

Table 4-1. Responses to Comments

Ltr#	Cmt#	Comment	Response
1300	1	<p>The Mount Diablo Audubon Society is concerned that, on average, only one-third of all water from the rivers of the San Joaquin basin can currently reach the San Francisco Bay-Delta Estuary (Bay-Delta) due to water diversions.[FOOTNOTE#1 - 1 Natural Resources Defense Council (NRDC), Help Protect California's Waterways, <a href="https://secure.nrdconline.org/site/Advocacy?cmd=display&amp;page=UserAction&amp;id=4200">https://secure.nrdconline.org/site/Advocacy?cmd=display&amp;page=UserAction&amp;id=4200</a>]</p> <p>Excessive water diversions from the San Joaquin river basin threaten the water quality of the Bay-Delta which supports vital habitat for birds and fish (including native salmon), thousands of jobs, Delta farming and fishing communities, recreational opportunities and drinking water for millions of Californians.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1300	2	<p>The Mount Diablo Audubon Society urge the State Water Resources Control Board (Board) to adopt stronger water quality standards that increase water flows from the San Joaquin basin to the Bay-Delta. Substantial evidence demonstrates that approximately 50% - 60% unimpaired flow is the minimum necessary to reestablish and sustain fish and wildlife beneficial uses. [FOOTNOTE # 2 - California Department of Fish &amp; Wildlife, Comments regarding the Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay –Sacramento / San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality (March 28, 2013), 10 available at <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/baydelta_pdsed/docs/comments032913/scott_cantrell.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/baydelta_pdsed/docs/comments032913/scott_cantrell.pdf</a>]</p> <p>We urge the Board to strengthen, not weaken, salinity standards for the South Delta.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1300	3	<p>The health of the Bay-Delta is vitally important to California's birds:</p> <ul style="list-style-type: none"> <li>a. The Bay-Delta is the largest estuary on the Pacific coast and provides critically important habitat for migratory birds, supporting more than 200 different species;</li> <li>b. Many birds have declined dramatically. Now at least 22 bird species from the Bay-Delta are listed as endangered, threatened, or of special concern – along with many others whose populations are dramatically reduced;</li> <li>c. Up to 50% of the Pacific Flyway's migrating or wintering waterfowl (as much as 20% of the North American population) depend on habitats in the Bay-Delta; and</li> <li>d. Audubon California has identified 18 Important Bird Areas in the Bay-Delta region, which provide essential habitat for breeding, wintering, and migrating birds.[FOOTNOTE #3- <a href="http://ca.audubon.org/protecting-bird-habitat-bay-delta-region">http://ca.audubon.org/protecting-bird-habitat-bay-delta-region</a>].</li> </ul> <p>Increasing flows from the San Joaquin river basin into the Bay-Delta ecosystem will be particularly beneficial to avian wildlife in the Bay-Delta.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1301	1	<p>The draft SED was largely developed in isolation, as offers for assistance and data from the local irrigation districts and related agencies have been ignored. Despite scientific data that shows the validity of alternative approaches, the current SED promotes the notion of the "spring unimpaired flow approach" as the only management vehicle to address fish and wildlife beneficial uses and salinity control.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1301	2	<p>The current recommendation of the SED will have a devastating effect on my farm and our</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general</p>

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		community as it will increase pumping of ground water and continue the degradation of drinking water quality. Long term, the current SED means that our farm would no longer be sustainable.	comment on the plan amendments or do not raise significant environmental issues.
1301	3	The decision before the board is whether to adopt the SED and spend years and millions of dollars defending the SED OR constructively work with stakeholders to find a solution.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1301	4	<p>It is in everyone's best interest to pursue a framework for mediated global settlement that is based upon science. This means that global solutions must include:</p> <ul style="list-style-type: none"> <li>-Functional flows -- not unimpaired flows;</li> <li>-Dry year relief for irrigation districts and municipalities;</li> <li>-Non-flow measures such as predation, aquatic weed control and habitat restoration;</li> <li>-Additional storage, both above &amp; below ground, on &amp; off stream;</li> <li>-Integration of technology into the aging canal infrastructure;</li> <li>-Multi species management; and</li> <li>-Recognition of the regions reliance on ground water</li> </ul>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1302	1	<p>Restore the Delta finds that the draft recirculated substitute environmental document (Draft RSED) and its accompanying draft water quality control plan amendments to San Joaquin River flow and south Delta salinity objectives (Appendix K of the Draft RSED) present a bundle of mixed messages.</p> <p>We [Restore the Delta and Environmental Justice Coalition for Water] find it difficult to read the Draft RSED and Appendix K without relating it in some fashion to the California WaterFix's water right change petition (Petition) request by the California Department of Water Resources and the United States Bureau of Reclamation to the State Water Board seeking north Delta points of diversion for State Water Project and Central Valley Project water rights. If granted these new diversions would result in fundamental changes to in-Delta hydrodynamics, water quality, Delta inflow, Delta outflow, and exports by the Petitioners. But despite the dramatic artificial changes to the Bay-Delta Estuary that would be caused by a decision to grant the Petition, the Draft RSED and Appendix K treat the WaterFix as merely one of many "cumulative" projects relegated to its sole mention and micro-second scale analysis in Appendix K and the Draft RSED.</p> <p>Such treatment is an insult to the California public in general, and the Delta's public in particular. From the standpoint of CEQA law, this insult is a failure to fully disclose the impacts of the proposed action in this instance because it all but ignores the largest water facility planned for the Delta, along with the facility's ability to remove substantial volumes of water from the Delta. The Draft RSED and Appendix K fail to explain the relationship between these two actions and, in so failing, render the impact analyses valueless as decision making tools. They fail to inform the public about the relationship of the Board's proposed changes to San Joaquin River flow and south Delta salinity objectives in light of Tunnels operations that would occur under California WaterFix.</p>	Please see Master Response 1.1, General Comments regarding California WaterFix. The cumulative impacts of the plan amendments and WaterFix related to hydrology and water quality are adequately addressed in Chapter 17.

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1302	2	<p>Restore the Delta finds that the draft recirculated substitute environmental document (Draft RSED) and its accompanying draft water quality control plan amendments to San Joaquin River flow and south Delta salinity objectives (Appendix K of the Draft RSED) present a bundle of mixed messages.</p> <p>A mixed message stems from the Board’s bifurcation of the two amendments in the Draft RSED and Appendix K from the rest of Bay-Delta Estuary water quality control planning. We [Restore the Delta and Environmental Justice Coalition for Water] are aware this decision was made many years ago, but it is proving now to be a fateful one in which the Board piecemeals its own water quality control planning process for reasons that are at best hazy and unexplained and at worst fatuous. This is the first time in the Water Board’s history that it has treated planning for Delta water quality in segmented fashion; the 1978, 1995, and 2006 plans each treated the Delta as a comprehensive whole for planning purposes. The logic of separating Delta flows from various sources at this time escapes us as the public is left with a truly incomplete picture of outcomes and potential impacts on water quality.</p>	<p>Please see Master Response 1.1, General Comments, and Master Response 1.2, Water Quality Control Planning Process, for a discussion of the water quality control planning process and Bay-Delta proceedings, including the State Water Board’s protection of beneficial uses in the Bay-Delta and tributary watersheds through independent proceedings. The water quality control planning process does not dictate that plans be revised in their entirety. Rather, the continuing water quality planning process focuses on priority issues and geographic areas, and plans are updated as necessary to reflect changing water quality conditions and new requirements, among other reasons. (See, e.g., 40 C.F.R. § 130.6.) Water quality control plans throughout the state are continually updated and amended on a discrete basis.</p>
1302	3	<p>Restore the Delta finds that the draft recirculated substitute environmental document (Draft RSED) and its accompanying draft water quality control plan amendments to San Joaquin River flow and south Delta salinity objectives (Appendix K of the Draft RSED) present a bundle of mixed messages.</p> <p>A mixed message is that the Draft RSED leaves highly ambiguous just which beneficial uses the State Water Board is planning for. We [Restore the Delta and Environmental Justice Coalition for Water] ultimately think, however, that this Draft RSED and Appendix K are about benefiting exporters at the expense of senior water right holders upstream and downstream in the San Joaquin River watershed, with both increased flows and improved water quality. We are deeply suspicious that this outcome is perhaps cynically intended under the guise of improving flows for Fall Run Chinook Salmon and Central Valley Steelhead. At key times of year, the San Joaquin River downstream of Vernalis is almost entirely exported from the Delta. There is no assurance whatsoever that the ecological benefits of proffering and enforcing inflow criteria at Vernalis would provide any contribution to Delta outflow and that indicator’s known ecological benefit. What is to stop all or much of fresher and larger San Joaquin flows from just being exported at Banks and Jones pumping plants? Put another way, there are no comparable instream flow criteria for the San Joaquin, Old, and Middle rivers that ensure that such flows will reach Antioch and Chipps Island in the western Delta. While Appendix K indicates that outflow decisions will fall later in the bifurcated process, a later proposal and hearings are not a substitute presently for ensuring that needed freshwater flows put into the system will not be exported but will rather provide much needed outflow for the estuary.</p>	<p>As stated in the SED, the Bay-Delta is in ecological crisis and fish species have not shown signs of recovery since the State Water Board adopted the 1995 Bay-Delta Plan. Please rest assured that the Board is proposing water quality objectives to protect fish and wildlife beneficial uses. Please refer to the SED Executive Summary, page ES-1. The SED explicitly states that the proposed SJR flow objectives are being updated for the protection of fish and wildlife beneficial uses, and the southern Delta Salinity objectives are being updated for the protection of agricultural beneficial use. SED Chapter 1.5 states the following: “The State Water Board is considering amending the Bay-Delta Plan to establish new flow objectives on the LSJR and its three eastside tributaries to protect fish and wildlife beneficial uses.” And, “The existing SDWQ objectives for salinity identified in the 2006 Bay-Delta Plan would be amended to continue to protect agricultural beneficial uses in the southern Delta.” Please see Master Response 1.1, General Comments for information regarding the necessity of the proposed flow and water quality objectives to reasonably protect fish and wildlife and agricultural beneficial uses while protecting and maintaining other existing beneficial uses.</p> <p>Please see Master Response 1.2, Water Quality Control Planning Process, for responses to comments regarding the scope of Bay-Delta Plan proceedings and consideration of updates. Please also see Master Response 2.1, Amendments to Water Quality Control Plan, for how migratory pathways for LSJR salmonids will be protected even without export conditions. For example, the analysis in Appendix F.1 describes that under Alternative 3, about 74 percent of the average annual increase in flow at Vernalis would go toward an increase in Delta outflow. The SED acknowledges and analyzes that a relatively small amount of LSJR flows will be exported, but increased LSJR flows will contribute more to Delta outflow. So while the State Water Board has chosen not to change export restrictions with the plan amendments, especially in light of what the modeling describes, it is separately doing a review of the 2006 Bay-Delta Plan as it relates to other geographic areas of the Bay-Delta and its tributaries and through that process will determine and study what changes, if any, should be made to the export restrictions as part of that independent effort. Please also see the response to comment 1302-5 on how the State Water Board will not act at cross-purposes with the flow objectives to protect migratory fish in the Delta.</p>
1302	4	<p>Restore the Delta finds that the draft recirculated substitute environmental document (Draft RSED) and its accompanying draft water quality control plan amendments to San Joaquin River flow and south Delta salinity objectives (Appendix K of the Draft RSED) present a bundle of mixed messages.</p> <p>Adding to our [Restore the Delta and Environmental Justice Coalition for Water] suspicion is</p>	<p>Please see Master Response 3.3, Southern Delta Water Quality, for responses to comments regarding the measurement of salinity in the southern delta and why the southern Delta Salinity objectives are being updated and why water quality degradation will not occur.</p>

