft EIR/EIS Chapter 11, Section 11.3.2, Methods of Analysis. The effects of sea level rise and climate change were incorporated into the modeling and assumed for all project alternatives. Please see Master Response 19 for additional discussion of the climate change assumptions included in the No Project and No Action Alternatives.</p>
1490	11	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced fresh water flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>11.2.1.2</p> <p>Section 11.2.1.2 is titled "Long-Term Central Valley 2008 and 2009 U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) Biological Opinions." In Section 12.1.1.2, the December 2013 Draft EIR/EIS stated that the USFWS 2008 Biological Opinion and incidental take permit included actions to "provide suitable habitat conditions" for delta smelt but made no mention of and did not disclose that these actions were specifically related to seawater/intrusion and salinity concerns and called for reduced CVP/SWP diversions to allow additional instream flow.</p>	<p>This comment refers to the discussion in section 11.2.1.2, not 12.1.1.2.</p> <p>Existing water diversions, including the existing State Water Project/Central Valley Project diversions in the southern Delta, can impact water flows and quality. 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.</p> <p>Please see Master Response 1 regarding the CEQA and NEPA environmental baselines.</p> <p>Regarding impacts of the proposed project, Alternative 4A, and all project alternatives on Delta smelt, please refer to Section 11.3 of Final EIR/EIS Chapter 11.</p>
1490	12	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced fresh water flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>In Section 12.1.1.2, the December 2013 Draft EIR/EIS reported that a 2011 federal district court decision (issued by now retired Judge Oliver Wanger) had found the 2008 United States Fish and Wildlife Service (USFWS) Biological Opinion flawed and that the USFWS had been ordered issue a revised BiOp (suggesting that the conditions in the 2008 BiOp were no longer binding). As discussed above in this comment letter, in April 2014 the Ninth Circuit Court of Appeals (in San Luis v. Jewell) overturned and reversed the 2011 federal district</p>	<p>This comment refers to the discussion in section 11.2.1.2, not 12.1.1.2.</p> <p>As the comment indicates, the decision by the Ninth Circuit Court of Appeals occurred after the 2013 Draft EIR/EIS was released for public review. The FEIR/EIS has been updated to reflect this information; please see Section 11.2.1.2 of FEIR/EIS Chapter 11. Please also see Master Response 1 regarding consideration of the requirements of the 2008 BiOp in establishing the CEQA and NEPA environmental baselines.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		court decision, and upheld the 2008 USFWS BiOp.	
1490	13	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced freshwater flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>11.2.1.8</p> <p>Section 11.2.1.8 is titled "Clean Water Act" and notes that (pursuant to Section 401 of the Clean Water Act) the California State Water Board must certify that any activity subject to a permit issued by a federal agency meets all state water quality standards. This section does not disclose that that the issuance of an Endangered Species Act incidental take permit for the proposed BDCP would be subject to State Water Board water quality certification, and that such was quality certification would address salinity levels (affected by seawater intrusions and CVP/SWP freshwater diversions). It should be noted that in its July 2013 comments on the BDCP, the State Water Board highlighted that the BDCP project proponents "should note that there are no waivers for Clean Water Act Section 401 Water Quality Certifications in the state of California." [footnote 18: July 2013 State Water Board Comment Letter on BDCP, page 30.]</p>	<p>As stated in Response to Comment 1490-1 Alternative 4A has been developed in response to public and agency input and is now the proposed project and preferred alternative.</p> <p>As described in Draft EIR/EIS section 11.2.3.10, Water Quality Control Plan for the San Francisco Bay/Sacramento –San Joaquin Delta Estuary, the 1995 State Water Board Water Quality Control Plan (WQCP) includes objectives for salinity (from saltwater intrusion and agricultural drainage), water project operations (flows and diversions), and dissolved oxygen levels in the Delta, and the State Water Board’s Water Right Decision 1641 (D-1641) obligates the SWP and CVP to comply with the 1995 WQCP standards for fish and wildlife protection, among other provisions. With respect to the proposed project, as stated above in Response to Comment 1490-7, operation of the proposed project will comply with D-1641 and the 2008 and 2009 FWS and NMFS BiOps.</p>