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		<p>the Board’s now long-standing proposal to relax south Delta salinity objectives by about 42 percent (from 700 to 1000 dS/cm). The RSED fails to justify relaxation of these objectives as either appropriate or necessary. It merely recounts a partial chronology of events describing the challenge of managing south Delta salinity before briefly outlining the proposed relaxation and the Board’s proposal to regulate south Delta river segments as average values rather than continue with enforcement at compliance point locations applicable uniformly throughout river reaches. This relaxation is tantamount to permitting degradation and has not been justified as required, either as a reasonable action, or as a matter of benefits of the action exceeding costs.</p>	
1302	5	<p>Restore the Delta finds that the draft recirculated substitute environmental document (Draft RSED) and its accompanying draft water quality control plan amendments to San Joaquin River flow and south Delta salinity objectives (Appendix K of the Draft RSED) present a bundle of mixed messages.</p> <p>The mixed message relates to the Water Board’s approach to this process. Now that the Board has bifurcated the water quality control plan, what process will the Board use to put the pieces back together in a coherent comprehensive whole? When will that occur? Will this recombination be part of Phase 2, and, if so, at what point would interrelationships between Phases 1 and 2 not already evaluated under the California Environmental Quality Act be reviewed? Or will they be reviewed at all?</p>	<p>Please see Master Response 1.2, Water Quality Control Planning Process, for responses to comments regarding updates to the plan amendments through independent proceedings. The Bay-Delta Plan as proposed to be amended by the plan amendments remains a coherent and comprehensive document. Please see Appendix K. All updates to water quality control plans must be consistent with other parts of the plan. (40 C.F.R. § 130.6, subd. (e); see also Gov. Code, § 11349.1, subd. (a).) The plan amendments are consistent with other parts of the Bay-Delta Plan and future amendments will have to likewise be consistent. Until the plan amendments are approved, however, future amendments to the Bay-Delta Plan involving the Sacramento-Delta watershed update cannot presuppose that the plan amendments will be approved. This should not be problematic since the two amendments are independent of, and are not contingent on, one another. The State Water Board does not, however, undertake its planning activities in a vacuum and it is not the intent of the State Water Board in the future update to the Bay-Delta Plan to act at cross purposes with the proposed LSJR flow objectives or create inconsistencies within the Bay-Delta Plan, including with respect to the statement in Appendix K that states that “[a]lthough the lowest downstream compliance location for the LSJR flow objectives is at Vernalis, the objectives are intended “to protect migratory LSJR fish in a larger area, including within the Delta, where fish that migrate to or from the LSJR watershed depend on adequate flows from the LSJR and its salmon-bearing tributaries.”</p> <p>Regarding cumulative impacts under CEQA, the plan amendments consider the cumulative impacts of the future update to the Bay-Delta Plan addressing the Sacramento-Delta watershed. That update must also evaluate the cumulative impacts of both projects under CEQA’s requirement to evaluate past, present and probably future projects.</p>
1302	6	<p>The State Water Board Fails to Incorporate and Apply California’s Statewide Water Policy Framework in Developing the Revised and Recirculated Phase 1 Flow and Salinity Objectives.</p> <p>In general, we [Restore the Delta and Environmental Justice Coalition for Water] observe a persistent unwillingness of state water agencies to acknowledge and apply the broad policy principles that the State Legislature has adopted, and sitting governors have signed into law, that make up statewide water policy. The principles informing these policies are intended to guide actions of state water agencies. Yet the agencies persist, if they acknowledge these policies at all, in applying them narrowly. Or, if they do not acknowledge them in their policy and planning documents, they interpret statutory language using narrow economic or engineering criteria. By doing so, these agencies often wind up employing methodologies or proposing and advocating actions that on their face conflict with these clear and protective statewide water policies.</p> <p>These statewide water policies, taken as a unified whole and guide to state agency action, provide agencies with authority to establish, implement, construct, and operate a range of solutions to California’s water problems. In many cases, by applying the policies California has, at least some of these problems may yet be solved.</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments regarding water-related projects, programs, and policies in California such as the Delta Reform Act, California Water Action Plan, Sustainable Groundwater Management Act, and the Delta Plan. State and federal endangered species acts are incorporated into the analysis through the discussion of fish population status, needs, and life history and elements of biological opinions are incorporated into baseline conditions in modeling that estimates the effects of alternatives for comparative purposes.</p> <p>Please refer to Master Response 1.2, Water Quality Control Planning Process, for responses to comments regarding State Water Board authority and responsibility under Porter-Cologne Water Quality Control Act, Clean Water Act, Administrative Procedure Act, Delta Reform Act, and regarding the public trust doctrine under Article X, section 2 of the California Constitution. When the State Water Board implements the proposed water quality objectives through water right and water quality actions, it will also consider all applicable law. The Clean Water Act regulations state that for waters with multiple use designations, the criteria (i.e., water quality objective under the Porter-Cologne Water Quality Control Act) must support the most sensitive use. The proposed salinity water quality objectives do protect the most sensitive beneficial use related to salinity, agriculture.</p>

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		<p>The Bay-Delta Estuary is an over-appropriated common pool resource plagued by California's abject failure to protect all beneficial uses of water—human and non-human alike—according to the needs of its most sensitive beneficial uses. [Footnote 1: State Water Resources Control Board, Water Rights Within the Bay-Delta Watershed, September 26, 2008, presented to Delta Vision Blue Ribbon Task Force, October 17, 2008. Accessible at <a href="http://deltavision.ca.gov/BlueRibbonTaskForce/Oct2008/Respnose_from_SWRCB.pdf">http://deltavision.ca.gov/BlueRibbonTaskForce/Oct2008/Respnose_from_SWRCB.pdf</a>; California Water Impact Network, California Sportfishing Protection Alliance, and AquAlliance, Testimony on Water Availability Analysis for Trinity, Sacramento, and San Joaquin River Basins Tributary to the Bay-Delta Estuary, submitted by Tim Stroshane, October 26, 2012, accessible at <a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/comments111312/tim_stroshane.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/comments111312/tim_stroshane.pdf</a>; and Theodore E. Grantham and Joshua H. Viers, "100 Years of California's water rights system: patterns, trends and uncertainty," Environmental Research Letters, 9(2014), accessible at <a href="https://watershed.ucdavis.edu/ciles/biblio/WaterRights_UCDavis_study.pdf">https://watershed.ucdavis.edu/ciles/biblio/WaterRights_UCDavis_study.pdf</a>.] This failure violates the state's public trust obligations, and the present amendments in Appendix K of the RSED would continue this record of failure. The proposed amendments fail to plan for all beneficial uses through and in the Delta (and called for in the Delta Reform Act) by ignoring the overarching framework of state water policy. This framework includes:</p> <ul style="list-style-type: none"> <li>• Achieving the coequal goals of Water Code Section 85054 of enhanced ecosystem health and water supply reliability.</li> <li>• Water Code Section 85023, stating: "The longstanding constitutional principle of reasonable use and the public trust doctrine shall be the foundation of state water management policy and are particularly important and applicable to the Delta."</li> <li>• Water Code Section 85021 requiring reduced reliance on the Delta in meeting California's future water supply needs (and whose strategy specifies "investing in improved regional supplies, conservation, and water use efficiency").</li> <li>• Water Code Section 12200 et seq., (the Delta Protection Act of 1959) requiring that neither state nor federal water projects should divert water from the Delta to which Delta users are entitled.</li> <li>• Achieving the fish, and specifically salmonid, abundance goals of California Fish and Game Code Sections 5937, 5946, and 6902(a), and the Central Valley Project Improvement Act of 1992, Section 3406(b)(1).)</li> <li>• The federal Clean Water Act requiring that the chemical, physical and biological integrity of the nation's waters (including those of the Bay-Delta Estuary) be protected, that the navigable waters of the United States (including those of the Estuary) not be degraded, and that the water quality standards for the Estuary be based on the "most sensitive" beneficial use among those occurring in a particular water body.</li> <li>• The state Porter-Cologne Water Quality Control Act.</li> <li>• State and federal Endangered Species Acts.</li> </ul> <p>While the coequal goals are identified in Appendix K and the RSED, no evidence is provided to show that proposed inflow standards or a relaxing of South Delta salinity standards will</p>	