1490	14	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced fresh water flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>Section 11.2.2.4 is titled "The Salmon, Steelhead Trout and Anadromous Fisheries Program Act" and explains that in 1988 this legislation was enacted in response to reports that the natural production of salmon and steelhead in California had declined dramatically. Section 11.2.2.4 did not disclose that this 1998 legislation created the California Advisory Committee on Salmon and Steelhead Trout, and that (as discussed above in this letter) the California Advisory Committee on Salmon and Steelhead Trout submitted a letter to the director of the California Department of Fish and Wildlife that criticized the proposed BDCP for failing to address the need for additional fresh water flows into the Delta to restore salmon and steelhead fisheries.</p>	<p>The proposed project is intended to improve operational flexibility for the SWP and CVP to better protect endangered species, including improved flow patterns in the Delta. As discussed in Master Response 1, the National Marine Fisheries Service’s June 2009 Biological Opinion for salmonid species was included in the CEQA and NEPA baselines; please see Master Response 1 for more information.</p> <p>Please see also Response to Comment 1490-7 regarding the consistency of operations of the proposed project with FWS, NMFS, and SWRCB requirements.</p>
1490	15	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced fresh water flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>Section 11.2 and Section 11.2.2.9</p> <p>Section 11.2 is titled "Regulatory Setting" and its introduction states that "This section provides the regulatory setting for aquatic resources, including potentially relevant federal, state and local requirements applicable to the BDCP." Section 11.2.2.9 is titled</p>	<p>Draft EIR/EIS Chapter 11 adequately describes the Sacramento-San Joaquin Delta Reform Act of 2009 and the State Water Boards update to the Water Quality Control Plan and their relationship to the proposed project in terms of the regulatory setting. Regarding consideration of the State Water Board’s 2010 Delta Flow Criteria report, please see Response to Comment 1490-6. The baseline conditions used meet the requirements of CEQA and NEPA. A description of the CEQA and NEPA baselines is provided in the Draft EIR/EIS Executive Summary, Section ES.8.2. Please also see Master Response 1 regarding the environmental baseline used for the impact analysis.</p> <p>Master Response 31 provides additional information regarding the SWRCB flow criteria. The SWRCB’s flow criteria recommendations and how they were used to inform the planning process are discussed in detail in the 2013 Draft EIR/EIS Appendix 3A, Identification of Water Conveyance Alternatives, Conservation Measure I, and in Appendix 3I. Regarding compliance with the 2009 Delta Reform Act, please see Master Response 31</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>"Sacramento-San Joaquin Delta Reform Act of 2009." Although the proceedings leading to the State Water Board's 2010 Delta Flow Criteria Report and the 2010 California Department of Fish and Wildlife Flow Report were explicitly required pursuant to the 2009 Delta Reform Act, there is no mention or disclosure of these proceedings or (or the findings/recommendations that resulted from these proceedings) in this section of the December 2013 Draft EIR/EIS. In Section 11.2.2.9 there is also no disclosure of provisions in the 2009 Delta Reform Act providing that the State Water Board's 2010 Delta Flow Criteria Report shall inform the planning decisions for the BDCP.</p>	<p>and Final EIR/EIS Appendices 3I and 3J.</p>
1490	16	<p>The following portion of Chapter 11 of the December 2013 Draft EIR/EIS on baseline conditions appear vulnerable to challenge along the lines in Friends of the Eel River. This portion of Chapter 11 of the December 2013 Draft EIR/ EIS misrepresents the baseline conditions for fisheries through disregard and non-recognition of the critical role that reduced fresh water flows and rising salinity levels have played and are playing in the decline of smelt, salmon and steelhead in the Delta.</p> <p>Section 11.4.1</p> <p>This section is titled "Printed References" and lists all of the reports/written materials referenced and relied upon in the December 2013 Draft EIR/ EIS. The State Water Board's 2010 Delta Flow Criteria Report and the 2010 California Department of Fish and Wildlife (CDFG) Flow Report are not listed in this section (nor are they mentioned or discussed anywhere in the text of the December 2013 Draft EIR/EIS).</p>	<p>Regarding consideration of the State Water Board's 2010 Delta Flow Criteria report, please see Response to Comment 1490-6.</p>