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		<p>enhance ecosystem health. As water exports are not addressed in these documents, and water rights hearings will occur after Phase I is completed, issues regarding the reasonable use of water by water exporters are not addressed. Furthermore, Water Code Section 85021 requiring reduced reliance on the Delta in meeting California’s future water needs is not discussed in depth as a strategy for enhancing ecosystem health within the Delta. In addition, that the regulation of water quality standards for the Estuary is to be based on the “most sensitive” beneficial use, as required by the federal Clean Water Act, seems to have been ignored in the proposed resetting of the South Delta salinity standard.</p>	
1302	7	<p>Environmental Justice, Human Right to Water, Beneficial Uses of Water.</p> <p>Other statewide policies to be carried out by state water agencies have been intended by the Legislature to supplement statewide water policy, including the Human Right to Water and statewide environmental justice policies. These policies have been completely ignored in Appendix K.</p> <p>Additionally, a water quality control plan must establish beneficial uses, water quality objectives, and a program of implementation to achieve those objectives. (Water Code § 13050(j).) The proposed amendment to the 2006 Bay-Delta Plan incorporates the 2006 Plan’s beneficial uses, which were carried over from the 1978 Delta Plan, the 1991 Bay-Delta Plan, and the 1995 Bay-Delta Plan. (2006 Bay-Delta Plan, p. 8.) Further, the State Board is subject to Water Code section 13241, which provides in part that the Board must consider “past, present, and probable future beneficial uses of water” when establishing water quality objectives that ensure the reasonable protection of all beneficial uses. (see, City of Tracy v. California State Water Resources Control Board (Sacramento Superior Court Case No. 34-2009-80000392.)</p> <p>The State Board is concurrently considering statewide adoption and establishment of three new beneficial uses: subsistence (SUB), tribal subsistence (T-SUB), and tribal cultural use (T-CUL) in Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California. Although these beneficial uses may be adopted statewide, they would still need to be recognized within regional or state Basin Plans, where the Regional Water Board or State Water Board may designate waters within the respective region as having one or more of the beneficial uses. (Draft Staff Report, Part 2 of The Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries Of California, SWRCB Division of Water Quality, January 3, 2017.)</p> <p>In recognition of this on-going process, we [Restore the Delta and Environmental Justice Coalition for Water] urge the State Board to recognize and adopt the three proposed beneficial uses (subsistence [SUB], tribal subsistence [T-SUB], and tribal cultural use [T-CUL]) into the current amendment to the 2006 Bay-Delta Plan. However, even if the Board chooses not to formally adopt the new beneficial uses, these new beneficial uses fall within the Water Code’s instruction that all “probable future beneficial uses of water” be considered in the establishment of water quality objectives to ensure the reasonable protection of those uses. So far, no evidence of a reasonable protection determination has been offered, especially in light of the probable future beneficial uses of subsistence, tribal subsistence, and tribal cultural use.</p> <p>Further, the new beneficial uses specifically target environment justice communities that rely on fish populations for daily consumption, as well as long-standing cultural use. Existing State policies protect EJ communities through encouraging the identification of problems</p>	<p>Please see Master Response 2.1, Amendments to the Water Quality Control Plan, for a description of the plan amendments and information regarding the human right to water. The plan amendments do not “incorporate” the 2006 Bay-Delta Plan; rather, those parts of the existing Bay-Delta Plan that are not affected by the proposed plan amendments remain in force and effect. Since the close of the public comment period for the plan amendments, in May 2017, the State Water Board adopted tribal tradition and culture (CUL), tribal subsistence fishing (T-SUB), and subsistence fishing (SUB) beneficial uses in connection with amendments to Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SWRCB 2017a, SWRCB 2017b). While these beneficial uses are important, designating them in the Bay-Delta Plan now is beyond the scope of the proposed plan amendments. The State Water Board will consider designating these uses in the Bay-Delta Plan as necessary and appropriate as part of its continuing water quality planning process. The three new tribal and cultural beneficial uses largely relate to the risks to human health from the consumption of aquatic resources, including fish and shellfish. The State Water Board, therefore, adopted five new water quality objectives for mercury to protect people and wildlife from consuming fish that contain high levels of mercury. The objectives are the Sport Fish Water Quality Objective, the Tribal Subsistence Fishing Water Quality Objective, the Subsistence Fishing Water Quality Objective, the Prey Fish Water Quality Objective, and the California Least Tern Prey Fish Water Quality Objective and have been approved by the Office of Administrative Law and U.S. EPA and are effective. The staff report for the ISWEBE Plan, Part 2, states, “The Tribal Subsistence Fishing Water Quality Objective and the Subsistence Fishing Water Quality Objectives would only apply to a particular water body after the corresponding beneficial use is designated to a water body. However, either of the objectives may be incorporated into a permit prior to formal designation if the Water Boards determine that tribal subsistence fishing or subsistence fishing is an existing use.” Thus, even if the new beneficial uses have not been designated in water quality control plans, the uses must be protected if they exist. This is consistent with state and federal law that all existing uses must be maintained and protected. (See PUD No. 1 of Jefferson County v. Washington Department of Ecology (1994) 511 U.S. 700, 705; 40 C.F.R. §§ 131.6, 131.10, 131.12; Wat. Code, §§ 13000, 13263.)” Please also see Master Response 1.2, Water Quality Control Planning Process, regarding the consideration of past, present, and future beneficial uses and judgment of the State Water Board to reasonably protect fish and wildlife and agricultural beneficial uses.</p> <p>Please see Master Response 2.7, Disadvantaged Communities, regarding the plan amendments as they relate to disadvantaged communities (DACs), terminology used by commenters (e.g., environmental justice communities), the content regarding DACs in the SED, human right to water as it relates to DACs, and the State Water Board’s technical and financial assistance programs for DACs.</p> <p>Please see Master Response 3.3, Southern Delta Water Quality, for information on maintaining salinity levels in the Delta. As described in Master Response 3.3 and analyses detailed in Chapters 5, Surface Hydrology and Water Quality and Chapter 13, Service Providers, water quality in the southern Delta would not be degraded in response to implementation of the plan amendments. The USBR water rights permits will continue to include requirements to meet the current 0.7 EC April–August Vernalis salinity standard, as contained in the program of implementation of the plan amendments. This would maintain the historical range of salinity in the southern Delta. Therefore, a degradation of water quality affecting service providers</p>

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		<p>and solutions of affected communities—this update, so far, has missed an opportunity to identify and correct these disproportionate impacts.</p> <p>Appendix K fails to identify, adhere to, or incorporate the Human Right to Water or California environmental justice policies. Water Code Section 106.5 states that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. The domestic use of water as the highest human beneficial use of water is linked to the Human Right to Water. Adhering to and including these statewide policies is also directly tied to the Board’s recent climate change resolution as it relates to the domestic use of water. The Board’s climate change responses and actions can help all California residents adapt as smoothly as possible to inevitable impacts of climate change, including continuous provision of safe, clean, affordable, and accessible water for human uses and public health. Addition of the state’s Human Right to Water Policy in the findings should result in parallel planning and policy opportunities where the State Water Board is to ensure that the human right to water applies. Such opportunities should include all water quality control plan updates (including that for the Bay-Delta Estuary), new and revised beneficial use designations, National Pollutant Discharge Elimination System programs, and any drinking water-related plans the Board works on.</p> <p>The State of California defines “environmental justice” as: “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” (Cal. Gov. Code Sec. 65040.12, subd. (e).) The State Attorney General’s office states that “fairness in this context means that the benefits of a healthy environment should be available to everyone, and the burdens of pollution should not be focused on sensitive populations or on communities that already experience its adverse effects.” The State Attorney General adds, “environmental justice requires an ongoing commitment to identifying existing and potential problems, and to finding and applying solutions, both in approving specific projects and planning for future development.” (California Government Code [C.G.C.] Sec. 11135(a).)</p> <p>California’s anti-discrimination statute further states:</p> <p>“No person in the State of California shall, on the basis of race, national origin, ethnic group identification, religion, age, sex, sexual orientation, color, genetic information, or disability, be unlawfully denied full and equal access to the benefits of, or be unlawfully subjected to discrimination under, any program or activity that is conducted, operated, or administered by the state or by any state agency, is funded directly by the state, or receives any financial assistance from the state.” (Id.)</p> <p>The State Attorney General’s office states that, while this policy does not expressly include the phrase “environmental justice,” in certain circumstances it can require agencies to undertake the same consideration of fairness in the distribution of environmental benefits and burdens called for in the state’s definition of environmental justice. In addition, the State Attorney General’s office notes that agencies “should evaluate whether regulations governing ‘equal opportunity to participate’ and requiring ‘alternative communication services’ (e.g., translations) apply. (See Cal.Code Regs., tit.22, secs. 9801, 98211.)” This will be essential in communicating Board programs and their climate change practices to an increasingly diverse California populace.</p>	<p>diverting drinking water from the southern Delta would not occur. For the same reason, the change to the salinity objectives and its implementation alone will not affect agricultural production, as described in Chapter 11, Agricultural Resources, and thus farm worker income. Furthermore, the LSJR alternatives would improve the flow conditions in the Delta. As described in Chapter 7, Aquatic Biological Resources, aquatic species have a large range of tolerance for the ranges of salinity in the southern Delta. Hence, subsistence fishing would not be negatively affected by amending the SDWQ objectives. Finally, few people residing in the Delta rely on groundwater as a drinking water source. As stated in Chapter 9, because increased groundwater pumping or reduced groundwater recharge would not occur as a result of a change to the salinity objective water quality will not be degraded for anyone that consumes water from wells in the Delta or adjacent aquifers. Additionally, the quality of groundwater below the Delta is not expected to change because (1) the surface water quality is not expected to change as discussed above and (2) groundwater levels in the Delta are expected to remain largely unchanged and close to the surface (see Figures 9-3 and 9-5 for groundwater elevation contours and depth to groundwater in part of the southern Delta).</p>

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		<p>These laws and policies should be central to the overarching policy framework by which the SWRCB conducts its water quality control planning processes and its assessment of plan impacts and mitigation measures.</p> <p>However, discussion of the Delta environmental justice community and the Human Right to Water is missing from Appendix K and the RSED. There is no identification of the Delta environmental justice community, discussion of potential impacts on the environmental justice community in relation to the proposed weakening of South Delta salinity standards, and no plan for mitigation of potential environmental or economic impacts.</p> <p>According to the American Community Survey, 2010–2014, over 19% of all residents in San Joaquin County are living at the poverty level or below compared to 15% of the United States population. According to this same survey, 37% of San Joaquin County residents identify as race other than white, and 18% of San Joaquin County residents speak English less than well. [Footnote 2: American Community Survey, 2010-2014, Tables DP-02, DP-03, DP-05.</p> <p><a href="http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/docs/sfb_ssjde_bay_delta/12162016_stros_hane.pdf">http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/docs/sfb_ssjde_bay_delta/12162016_stros_hane.pdf</a>] Roughly about 20% of San Joaquin County’s population can be identified as part of the environmental justice community with pockets in or near the Delta, like zip code 95206, approaching environmental justice community percentages of nearly 50%. San Joaquin County’s population in this period was roughly 650,000 people. Thus, roughly estimated, 120,000 San Joaquin residents could be identified as being members of the environmental justice community who would be impacted by water quality changes in the Delta as a result of implementation of proposed San Joaquin flows standards and relaxing of the South Delta salinity standards found in Appendix K and the RSED.</p> <p>Moreover, Appendix K and the RSED do not consider, examine, or address water quality impacts for environmental justice community members who: 1) come in contact with Delta waters, such as subsistence fishers; 2) consume well water in the Delta or from adjacent aquifers; 3) consume Stockton municipal water from the Delta supply project; 4) or lose farmworker income from decreased crop yields due to increases in South Delta water salinity as described in comments by South Delta Water Agency.</p> <p>Table 20 from the Delta Protection Commission’s 2011 Economic Sustainability Plan shows that a 25% increase in salinity in the Delta will result in an 11% decrease in revenue per acre, and a 50% increase in salinity in the Delta will result in a 25% decrease in revenue per acre [Footnote 3: October 10, 2011 Public Draft: Economic Sustainability Plan for the Delta. Page 131. Table 20]. The proposed 42% relation of salinity standards for the South Delta will likely result in revenue decreases per acre that will fall within a range from 11% to 25%. Appendix K and the RSED do not examine the relationship between decreases in revenue per acre and job numbers for farmworkers, who are part of the Delta environmental justice community. No economic analysis has been completed as to what the financial impacts would be on the poorest segment of the population in the South Delta.</p>	
1302	8	<p>The SWRCB has not followed a process, or justified analytically why South Delta salinity objectives should be relaxed.</p> <p>From our [Restore the Delta and Environmental Justice Coalition for Water] perspective, this lack of justification is troubling for a number of reasons. First, the Delta community at large is being told essentially to accept on blind faith that water quality will not be degraded,</p>	<p>Please see Master Response 1.1, General Comments, for discussion of algal blooms.</p> <p>Please see Master Response 2.7, Disadvantaged Communities, regarding impacts to the environmental justice community.</p>

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		<p>because a science-based justification for relaxing the standard has not been provided. But the provided drafts do not prove or justify that no significant degradation to South Delta water quality will occur. The lack of any scientific basis does not provide the type of transparency that constitutes good citizen-government interactions: trust with verification.</p> <p>Second, the sizeable South Delta environmental justice community, which has not been identified in Appendix K or the RSED, would experience a disproportionate environmental and economic burden resulting from negative water quality impacts, as thousands of these residents fish for sustenance, work in farm-related employment, recreate in or near Delta waters, and/or drink water from groundwater wells fed by Delta waters or municipal water systems that draw water from the Delta.</p> <p>Third, as a result of relaxation of South Delta salinity objectives, salinity, one of the primary growth factors for harmful algal blooms, will increase in the South Delta where such blooms became more prevalent during the recent drought.</p>	<p>Please see Master Response 3.3, Southern Delta Water Quality, for responses to comments regarding why the southern Delta Salinity objectives are being updated, the scientific basis for the change, and how water quality with respect to salinity will not be degraded in the southern Delta.</p>
1302	9	<p>Harmful Algal Blooms.</p> <p>Salinity, nutrient concentrations and ratios, light access and water clarity, temperature, and water stratification and residence time are all contributing growth factors in the production of toxic algal blooms. Health impacts from microcystis bacteria found in algal blooms ranges from stomach aches to pneumonia, while other toxic bacteria can lead to liver and kidney inflammation in humans, and even death in animals.</p> <p>At a September 16, 2016 Delta Protection Commission meeting, Dr. Peggy Lehman, with the California Department of Fish and Wildlife, presented her more recent findings regarding harmful algal blooms in the Delta and answered audience questions regarding the recent proliferation of such blooms. During her presentation, Dr. Lehman presented research that microcystins exceeded safe levels for drinking water for children under the age of three starting in 2014 near Delta toxic algal bloom sites. [Footnote 4: Microcystis in the Delta. Peggy Lehman, Ph.D. Report to the Delta Protection Commission, September 2016. <a href="http://www.delta.ca.gov/files/2016/10/091516_Item_8_DrLehman.pdf">http://www.delta.ca.gov/files/2016/10/091516_Item_8_DrLehman.pdf</a>] When asked by the audience if surface water contaminated with microcystins could percolate into groundwater, contaminating those supplies, Dr. Lehman answered that such studies had not yet been completed. Consequently, it is not known if microcystins can contaminate groundwater wells adjacent to the Delta. It is known, however, that drinking water supplies contaminated with microcystins cannot be treated for safe consumption.</p> <p>Dr. Lehman also indicated that microcystins present in irrigation water can contaminate crops and that farmers in other western states have had to switch to alternative irrigation water. Switching irrigation water supplies would be impossible for South Delta farmers who pump water directly from the Delta to irrigate their crops.</p> <p>Dr. Lehman also described how microcystis blooms adversely affect phytoplankton, zooplankton, fish biomass and community composition of fish population in the Delta.</p> <p>Appendix K and the DSED do not thoroughly examine the conditions for the proliferation of toxic algal blooms when Delta inflows would be at the lower 30% range, or when temporary change petitions are used again during times of extreme drought to override San Joaquin River flow standards set in the revised Delta Water Quality Plan Update. When flows are at their lowest, nutrient ratios, water clarity, temperature, and residence time increase,</p>	<p>Please see Master Response 1.1, General Comments, for additional information on the plan amendments' anticipated environmental conditions as related to harmful algal blooms (HABs). As discussed in this master response, in general, the higher instream flows of the plan amendments would likely result in hydrodynamic conditions that are less conducive (relative to baseline) to HABs in the majority of the years. Please also reference Master Response 3.3, Southern Delta Water Quality, for addition discussion of the potential water quality effects of the plan amendments and southern Delta salinity conditions. Please also see Master Response 1.1 for a discussion of the co-equal goals (e.g., Water Code Section 85054 as identified by the commenter) as they relate to the water quality control planning process and the plan amendments.</p>