1490	17	<p>There are politically and economically practical reasons that explain why the BDCP process has so far tried to avoid the issues of fresh water flow, seawater intrusion and salinity. Central Valley Project/State Water Project diversions in the Delta account for less than half of the total diversion in the Sacramento River- San Joaquin River watershed, with the majority of diversions occurring upstream of the Delta CVP/SWP pumps. Given this circumstance, the Bureau of Reclamation and DWR (and recipients of water from the CVP/SWP) have been understandably reluctant to assume the role of "sole guarantor" for ensuring fresh water flows in the Delta because from their perspective it seems that, equitably, upstream diversions should be curtailed as well.</p> <p>These upstream diverters, however, are not formally a part of the BDCP (which focuses on CVP/SWP operations), and efforts to press for curtailment of upstream diversion are complicated by California's appropriative water rights system which generally provides that in times of water shortage/reduced supply "senior" appropriative water rights holders can take their full share before "junior" appropriators. Since most of the upstream diverters in the Sacramento River-San Joaquin River watershed hold appropriative water rights senior to appropriative water rights held by the Bureau of Reclamation and DWR for the CVP/SWP, under traditional California appropriative water rights principles these upstream diverters are likely to resist efforts to "equitably" share in the curtailment of diversions.</p> <p>To be sure, the issues of fairness, equity and California appropriative water rights noted above are complex when it comes to allocating responsibility between the CVP/SWP and upstream diverters for ensuring there is adequate fresh water flow into the Delta. However, instead of acknowledging these complex issues head-on and trying to craft a feasible solution to navigate through them, with the BDCP process the Bureau of Reclamation and DWR have instead unfortunately attempted to dodge these issues altogether by adopting a fisheries restoration approach that simply ignores altogether the</p>	<p>The Draft and Final EIR/EIS do not include alternatives that could affect or require changes to legal rights, including senior water rights, of entities that are not participants in the proposed project and whose legal rights and entitlements are beyond the regulatory authority and reach of DWR, CDFW or other permitting agencies. Please see Master Response 4 for discussion of the scope of the proposed project and alternatives (such as alternatives that would infringe on the existing legal rights of third parties) that were not carried forward for analysis in this document because they required actions beyond the scope of the proposed project. For additional discussion of the project's effect on existing upstream water rights, please see Master Response 26. Please see Master Response 32 for a general description of the water rights allocated by the SWRCB to DWR for the operations of the SWP and to Reclamation)for the operations of the CVP.</p> <p>The FEIR/EIS was 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 Final EIR/EIS is intended to provide sufficient CEQA and NEPA support for approval of the proposed project or any of the action alternatives for either compliance strategy.</p> <p>The Lead Agencies will make the final decisions regarding the selection of an alternative (and therefore, an operational scenario) for the purposes of CEQA and NEPA. USFWS and NMFS have authority under the federal Endangered Species Act to determine whether the Proposed Project meets the regulatory standard of ESA Section 7, and CDFW, a CEQA responsible agency, has authority to determine if the Proposed Project meets the regulatory standards of CESA. As discussed in Response to Comment 1490-6, Alternative 4A will maintain compliance with Delta outflow regulatory requirements for all water years. Please also see Response to Comment 1490-6 regarding consideration of the State Water Board's 2010 Delta Flow Criteria report. For additional information on proposed project operations, please see RDEIR/EIS Section 4.1.2, Description of Alternative 4A, or FEIR/EIS Chapter 3.</p> <p>Please also see Master Response 28 for additional discussion of Alternative 4A operating criteria and Master</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>critical role of fresh water flow.</p> <p>While one can appreciate why this approach was tempting to the Bureau of Reclamation and DWR (and the recipients of CVP/SWP water), it is an approach that is likely to fail because it lacks scientific credibility. As explained above, the current BDCP approach is contingent on the State Water Board approving the proposal to change the CVP/SWP point of diversion to the north Delta and on the State Water Board issuing a Clean Water Act Section 401 water quality certification for the Endangered Species Act incidental take permit, and on United States Fish and Wildlife Service and National Marine Fishery Service approving the BDCP as a Habitat Conservation Plan that complies with Section 10 of the ESA. In light of the previous and repeated scientific determinations by the State Water Board, USFWS and NMFS regarding the need for additional fresh water flows to restore declining fisheries, however, it is questionable whether such agency approvals will be forthcoming. It is also questionable whether the non-disclosure of the well-documented scientific link between reduced fresh water flows and declining fisheries in the December 2013 Draft EIR/EIS is consistent with CEQA/NEPA requirements concerning disclosure of baseline conditions. Without these agency approvals, and without CEQA/NEPA compliance, the BDCP cannot move forward.</p> <p>At this point, watching the BDCP process unfold is much like watching a train wreck in slow motion. Although many initially hoped the BDCP process would be grounded in credible science and would serve as a mechanism to address the hard political, legal and economic questions of how to reduce fresh water diversions in a manner that is fair and takes proper account of appropriative water rights principles, the BDCP has fallen short in both respects by opting to disregard entirely the question of fresh water flow. In doing so, the BDCP is likely to be rejected by the State Water Board, USFWS and NMFS, and has little chance of satisfying CEQA/NEPA requirements for disclosure of baseline conditions. The question (to strain the railroad metaphor) is whether the BDCP is too far down the track to halt its current course.</p>	<p>Response 29 regarding ESA compliance.</p>
1491	1	<p>Please share my concern about these tunnels. My daughters, sister, and I moved to the valley 30 years ago from Iowa. We are proud to call ourselves Californians, but these tunnels would absolutely ruin our Delta and drastically change the Northern Valley. You cannot sacrifice our environment to help those in the South. They need to conserve much more and do de-salinization plants. We are struggling enough here in Northern CA. Please help us.</p>	<p>Although components such as desalination plants and demand management measures have merit from a statewide water policy standpoint, and are being implemented or considered independently through the state, they are beyond the scope of the project. It is important to note that the project is not intended to serve as a state-wide solution to all of California's water problems, and it is not an attempt to address directly the need for continued investment by the State and other public agencies in conservation, recycling, desalination, treatment of contaminated aquifers, or other measures to expand supply and storage.</p>
1492	1	<p>The economies and welfare of millions of CA residents are at risk if we do not have sufficient water to meet our long-term needs.</p> <p>It is imperative that we move this project forward on a timely basis.</p> <p>Please consider the needs and welfare of millions of Californians.</p> <p>Act now in favor of our resilient future.</p>	<p>The comment does not raise any environmental issue related to the 2013 DEIR/EIS.</p>
1493	1	<p>I am writing on behalf of the Silicon Valley Leadership Group to express our support for the draft Bay Delta Conservation Plan (BDCP) and its continuing evolution toward a final permitted project.</p> <p>The Silicon Valley Leadership Group, founded in 1978 by David Packard of Hewlett-Packard, represents more than 390 of Silicon Valley's most respected employers on issues, programs</p>	<p>Please note that 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.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>and campaigns that affect the economic health and quality of life in Silicon Valley, including energy, transportation, education, housing, health care, tax policies, economic vitality and the environment.</p> <p>We believe that the BDCP draft represents a valuable step towards solutions for the Delta’s long-term viability and health. The BDCP will restore the Sacramento-San Joaquin Delta habitat and, with the construction of two new tunnels, put in place a dual-conveyance water delivery system that will help secure water supplies.</p>	
1493	2	<p>The issue is important to Silicon Valley, as we rely on the Delta to meet about half of our annual water needs, and our members have prioritized working with the administrations in both Sacramento and Washington to insure the BDCP is backed by robust environmental and economic data and appropriate management structures. We are supportive of the current direction of the draft.</p> <p>The construction of a new water conveyance is an essential element of the BDCP. The proposed project will provide substantial benefits by stabilizing the Delta and helping guarantee supplies. The amount of water Silicon Valley and other parts of the state will receive will not be much different than what is available today, but it will be dependable. The plan, developed through extensive scientific and economic research and hundreds of public meetings, meets the co-equal goals of water supply reliability and ecological restoration.</p>	<p>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.</p>
1493	3	<p>We applaud the plan’s innovative adaptive management strategy, as illustrated in the plan and its implementing agreement, which helps assure that the biologic restoration goals of the Conservation Measures are met.</p>	<p>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.</p>
1493	4	<p>We are confident that the BDCP is a step in the right direction towards giving California a healthier environment, a stronger economy and a higher quality of life.</p>	<p>Please note that 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.</p>