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		<p>thereby contributing to the production of algal blooms. This coupled with a weakened salinity standard in the South Delta could increase the frequency of blooms of microcystis and other harmful toxic bacteria.</p> <p>As with its treatment of a weakened South Delta salinity standard, Board staff have failed to produce science-based documentation that during times of low inflows from the San Joaquin River and a weakened salinity standard, toxic algal blooms will not proliferate. In fact, if the Board wanted to ensure that enhanced ecosystem health and water supply reliability were to be met as required under Water Code Section 85054, the RSED and Appendix K would contain flow criteria and salinity reductions for water quality improvements so as to reduce the number of toxic algal blooms during dry periods.</p>	
1302	10	<p>As with a weakened salinity standard for the South Delta, the sizeable South Delta environmental justice community, which has not been identified in Appendix K or the RSED, will experience a disproportionate environmental burden resulting from water quality impacts that could lead to the proliferation of toxic algal blooms. Mycrostis can create a public health threat for the thousands of these residents who fish for sustenance, work in farm related employment, recreate in or near Delta waters, or drink water from groundwater wells adjacent to Delta waters.</p>	<p>In providing the following response the State Water Board assumes the commenter is referring to “Microcystis,” and not “mycrostis.” Please refer to Master Response 1.1, General Comments, regarding a discussion on the potential of implementation of the plan amendments to result in the formation of harmful algal blooms (including Microcystis) in the plan area.</p>
1302	11	<p>Governor Brown and Voluntary Agreements.</p> <p>In a letter to SWRCB Chair Felicia Marcus [Footnote 5: Governor Brown’s Letter to State Water Resources Control Board Chair, Felicia Marcus. <a href="http://www.restorethedelta.org/wp-content/uploads/2016/09/SWRCB-gov-letter.pdf">http://www.restorethedelta.org/wp-content/uploads/2016/09/SWRCB-gov-letter.pdf</a>], Governor Brown urged the State Water Resources Control Board to fast track flow agreements between water users on the San Joaquin and Sacramento River watersheds as a way to bypass the public process which the Delta Water Quality Plan Update entails.</p> <p>Presently, a voluntary agreement process is underway as described on pages 36 and 37 of Appendix K.</p> <p>While Restore the Delta has pushed for a comprehensive update to the Delta Water Quality Plan for the both the San Joaquin and Sacramento Rivers before moving forward with any further processes for permitting the Delta Tunnels, Governor Brown’s request to the State Water Resources Control Board was disingenuous at best. The water needed to fill the tunnels will have to come from the watersheds of both rivers upstream of the Delta. Without additional water from these river systems, the tunnels do not pencil out economically, requiring multi-billion dollar Federal and State tax subsidies reported on over the last six months.</p> <p>While representatives involved in the voluntary agreement process are charged with considering and negotiating inflows for the Delta without consideration for the Delta tunnels, such negotiations are problematic at best, if not truly impossible. First, Friant Water Authority is not at the table and upper San Joaquin River flows above the confluence with the Merced River have been omitted from the Water Quality Plan Update. Second, water exporters are not being asked by the Board to participate in any shared sacrifice to account for past harms from water exports to Delta ecosystems. Consequently, a limited group of tributary water users are burdened with making the Delta environmentally whole, thereby generating resistance on their part to ensure adequate inflow for the Delta. Third, Delta interests are not at the table because such secret settlement processes generally result in</p>	<p>Please see Master Response 1.1, General Comments, for information regarding the relationship between the Bay-Delta Plan and other plans and programs, including California WaterFix, and voluntary agreements. California WaterFix is a completely separate project from the plan amendments and the LSJR and SDWQ alternatives described in the SED. Please be advised Water Fix is a pending adjudicatory proceeding before the State Water Board and ex parte communication prohibitions apply. The Administrative Procedure Act prohibits “direct or indirect” communications to State Water Board members about an issue in a pending adjudicative proceeding without notice and opportunity for all parties to participate. (Gov. Code, § 11430.10.) On voluntary agreement negotiations, the State Water Board is not a party to or is otherwise involved in those discussions. Appendix K acknowledges voluntary agreements because they can help inform and expedite implementation of the proposed objectives and can provide durable solutions in the Delta watershed. Any voluntary agreement to implement the proposed objectives is subject to State Water Board acceptance in accordance with Appendix K. The Governor’s letter speaks for itself and commenter’s theories on it are not comments on the plan amendments or its environmental analysis and thus no response is required.</p>

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		<p>the most powerful groups dictating the negotiations – a losing position for smaller Delta water districts.</p> <p>Moreover, the Governor’s letter to Chair Marcus continues a long and problematic tradition of governors interfering with State Water Board deliberations and decisions. Pete Wilson rejected a draft water rights decision in 1993 after water contractors complained about its effects on them. A voluntary agreement to promote salmon friendly flows on the San Joaquin River for 12 years failed to protect salmon.</p> <p>On the surface, Governor Brown’s letter elucidated an understanding that Delta flow and water quality objectives should be considered as a unitary whole, unlike what the Board has proposed. On this narrow point, Restore the Delta actually agrees with the Governor. But our agreement ends there.</p> <p>The Governor’s motivations to accelerate voluntary agreements, now embraced in Appendix K, go beyond his stated wish to urgently “improve our aquatic ecosystems” and are truly a mechanism to benefit his treasured tunnels project.</p> <p>Chair Marcus and Board Member Tam Doduc have stated their willingness to consider voluntary agreements for appropriate flow objectives in the Tunnels proceeding now under way—but only after all the evidence submitted by all parties to the proceeding is in and has been vetted.</p> <p>Clearly, Governor Brown hoped to short-circuit the water board’s vetting process with this letter as have California’s governors before him. The resulting “voluntary agreement” negotiations will become a water grab from all the rivers of the Central Valley for the water exporters. It is a shame that Governor Brown does not recognize the true environmental and economic value of a healthy San Francisco Bay-Delta estuary, but only the value of water exported for profit. The Delta Water Quality Plan Update should only be conducted as a public process held up to scrutiny by concerned Californians and the press.</p>	
1302	12	<p>Appendix K and the Draft RSED fail to address adequately two key questions for this plan update: 1) What are the Delta’s needs for good water quality for its many beneficial uses, and to meet various state water policy objectives for the Delta, including environmental justice policies and mandates? 2) How should the Delta’s beneficial needs be met through establishment and enforcement of water quality objectives that protect the environment, and all Delta communities, including environmental justice communities?</p>	<p>The plan amendments protect fish and wildlife and agricultural beneficial uses, as set forth in extensive analyses in the SED. Please refer to Master Response 1.2, Water Quality Control Plan Process, on the consideration and protection of beneficial uses. Refer to SED Chapters 13, Service Providers, and Chapter 22, Integrated Discussion of Potential Municipal and Domestic Water Supply Management Options, Master Responses 2.7 Disadvantaged Communities and 3.6 Service Providers regarding drinking water quality and the consideration of Human Right to Water.</p>
1303	1	<p>There are major social and economic issues associated with increasing flows in the tributaries to the San Joaquin River. Areas in the Central Valley are experiencing high unemployment because of the lack of agricultural jobs caused by fallowing fields in response to reduced water allotments. And there is a loss of fishing jobs as well with the closure of commercial salmon fishing.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1303	2	<p>This is not just a fish matter, the Bay-Delta includes extensive wetlands that help support many species of birds along the Pacific Flyway, and support many of our citizens which enjoy the thrill of bird watching and hunting. There are over 500 species of fish and wildlife that depend on this critical resource. Flows must be sufficient to reconnect with and replenish the wetlands and other floodplains, especially the freshwater wetlands that are threatened with rising sea levels.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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1303	3	Efforts to date to balance the interests of water users and the environment have failed to sustain and protect the Bay Delta System, one of the most spectacular and beautiful estuaries in the world. One in which many Californians take pride, and one which historically supported magnificent runs of salmon and steelhead. So we are encouraged by the State Water Resources Control Board's facing this challenge and evaluating the need to increase flows and improve water quality in this system.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1303	4	We encourage the Board, stakeholders and environmental and conservation groups to support a science based adaptive management plan in each watershed that: incorporates measures to increase unimpaired flows along with synergistic non-flow restoration measures, monitors and evaluates programs to evaluate effectiveness of implementation measures and progress towards the goals, and adjusts the plan over time in response to what we learn and to ensure that the goal of restoring healthy and sustainable runs of salmonids is achieved.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1303	5	We must and can succeed in this. There is ample evidence that we all can do more in conserving and better utilizing this scarce resource. Urban water users have shown their willingness to conserve water, and farmers have shown that, with proper incentives, they can improve agricultural water efficiency. Please help California restore the Bay Delta System for the sake of our future citizens and for these majestic fish species.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1304	1	<p>For the 2015-16 crop year, the farm-gate value of California Almonds was \$5.3 billion from approximately 890,000 bearing acres. Per USDA-NASS, there were 1,110,000 total acres for the 2015 growing season. Through farming, manufacturing, and associated industries, the California Almond industry creates over 104,000 jobs throughout the state with 97,000 jobs in the Central Valley, an otherwise economically depressed region.[Footnote 1: Sumner, D., Matthews, W. Medellin-Azuara, J. and Bradley, A. 2014. The Economic Impacts of the California Almond Industry. UC Agricultural Issues Center.] As the #1 specialty crop export for the US, with over 80% of global supply, almonds also provide food security and nutrition to the world.</p> <p>There are many ingredients to the California Almond industry's success. In addition to having the right soils, climate, personnel, and technology, as an industry we must also have a reliable water supply.</p>	Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, and Master Response 8.2, Regional Agricultural Economic Effects, for information regarding local and regional economic agricultural effects, including economics and employment. This comment does not make a general comment regarding the plan amendments or raise significant environmental issues. No further response is required.
1304	2	Fisheries require many ingredients to be successful. These include non-flow measures such as sufficient spawning gravels, access to floodplain habitat, reduced predation, good ocean conditions, proper temperature, and biologically functional surface water flows. Although described more simply as unimpaired flows, the SED's program of implementation prescribes adaptive management of these flows, targeting them in the right volumes and times to best benefit salmon and other fish.	<p>Please refer to Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives; Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30; and Master Response 3.1, Fish Protection, for information regarding the adequacy of the plan amendments for providing fish protection.</p> <p>Please refer to Appendix K, Revised Water Quality Control Plan, and Chapter 16, Evaluation of Other Indirect and Additional Actions, for descriptions of the recommended non-flow actions including, but not limited to, habitat restoration, gravel augmentation, predator reduction, and temperature maintenance. Please refer to Master Response 5.2, Incorporation of Non-Flow Measures, regarding non-flow measures and their role in the plan amendments.</p> <p>Please also refer to Appendix K for a description of the adaptive implementation methods to make adjustments to the February through June unimpaired flow requirements, and Master Response 2.2, Adaptive Implementation, for more clarification of adaptive implementation.</p>