1494	1	<p><b>Costs and Funding Sources</b></p> <p>Chapter 8.2.7.1 estimates the total capital cost of the BDCP to be \$24.9 billion, and we note parenthetically that this does not include interest on related debt and truly must be considered an estimate, as we understand that the engineering work for BDCP is only at the 10% level. Table 8-37 breaks down projected funding sources as being 68.4% from water contractors, 16.6% from State sources (primarily General Obligation bonds yet to be approved by the voters), and 14.3% from various Federal sources. Thus, it would appear that about \$8 billion of the estimated pre-interest capital cost is to be borne by the taxpayers of California and the United States.</p> <p>Tuolumne County residents pay both State and Federal taxes. Yet, we find nothing in BDCP that is of any benefit to Tuolumne County whatsoever. To the contrary, as is discussed below, it is likely that implementation of BDCP will result in the State Water Resources Control Board (SWRCB) looking at sources in Tuolumne County to provide replacement fresh water for the Delta to make up for the Sacramento River water that the Tunnels component of BDCP will route under the Delta. It is simply inequitable to ask residents of Tuolumne, or any other County that gets no benefit from BDCP, to shoulder any portion of the State and Federal funding sources of BDCP.</p>	<p>This comment pertains to Alternative 4 (known also as the BDCP) or analysis contained within 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 4 remains a potentially viable alternative and is being carried forward in this RDEIR/SDEIS because it represents the original habitat conservation plan/natural community conservation plan (HCP/NCCP) alternative approach, and because it provides an important reference point from which the Alternative 4A, 2D, and 5A descriptions and analyses were developed. If the Lead Agencies ultimately choose the alternative implementation strategy and select an alternative presented in the RDEIR/SDEIS after completing the CEQA and NEPA processes, elements of the conservation plan contained in the alternatives in the 2013 Public Draft EIR/EIS may be utilized by other programs for implementation of the long term conservation efforts.</p> <p>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) required under the California Natural Community Conservation Planning Act (NCCPA), and routinely executed under the ESA Section 10 (HCP) permitting process. Since the current proposed project (Alternative 4A) is no longer a NCCP or HCP, an implementing agreement was not released with the RDEIR/SDEIS or final EIR for the project. For more information on the primary issues being raised with regard to the IA, as well as a discussion of the current status of the IA and funding, please see Master Response 5.</p>

DEIRS Ltr#	Cmt#	Comment	Response
1494	2	<p>The Plan fails to acknowledge the important role of storage.</p> <p>The Executive Summary of the Plan describes the Plan as a "comprehensive conservation strategy" and goes on to emphasize the importance of the Delta as a source of water for parts of the State ranging from Alameda County to urban Southern California to Kern County, and in between. Yet when one searches the 114-page Executive Summary looking for the word "storage," it is only found once, in a sidebar describing the functional and geographical areas of responsibility of the Department of Water Resources.</p> <p>We understand that point 6 of Governor Brown's 10 Part California Water Action Plan calls for expanded water storage in the State (with an emphasis on groundwater storage), but that plan is short on specifics, either in terms of amount and location of new storage, or in terms of sources of funding. The BDCP Plan does not include any provision of new storage, yet has an estimated capital price tag of \$24.9 million with a portion of that cost presumably being paid by the major water contractors in the State. Our concern is simply that the essential element of new storage, whether surface or underground, will not receive the attention or funding that is needed. Stated otherwise, an expensive and untested new water conveyance system for California, with no corresponding provision for related storage needs may prove to be money not wisely spent.</p>	<p>While water storage is a critically important tool for managing California's water resources, it is not a topic that must be addressed in the EIR/EIS for the proposed project. This is because the proposed project does not, and need not, propose storage as a project component. Although the physical facilities contemplated by the proposed project, once up and running, would be part of an overall statewide water system of which new storage could someday also be a part, the proposed project is a stand-alone project for purposes of CEQA and NEPA, just as future storage projects would be. Appendix 1B, Water Storage, of the 2013 Public Draft EIR/EIS, describes the potential for additional water storage.</p> <p>Please see Master Response 4 regarding the development of alternatives. Please see Master Response 6 for information on Demand Management. Please see Master Response 37 regarding water storage.</p>
1494	3	<p>The failure to acknowledge that the tunnels will increase the pressure to take further Foothill and Sierra water supplies for the Delta</p> <p>Commenting on the EIR/EIS from the point of view of Tuolumne County is somewhat like attempting to do what many say cannot be done --- proving a negative. That is the case because in none of the chapters of the EIR/EIS where we would expect to see our concerns addressed is there any explicit acknowledgement of what we believe to be a serious issue. A review of chapters 5 (Water Supply), 6 (Surface Water), 8 (Water Quality) and 15 (Recreation) does not result in finding any mention of the likelihood that new sources of fresh water will be sought to replace the water that the tunnels called for by BDCP will convey underground rather than through the Delta.</p> <p>The State Water Resources Control Board on August 3, 2010 by Resolution 2010-0039 found that from a fishery protection perspective significantly greater flows of fresh water are needed in the Delta. See-<a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rp_t080310.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rp_t080310.pdf</a></p> <p>Yet the tunnels proposed in BDCP would further reduce fresh water flows in the Delta. It is likely, if not inevitable, that SWRCB would look for new sources of flows into the Delta. One obvious source would be up-river reservoirs in the foothills and high Sierra; specifically Don Pedro on the Tuolumne River and New Melones on the Stanislaus. Both rivers have their origins in Tuolumne County. This could amount to one of the greatest diversions of water supply and encroachment on established water rights in the State's history. Further, it would have a severe negative impact, not just on water supply and water quality in our county, but also on local recreation and tourism activities and future growth potential.</p>	<p>The action alternatives could only change the amount of water diverted under the existing SWP and CVP water rights and the existing and future related regulatory requirements. Reservoir operations and diversions by the SWP and CVP are regulated by the State Water Resources Control Board, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and State Department of Fish and Wildlife to protect aquatic resources and other beneficial uses. The amount of water to be diverted is determined by these agencies based upon river water levels and flow, water available in the system, the presence of threatened and endangered fish species, and water quality standards. If the State Water Board modifies Delta water quality requirements, DWR and Reclamation would need to review the operations of the SWP and CVP to determine the need for future changes to be compliant with the new regulations.</p> <p>Delta outflow requirements would be increased under Alternatives 4H2, 4H3, 4H4, 7, and 9. More information on the ranges of action alternatives operational criteria, based on water year types and specific flow criteria, can be found in Chapter 3, Section 3.6.4.2, North Delta and South Delta Water Conveyance Operational Criteria, EIR/EIS.</p>
1494	4	<p>The Failure to Consider Improved Forestry Management Practices as an Alternative</p> <p>We find the alternatives included in Chapter 3 of the EIR/EIS to be little more than modest variations of the Preferred Alternative of the tunnels. We suggest that more imaginative</p>	<p>Appendix 3A thoroughly explains why various proposals were not analyzed in the EIR/EIS, including the NRDC Portfolio-Based Proposal, Congressman Garamendi's Water Plan, and other similar concepts that would require actions that are beyond the scope of the proposed project.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		<p>alternatives to the Tunnels exist for dealing with California's chronic water shortages.</p> <p>It is no secret that 60% of California's developed water supply and 50% of the flow into the Delta comes from the Sierra (<a href="http://www.sierranevadaconservancy.ca.gov/our-region/sierra-water-supply-connection/sierra-delta-connection">http://www.sierranevadaconservancy.ca.gov/our-region/sierra-water-supply-connection/sierra-delta-connection</a>). And there is a growing body of research that indicates that improved forestry management practices can materially increase water yields from our forests (for example, see <a href="https://eng.ucmerced.edu/people/rbales/CV/Talks/1204.1">https://eng.ucmerced.edu/people/rbales/CV/Talks/1204.1</a></p> <p>We believe that a thorough analysis of the potential for significantly increasing the water yield from the Sierra should be considered and included as an alternative to the exceptionally expensive and equally controversial Preferred Alternative of the tunnels.</p>	<p>For more information regarding alternatives to the proposed project please see Master Response 4.</p>