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1304	3	<p>Ideally, managers of both agriculture water supplies and fish flows make maximum use of limited water supplies. The California Almond industry, through the ABC and the Alliance, has made significant investments in research into and implementation of sustainable solutions for agricultural water supply, including efficiency, conservation, and storage. Most recently through the Accelerated Innovation Management (AIM) program, the ABC and the Alliance has promoted use of new water conservation technologies. California Almond farmers have decreased water use per pound by 33 percent over the last twenty years. Given increased pressure on aquifers, we are also developing cutting edge mapping and grower implementation tools to recharge groundwater storage through storm water diversion to dormant almond orchards.</p> <p>Water managers and regulatory agencies have similarly invested in research to improve fishery management given limited water supplies, particularly during drought.</p>	<p>The commenter provided information regarding the almond industry’s research and progress in water management over the years. This comment does not make a general comment regarding the plan amendments or raise significant environmental issues. No further response is required.</p>
1304	4	<p>We [Almond Alliance of California] recognize the challenge faced by the State Water Resource Control Board (Water Board) in developing policies that both support regional agriculture and restore healthy native fish populations. We support efforts to create a healthy balance based on sound science and best available technologies, maximizing benefits from each drop of water. Therefore, this letter addresses whether the proposed project successfully balances beneficial fishery and human uses, the explicit goal of the Water Board’s process, by listing and describing our concerns with and recommendations for the project and the Substitute Environmental Document (SED) analysis. These comments and recommendations should also be used in the development of negotiated agreements. Critically, the project and any agreements should incorporate specific mitigation measures for regional agriculture resulting from any loss in surface water supply.</p>	<p>Please see Master Response 1.1, General Comments, regarding voluntary agreements and for information on the State Water Board’s authority and consideration of beneficial uses. Please see Chapter 11, Agricultural Resources, Section 11.5, Impacts and Mitigation Measures, for information about mitigation measures related to agricultural resources. Please also see, Master Response 1.1, General Comments, regarding mitigation measures proposed throughout the SED.</p>
1304	5	<p>Negotiated Agreements. Additional time during the comment period extension may create space for negotiated agreements desired by the Brown administration [Footnote 2: Letter from Governor Jerry Brown to Chairwoman Felicia Marcus. September 19, 2016] that improve the balancing process, improve agricultural and fishery water management, and address impacts in a more reliable and less confrontational fashion. Continued stakeholder discussions could also lead to development of a project and analysis that better reflects local interests, practical system engineering and management concerns, and lack of integration with related legislation and policy at all levels of government.</p> <p>Negotiations with irrigation districts on behalf of agriculture and other stakeholders will be led by the California Natural Resources Agency (Resources Agency). Ongoing programs by irrigation districts already combine regulatory flow requirements with habitat improvements and other non-flow measures and are supported by high quality science.</p> <p>These programs and science generated by irrigation districts to improve native fish habitat should form the basis for negotiated agreements.</p> <p>At the same time, we encourage the Water Board and Resources Agency to engage with farmers and stakeholders outside districts and analyze project impacts to their water supply. Almond farmers outside irrigation districts would be negatively affected by the project due to loss of groundwater recharge from lost surface water supplies and increased groundwater pumping within irrigation districts.[Footnote 3: SED p.9-62] Districts that are partially dependent on surface diversions from affected tributaries should also be included in negotiations.</p>	<p>Please see Master Response 1.1, General Comments, and Master Response 1.2, Water Quality Control Planning Process, for discussions on State Water Board support of voluntary agreements, and the water quality control planning process and Bay-Delta proceedings, including the State Water Board's protection of beneficial uses in the Bay-Delta and tributary watersheds through independent proceedings.</p> <p>For information on impacts to groundwater resources, including reduced recharge and the potential increases in groundwater pumping, and SED consideration of sustainable groundwater management, please see Chapter 9, Groundwater Resources, and Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act.</p> <p>For information on potential impacts of the plan amendments on agriculture, please see Chapter 11, Agricultural Resources, and Master Response 3.5, Agricultural Resources.</p> <p>Please see Appendix K, Revised Water Quality Control Plan, and Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the purpose of the proposed Stanislaus, Tuolumne and Merced (STM) Working Group. Appendix K states that the STM would “[A]ssist with the implementation, monitoring and effectiveness assessment of the February through June LSJR flow requirements. Specifically, the State Water Board will seek recommendations from the STM Working Group on biological goals; procedures for implementing the adaptive methods described above; annual adaptive operations plans; and the SJRMEP, including special studies and reporting requirements.”</p>

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		<p>In general, Water Board processes and decisions should lead towards a coherent, integrated, and holistic view of agricultural water policy and supply statewide. This is particularly important for the almond industry, given our wide geographic distribution and diverse water supply sources. Groundwater, riparian, district supplied, and project water need to be managed through consistent policies that collectively support continued farming.</p> <p>It is difficult to perform this type of planning with multiple, distinct, and potentially conflicting regulatory processes. We, therefore, encourage analysis and decisions in Phase 2 proceedings for the Sacramento River and Delta outflow, which also bear on San Joaquin River fish, to be analyzed and decided together with Phase 1. Given groundwater impacts under the proposed Bay-Delta Plan amendments, analysis of SGMA and its impacts to agriculture should be part of the SED analysis and Water Board decision-making process. Similarly, the Water Board should ensure that any actions related to unimpaired flows reflect the impact of recent federal legislation providing funding for research, protection, and restoration of both salmon in the Sacramento River and Delta Smelt. This legislation, providing benefits to native species that are also the desired beneficiaries of increased unimpaired flows, should be reconciled with any decision by the Water Board.</p>	
1304	6	<p>To improve fish habitat and temperature, the Bay-Delta Plan amendments propose requiring a certain amount of unimpaired flow within the three major tributaries to the Lower San Joaquin River, thereby reducing the amount of surface water supply available for irrigated agriculture. Surface water restrictions will be felt by those reliant on irrigation district supplies from these watersheds and farmers reliant on groundwater supplies recharged by surface irrigation within irrigation districts. Impacts to riparian diverters along tributaries weren't described or analyzed.</p>	<p>Much of this comment is correct and these impacts are described in Chapter 13, Service Providers, and Chapter 11, Agricultural Resources.</p> <p>Farmers currently reliant on groundwater supplies are expected to continue to rely on groundwater supplies. Some farmers who currently rely on groundwater potentially may need to construct new wells or deepen existing wells if groundwater levels drop below the levels of their existing wells prior to full implementation of SGMA. Potential economic effects associated with modifications to groundwater pumping and well construction are discussed in Chapter 20, Economic Analyses, and Appendix G, Agricultural Economic Effects of Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results. For more information regarding economics and groundwater pumping, refer to Master Response 8.1, Local Agricultural Economics Effects and the SWAP Model.</p> <p>Riparian diverters are not expected to be affected by the LSJR Alternatives due to their small volume and seniority. As stated in Appendix F.1 on page F.1-38:</p> <p>"Riparian and minor demands are fully met, because these diverters are considered senior to appropriative ones."</p>
1304	7	<p>In the project area, the SED estimates 115,066 acres of almonds cultivated within irrigation districts and 123,885 acres outside irrigation districts.[Footnote 4: SED Table G.4-3; G.3.2] There isn't an estimate of growers using riparian rights and river pumps. Within the project area, the SED estimates that almonds constitute over 20% of all irrigated acreage both within and outside irrigation districts. Given their extent, almond farming and production stands to be heavily impacted. The SED, however, largely dismisses the potential for impacts based on several assumptions, many of which were called into question during the hearings.</p>	<p>Please see Master Response 1.1, General Comments, regarding a description of programmatic analyses under CEQA. Please see Chapter 11, Agricultural Resources, Section 11.5, Impacts and Mitigation Measures, for information about mitigation measures related to agricultural resources. Please see Master Response 3.5, Agricultural Resources, and Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for information on crop acreage and mix and the geography used for the agricultural resource analyses and the local agricultural economic effects analysis. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding the geography of the subbasins used in the groundwater analyses (Chapter 9, Groundwater Resources, and Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results). In the WSE model we model riparian diversions based on CALSIM II data (see Appendix F.1, Hydrologic and Water Quality Modeling Section F.1.2.4). The SED assumes that there will be no cuts to riparian diversion so there will be no impact on riparian diverters. For the other areas outside of the districts, the SED assumes that they will continue to pump groundwater as they always have, and thus there will be</p>