1494	5	<p>The draft Implementation Agreement is lacking in specifics in numerous critical areas, not the least being that it fails to identify by name the State Water Project and Central Valley Project contractors who are expected to pay their share (68.4% according to the Plan) of the estimated \$24.9 billion capital cost of BDCP. The draft Implementation Agreement contemplates a list of Exhibits, with Exhibit H being a list of contractors. But no exhibits are attached to the draft Implementation Agreement. Another significant omission in the list of intended Exhibits is Exhibit D, which is supposed to be the all-important Implementation Schedule. In our comments above we expressed concern that State and Federal taxpayers may already be in line to pay a substantial portion of the cost of BDCP. Without there being identification of the contractors expected to pay the difference, or an Implementation Schedule showing when contractor commitments will become legally binding, our concerns about the exposure of taxpayers is magnified.</p> <p>Our concerns about the identification and allocation of BDCP funding sources are further heightened by the fact that the draft Implementation Agreement is either silent or vague on these related questions:</p> <ul style="list-style-type: none"> <li>o How many and which of the State and CVP contractors will make enforceable commitments?</li> <li>o When will those commitments be made?</li> <li>o What remedies will exist if the contactors default on enforceable commitments that they presumably will make?</li> <li>o How will the costs to be funded by the contactors be allocated among the contractors and when will this be known?</li> </ul>	<p>This comment addresses the 2014 Draft IA, a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). See response to comment 1494-1.</p>
1494	6	<p>Misleading Statement on Critical Issue</p> <p>We recognize that this is a draft of a proposed Implementation Agreement. Yet we are disturbed by the provision of Section 8 which unqualifiedly asserts that the fish and wildlife agencies "have found" that BDCP "fulfills the requirements" of both Federal and State endangered species laws. We appreciate that both the May 30 Resources Agency press release and California Fish &amp; Wildlife Director Bonham's comments at a related press conference clarify that this provision is anticipating future decisions, that may or may not materialize. We believe that a similar statement should have been included in the draft Implementation Agreement as a highlighted "Note to Reviewers" making it abundantly clear</p>	<p>This comment addresses the 2014 Draft IA, a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). See response to comment 1494-1.</p>

DEIRS Ltr#	Cmt#	Comment	Response
		that the provision assumes a future state of affairs, which may or may not ever become reality.	
1494	7	Finally, and probably most importantly, we repeat our concern expressed above ("The Failure to acknowledge that the tunnels will increase the pressure to take further Foothill and Sierra water supplies for the Delta") and point out that the provisions of Section 10 of the draft Implementation Agreement, particularly the last paragraph of Section 10.3.7.3.2, do nothing to alleviate our concern that waters of the foothill rivers, including the Stanislaus and Tuolumne, will be targeted to replace the fresh water that the tunnels will divert from the Delta. Suffice it to say that this sentence in Section 10.3.7.3.2 is disconcerting, "In the event that additional outflow was determined to be necessary, supplemental water may be acquired from voluntary sellers." And what if there are no voluntary sellers (or if the Supplemental Adaptive Management Fund has been depleted)? At that point it would appear that the SWRCB would have no alternative but to exercise its considerable authority and require additional foothill and Sierra river flows into the Delta.	This comment addresses the 2014 Draft IA, a document detailing the roles and responsibilities of the various agencies under the BDCP (Alternative 4). See response to comment 1494-1.
1495	1	I agree that restoration and protection of area species is important to maintain our fishing and recreational industries. Sea water incursion protection is of paramount importance.	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.
1495	2	As a Southern Californian, our area has been more focused on conservation and reclamation for a much longer time period. I am concerned that there does not appear to be a consideration of underground storage, or the restricting farming methods that clearly are wasting water resources. For example, I was in Sacramento recently, and observed huge agricultural sprinkler systems operating in the middle of the day in 90+ degree heat. This is an unacceptable practice that I believe leads some areas/crops to be left fallow, due to the irresponsible overuse by others. California provides a significant portion of the nation's food, we need a balanced approach, which includes the restructuring of 100 year old water agreements.	The project is not a comprehensive, statewide water plan, but is instead aimed at addressing many complex and long-standing issues related to the operations of the SWP and CVP in the Delta, including reliability of exported supplies. The 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 with 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).