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Ltr#	Cmt#	Comment	Response
			no impacts in those areas.
1304	8	<p>Based on our experience and research, combined with testimony and reports provided or referenced during the hearings from irrigation districts, affected counties, and our constituent almond growers, the ABC and the Alliance has identified the following concerns with the project and the SED analysis that result in inaccurately reducing estimates of impacts to agriculture, inflating fish benefits, and missing the mark on overall balancing:</p> <p>Project balancing. While fishery benefits from unimpaired flows are studied in depth and quantitatively still relatively limited, impacts to agriculture are not fully analyzed and are potentially expansive, particularly for permanent crops. Balancing requires developing accurate estimates of benefits for and impacts to all beneficial uses [Footnote 5: SED Table 5-3] and selection of the least damaging alternative necessary to achieve fishery goals, maximizing non-flow, adaptive management methods and mitigating impacts to farm water supply.[Footnote 6: See p.18-1 and ES-21]</p>	<p>Please see Master Response 1.1, General Comments, regarding consideration of beneficial uses, a discussion of mitigation measures proposed throughout the SED, and a description of programmatic analyses under CEQA. Please see Master Response 1.2, Water Quality Control Planning Process, regarding the authorities governing the water quality control planning process and consideration of beneficial uses. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding the tools used to evaluate water supply (e.g., Water Supply Effects Model) as appropriate for the water quality control planning process. Please see Chapter 11, Agricultural Resources, Section 11.5, Impacts and Mitigation Measures, for information about mitigation measures related to agricultural resources. Please see Master Response 3.5, Agricultural Resources, and Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for information on permanent crops related to agricultural resources and local economic effects, respectively. Please see Master Response 5.1, Incorporation of Non-Flow Measures, regarding the complementary effects of non-flow measures in conjunction with flow requirements. Please see Chapter 18, Summary of Impacts and Comparison of Alternatives, for information regarding the environmental superior alternative and the alternative which meets the purpose and goals of the plan amendments.</p>
1304	9	<p>Based on our experience and research, combined with testimony and reports provided or referenced during the hearings from irrigation districts, affected counties, and our constituent almond growers, the ABC and the Alliance has identified the following concerns with the project and the SED analysis that result in inaccurately reducing estimates of impacts to agriculture, inflating fish benefits, and missing the mark on overall balancing:</p> <p>Stakeholder Engagement and Process. Lack of engagement with irrigation districts and agricultural stakeholders during development of the project and analysis resulted in missing germane fish science and underestimation of water supply and agronomic impacts. Prioritizing development of negotiated agreements during the extended comment period should address this collaborative shortcoming but still may not be sufficient given complex and simultaneous state and federal policy and regulatory processes.</p>	<p>Please see response to comment 1304-5 regarding State Water Board consideration of beneficial uses and the voluntary agreement process within the context of the water quality control planning process.</p> <p>Please see Master Response 1.1, General Comments, regarding engagement with stakeholders during the public outreach process and responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues.</p>
1304	10	<p>Based on our experience and research, combined with testimony and reports provided or referenced during the hearings from irrigation districts, affected counties, and our constituent almond growers, the ABC and the Alliance has identified the following concerns with the project and the SED analysis that result in inaccurately reducing estimates of impacts to agriculture, inflating fish benefits, and missing the mark on overall balancing:</p> <p>SGMA policy conflicts. Combined impacts of recent groundwater legislation and project implementation are considered speculative, inappropriately delaying a complete analysis, creating a major policy conflict for farmers and system operators, and limiting conjunctive management, groundwater recharge, and storage opportunities. A more supportive, holistic, and statewide approach to agricultural water policy and planning is needed, particularly given the almond industry's role as a regional engine for economic growth dependent on diverse water supplies.</p>	<p>A holistic and statewide approach must be adopted to manage California's scarce water resources. Such an approach should include demand-side and supply-side measures as part of a new and innovative framework that optimizes use of limited groundwater and surface water, and does not trade impacts between surface water and groundwater.</p> <p>Groundwater overdraft conditions in the plan area are legacy issues caused by unsustainable agricultural expansion. SGMA was passed by the legislature in 2014 to address the negative impacts of overdraft. The State Water Board also has a legal mandate to reasonably protect fish and wildlife beneficial uses, which it is proposing to do with the plan amendments. The State Water Board cannot abdicate its responsibilities because local agencies assert it will be challenging to achieve sustainable groundwater management without relying on existing or increased levels of surface water diversions. The State Water Board acknowledges it will be challenging, but SGMA compliance cannot occur at the expense of reasonably protecting surface water beneficial uses; both groundwater and surface water must be protected.</p> <p>Implementation of the LSJR flow objectives do not conflict with SGMA. Rather, both processes allow local entities to comprehensively address groundwater and surface water resources through integrated planning that does not trade impacts between surface water and groundwater. Under SGMA, GSAs will define what sustainability means at the local level based on the needs of the beneficial uses and users of groundwater in each basin. Any future GSPs would have to account for projected availability of surface water in accordance with relevant water regulations, including the proposed plan amendments.</p>

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Ltr#	Cmt#	Comment	Response
			<p>The SED reflects the historical local response to increase groundwater pumping when surface water availability is reduced, but the SED and plan amendments do not require or encourage increased groundwater pumping as a response to reductions in surface water. Actions water users could take to replace surface water are described in the SED (Chapter 16, Evaluation of Other Indirect and Additional Actions, Section 16.2, Lower San Joaquin River Alternatives—Other Indirect Actions); substitution of surface water with groundwater is only one of the actions. It will be up to local entities to determine the precise actions that would be taken in response to implementation of the plan amendments, with or without the future condition of SGMA.</p> <p>The State Water Board strived to use best available science and information for the SED, and wrote the SED as objectively and completely as possible—following the appropriate legal process and in compliance with the regulations that govern certified regulatory programs. The SED is a program-level (not project-level) first-tier evaluation, consistent with CEQA Guidelines, Section 15168. Therefore, the groundwater impact analysis conducted for the SED was appropriate for a programmatic review. It is also important to clarify that the groundwater impact analysis is not speculative. As stated in Chapter 9, Groundwater Resources and further articulated in Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, SGMA was not included in the groundwater impact analysis, because the SED baseline predates SGMA, no GSPs were developed before the release of the Recirculated SED, and it is unknown what actions GSAs will take to achieve the sustainability goal. Therefore, any impact assessment would be speculative and beyond the scope of the SED. Furthermore, groundwater recharge and storage opportunities will be considered by GSAs through GSP development, and estimating those parameters is beyond the scope of the SED. However, SGMA was properly considered in the analyses, both as an existing legal requirement to prevent further degradation of groundwater basins and as a potential cumulative limit on future irrigation supplies.</p> <p>Please see Master Response 1.1, General Comments, for a discussion regarding the scope of the SED and the requirements of CEQA for program-level review.</p> <p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for further discussion on groundwater overdraft as a legacy issue, consideration of SMGA in the SED, groundwater recharge, and compliance of SMGA in the context of the plan amendments.</p> <p>Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, and Master Response 8.2, Regional Agricultural Economic Effects, for information regarding agricultural economic effects.</p> <p>Please See Master Response 3.1, Fish Protection, for discussions regarding the protection of fish, potential environmental impacts on aquatic biological resources, and measurable benefits to aquatic resources from the plan amendments.</p>
1304	11	<p>Based on our experience and research, combined with testimony and reports provided or referenced during the hearings from irrigation districts, affected counties, and our constituent almond growers, the ABC and the Alliance has identified the following concerns with the project and the SED analysis that result in inaccurately reducing estimates of impacts to agriculture, inflating fish benefits, and missing the mark on overall balancing:</p> <p>SWAP economic analysis. Errors, omissions, and unsupported assumptions, including low acreage estimates and farmers’ ability to transfer reduced water supplies to higher value crops such as almonds, resulted in a significant underestimation of economic impacts. Once released, methods drawn from local counties’ economic analyses should be included to develop a more accurate representation of likely effects on agriculture from limiting surface</p>	<p>Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for discussion the SWAP model and its assumptions. Also, please see Master Response 8.2, Regional Agricultural Economic Effects, for discussion of the economic analysis performed by Stratecon, Inc.</p>

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Ltr#	Cmt#	Comment	Response
		water diversion.	
1304	12	We [Almond Alliance of California] welcome engagement with the Water Board to address these issues and stand ready to help develop agreements that support continued farming and improved ecological conditions for aquatic species.	Please see Master Response 1.1, General Comments, for responses to comments that either raise a general comment on the plan amendments or do not raise a significant environmental issue.
1304	13	The Water Board’s proposed amendments to the Bay-Delta Plan should effectively balance competing uses through a project that produces desired results with the least pain. Many speakers referred to the small amount of additional salmon (1,103) that the Water Board estimates would be produced by the project.[Footnote 7: SED p. 19-34] Although the Water Board says this is a misuse of the SalSim number, this qualified figure still must be compared to certain and significant impacts to agriculture, local economies, and water supplies.	See Master Response 3.1, Fish Protection regarding SalSim.  See Master Response 1.2, Water Quality Control Planning Process, regarding the water quality control planning process and the need for balancing and reasonable protection of beneficial uses.
1304	14	Unimpaired flows alone in the Lower San Joaquin River will not restore healthy fisheries. As was frequently mentioned at hearings, and as acknowledged by the SED, building healthier fisheries will require adaptive management, more functional flows, and non-flow measures. The requirement to use the full amount of unimpaired flow, regardless of demonstrated aquatic need and alternative beneficial uses, unnecessarily removes flexibility. For example, in any given water year type, there may be good reasons to increase stormwater capture through groundwater recharge in quantities above unimpaired percentages. In fact, expanding winter and spring flooding of agricultural areas more closely resembles historical floodplain conditions than solely increasing higher flows within a leveed river.	The plan amendments does not require the full amount of unimpaired flow, and the plan amendments are designed to be flexible to maximize benefits. Please refer to Master Response 1.1, General Comments, and Master Response 2.1, Amendments to the Water Quality Control Plan, for further information regarding the plan amendments. Please refer to Master Response 3.1 regarding the benefits of the plan amendments.  See Master Response 2.2, Adaptive Implementation, regarding adaptive implementation and flexibility. See Master Response 3.1, Fish Protection, for information about functional flows.
1304	15	Given the multiple stressors on fish populations in the Lower San Joaquin River, some of which are only addressed in Phase 2, Phase 1 and 2 proposed actions and estimated fish improvements must be harmonized to fully balance water supply impacts to the region’s agriculture relative to statewide biological benefits.	Please see response to comment 1304-5 regarding the water quality control planning process and State Water Board consideration of beneficial uses within the context of the water quality control planning process.
1304	16	There are clear issues with balance in regards to impacts to agriculture from the combination of diminished surface water flows resulting from the Project and reductions in groundwater pumping under SGMA. These are not fully analyzed as they are considered prospective and “speculative,” but it is imperative that the proposed amendments are consistent with other statewide policies such as SGMA.	Please see response to comment 1304-8. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act for information on the plan amendments and the relationship to SGMA.
1304	17	There is still uncertainty and speculation surrounding how much fishery improvement will be garnered from flows alone, without additional non-flow measures. Impacts to agricultural water and groundwater seem much more certain than the benefits of increased flows alone for fish and require clear mitigation measures.	Please refer to Master Response 5.2, Incorporation of Non-Flow Measures, regarding incorporation of non-flow measures. Please see Master Response 3.1, Fish Protection, regarding the benefits and scientific basis of the plan amendments. See Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, Sections 3.6 and 3.7, regarding flow effects on fish survival and abundance.
1304	18	Many speakers highlighted the minimal proposed mitigation given the level of significant and unavoidable impacts to agriculture and other users. Specific mitigation measures should be further developed at the programmatic stage. The types of measures described by the Water Board in water efficiency improvements [Footnote 8: SED pp. 11-49, 50] can be expanded with examples from current projects, such as lining canals, pressurizing irrigation delivery systems, and new recycled water supplies (e.g. South San Joaquin Irrigation District (SSJID) pressurization project, North Valley Regional Recycled Water Program).  Other sustainable solutions are being developed through the ABC and the Alliance research and the AIM program that are in line with potential mitigation measures including targeted groundwater recharge projects during almonds’ dormant period.[Footnote 9: SED p.9-61]	Please see Master Response 1.1, General Comments, regarding the mitigation measures proposed throughout the SED, including Chapter 11, and the State Water Board’s authorities related to mitigation measures. Please see Master Response 3.5, Agricultural Resources, regarding illustrative examples of demand management associated with reductions in water supply as mitigation measures. Also see Master Response 3.5 for information regarding management of permanent crops . Please see Master Response 3.4, Groundwater and Sustainable Groundwater Management Act, regarding the plan amendments and the relationship to SGMA.