1496	1	It is bad enough that Nestle is in California carting off a zillion gallons of water to then sell back to us, and it is beyond comprehension that there is fracking going on anywhere, much less in California, during a severe drought and in earthquake country, but now you would like to screw our lands, our animals and fish, and the people of California in yet another vile and hopelessly unethical boondoggle?  [expletive deleted] no.  Let me just be clear about what I think of the plan for the BDCP: [expletive deleted] no.  Now please go and do something that actually helps someone besides the filthy rich.	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 improved native fish migratory patterns and allow for greater operational flexibility. 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.
1497	1	I urge you to stand against the Bay Delta Conservation Plan. The plan, if built, would destroy the Bay Delta and all the ecosystems it supports. My great grandmother rode horseback from Oregon to Stockton in the early 1900s. When I was young, she told me many stories of the tall grasses, clouds of birds, streams filled with salmon, rivers filled with sturgeon and the vitality of the Bay Delta. I have never seen such wondrous sites in all my life. Much has already been lost. Let us not deny our children and grandchildren the opportunity to live in a rich and healthy environment that honors the natural processes. The ability of the Delta to be the cleanser of the bay is critical to maintaining water quality and healthy habitats among other functions. There are many ways to conserve in times of drought. These tunnels are not among those sane ways. Let us protect the Bay Delta for all the future	The preferred alternative is now Alternative 4A (i.e., the California WaterFix Project) and no longer includes an HCP. The commenter is referred to the following Master Responses: 3 (Purpose and Need), 4 (Alternatives Development), 4 (Tunnel Option), 6 (Desalination/ Demand Management), 7 (Desalination), and 37 (Storage). Appendix 3A of the Draft EIR/EIS and Sections 3 and 4 in the RDEIR/DSEIS discuss in detail the various alternatives considered. The BDCP and the California WaterFix Project have been developed with the goals of minimizing and avoiding incidental take of covered species to the maximum extent practicable and to provide for the conservation of each of the covered species in the Plan Area. Chapter 5, Effects Analysis, describes the anticipated effects of the Plan on covered fish and wildlife species in consideration of the covered activities, included changes in outflow. Chapter 11, Fish and Aquatic Resources, and Chapter 12, Terrestrial Biological Resources, Draft EIR/EIS, describe effects of the project and several alternatives on fish and wildlife species in the Plan Area (see also Section 4 and Appendix A-Chapters 11 and 12 in the

DEIRS Ltr#	Cmt#	Comment	Response
		generations. Use our resources wisely!	RDEIR/SDEIS). 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.
1498	1	<p>The cross-section of the two tunnels = 2,513 square feet. In other terms, a river 100 feet wide by 25 feet deep.</p> <p>A one foot section of the two tunnels - 2,513 cubic feet x 7.5 gallons/cubic ft = 18,847 gallons.</p> <p>At 35 miles long, the math pencils out at, 35 (miles) x 5280 (feet in a mile) x 18,847 (gallons) = 3,482,925,600 gallons.</p> <p>That is just short of three and a half billion gallons.</p> <p>Let us say the tunnels are only half full. We get 1 billion, 741 million, 462 thousand, 800 gallons.</p> <p>Using a flow of 15,000 c.f.s., water would need to move at a little over 4 miles per hour .</p> <p>So every hour, with the two tunnels half full, some 7 billion gallons would be delivered to the forebay south of the intakes.</p>	As shown in Figures C-11-1 through C-11-6 of Appendix 5A, Section C, CALSIM II and DSM2 Model Results, of the EIR/EIS, the north Delta intake tunnels would not be fully utilized except for a few months if 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. As shown in Figure C-11-6, the north Delta intakes would have minimal flows that would be required for maintenance of the pumps during critical dry years.
1499	1	I am opposed to the tunnels. It is sacrificing the needs of the many for the politically strong. I cannot believe that Governor Brown's ethics will allow this. There are more sustainable ways to solve California's water shortage. Rewarding the most wasteful is not the solution.	The issues raised by the commenter addresses the merits of the project and do not raise any issues with the environmental analysis provided in the EIR/EIS.