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Ltr#	Cmt#	Comment	Response
		<p>Implementation of these programs, and integrating management of diverse water supplies more generally, would become more difficult if surface water supplies are reduced. The project should, therefore, be consistent with other statewide policies such as the Sustainable Groundwater Management Act (SGMA) and increased local self-reliance by more directly encouraging increased groundwater storage.</p>	
1304	19	<p>Stakeholder Engagement and Process. The process left out local irrigation districts and their fish science.</p> <p>The lack of engagement with local irrigation districts that was described in the hearings is troubling. The Modesto Irrigation District (MID) and Turlock Irrigation District (TID) on the Tuolumne, and Merced Irrigation District on the Merced, have spent tens of millions of dollars on fish studies for FERC relicensing of their dams. Oakdale Irrigation District (OID) and SSJID have also done extensive fish studies on the Stanislaus. Per testimony from the districts, fish studies they prepared for FERC relicensing and continued operations were not included in the SED analysis. Had these studies been included, plans for functional, focused flow releases could have been more clearly proposed in the project description, rather than vaguer and potentially unnecessarily damaging unimpaired flows and adaptive management.</p> <p>As an example, testimony from researchers on the Stanislaus River has highlighted the importance of predator control. [Footnote 10: Written Testimony of Doug Demko. February 10, 2016. United States House of Representatives Subcommittee on Water, Power, and Oceans. The Costly Impacts of Predation and Conflicting Federal Statutes on Native and Endangered Fish Species] The benefits of large attractant flows in the fall has also been questioned.[Footnote 11: Environmental Factors Associated with the Upstream Migration of Fall-Run Chinook Salmon in a Regulated River. December 21, 2016. Peterson, Matthew L. Fuller, A., Demko, D. North American Journal of Fisheries Management] This study and testimony further highlight the importance of incorporating locally generated science.</p> <p>There is clearly a need to combine flow and non-flow measures, such as targeted habitat restoration and predator control, to achieve fishery improvements given that studies, including VAMP, have shown the limitations of a sole focus on flows for fisheries improvements.[Footnote 12: The Vernalis Adaptive Management Program (VAMP): Report Of The 2010 Review Panel. 2010. Delta Science Program.] The Department of Water Resources (DWR) provided testimony questioning the appropriateness of using a “flow-only” approach to protecting fish and wildlife beneficial uses.[Footnote 13: DWR oral testimony on January 3, 2017.] The SED states that, “flow alone cannot solve the many issues that native fish populations face in the SJR Watershed.”[Footnote 14: SED p. 19-88 and Appendix K Program of Implementation] The expected benefits of flows alone, as shown in the SalSim model, are limited.</p> <p>As mentioned, ongoing efforts by local irrigation districts to improve native fish habitat along the three tributaries, combining existing regulatory flow shaping and strategic releases with habitat improvements and other non-flow measures, should form the basis for negotiated agreements, or where absent be created through new initiatives with local stakeholders (e.g. Merced ID’s S.A.F.E. plan).</p> <p>For the purposes of adaptive management, goals and success should be measured and expressed as an increase in actual population numbers, rather than solely flow-based habitat measurements that may or may not lead to fish production without non-flow</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues. See Master Response 1.2 regarding the water quality control planning process. See Master Response 2.2, Adaptive Implementation, regarding biological goals and the governance and role of the Stanislaus, Tuolumne, and Merced (STM) Working Group.</p> <p>Please also refer to Master Response 3.1, Fish Protection, regarding functional flows, adaptive implementation, Salsim, and the use of best available science; Master Response 2.1, Amendments to the Water Quality Control Plan, regarding modifications to the plan amendments and non-flow measures; Master Response 3.2, Surface Water Analyses and Modeling, regarding use of best available information as it relates to modeling and flow shaping/shifting; and to Master Response 5.2, Non-flow Measures, for consideration of non-flow measures needed in addition to the implementation of a more natural flow regime.</p> <p>Please also refer to Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, regarding other alternatives.</p> <p>See Master Response 3.1 regarding the predation study on the Tuolumne River which is related to the testimony of Doug Demko cited by the commenter.</p> <p>The pulse flow study on the Stanislaus River (Matthew L. Peterson, Andrea N. Fuller &amp; Doug Demko (2017) Environmental Factors Associated with the Upstream Migration of Fall-Run Chinook Salmon in a Regulated River, North American Journal of Fisheries Management, 37:1, 78-93), was conducted to evaluate the effects of flow on the migration of adult fall-run Chinook salmon during the fall time period which has nothing to do with the plan amendments which seeks to improve conditions during the spring time period for rearing and migrating juvenile salmon and steelhead, and other native fish. Furthermore, the study found evidence that both temperature and dissolved oxygen conditions affected the overall run timing of adult Chinook salmon at the Stanislaus River weir, but the study fails to acknowledge that flow conditions affect temperature and dissolved oxygen. Additionally, understanding how environmental conditions during adult migration and pre-spawn holding effect egg viability is something that the study fails to consider but is extremely important to overall success of reproduction. Finally, the study authors (Matthew L. Peterson, Andrea N. Fuller &amp; Doug Demko) recommend (page 91 of their publication) that if pulse flows are continued, that they: (1) be conducted in a more experimental fashion; and (2) they mimic the natural hydrograph for the time of year. Both of these recommendations are supportive of the proposed plan amendments described in SED. The plan amendments seek to more closely mimic the natural hydrograph during February through June, and seeks to allow flexibility through adaptive implementation for experimentation.</p> <p>Many other sources of information generated by the water districts have been considered and some of them referenced in the plan amendments. It is important to note that despite the large number of studies and the millions of dollars spent by the districts that native fish populations are continuing to decline in the plan area. The plan amendments are intended to address this problem.</p>

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Ltr#	Cmt#	Comment	Response
		measures.	
1304	20	<p>Reservoir carryover requirements reduce water supply beyond just unimpaired flows</p> <p>Every irrigation district highlighted the additional impact “carryover storage” would have on their ability to meet irrigation demand and the lack of an accurate analysis of these impacts in the SED. Carryover requirements, as determined by the STM advisory committee rather than irrigation district staff or board, could force districts to hold onto spring flows produced within the February-June time period, shifting use to the fall to maintain a minimum cold-water pool for fish temperature needs. If blocs of water go unused, districts could be required to further carry them over into next year. This loss of operational flexibility and storage has potentially big impacts on water supply. At the Modesto hearing, TID said their supply under the Project proposal would have resulted in zero allocation in 2014 and 2015. The effective size of the storage at New Don Pedro dam would be 450TAF, slightly larger than the original Don Pedro dam at 300TAF. This would result in providing a full water supply in only 5 of 26 years. Tim O’Laughlin from the San Joaquin Tributaries Authority argued at the Merced hearing this wasn’t even a legally allowed action by the Water Board.</p> <p>Draining reservoirs also runs counter to California voters’ preference, as expressed through passage of Proposition 1, which included a goal of creating more water storage capacity in the state.</p>	<p>Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the LSJR flow program of implementation, including discussion of carryover storage. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding reservoir operations assumptions, including carryover storage.</p> <p>The State Water Board appropriately modeled potential reservoir operations using a set of simplifying assumptions (including carryover storage) to describe the range of potential environmental impacts in such a way that the public and the State Water Board can compare the relative effects. The model results present a range of potential and likely generalized operations, sufficient to evaluate water supply and other effects of the plan amendments from a programmatic perspective. The program of implementation does not establish specific carryover requirements to avoid constraining future implementation. Specific carryover or other requirements will be established when implementing the plan amendments through future water right and water quality proceedings.</p> <p>Please see Master Response 2.1, Amendments to the Water Quality Control Plan, for information on the STM Working Group.</p> <p>To review responses to comments submitted by other entities within the comment period on the 2016 Recirculated Draft SED, please refer to the index of commenters in Volume 3 to locate the letter number(s) of interest.</p>
1304	21	<p>Use of averages hides true impacts, particularly for permanent crops.</p> <p>The SED and Water Board members often used average supply impacts, rather than acknowledging the impact a single year of no water supply would have on farming operations. Impacts are particularly devastating to permanent crops like almonds, and to small farmers without access to substitute supplies such as groundwater. As highlighted by former California Secretary of Food and Agriculture Bill Lyons’ testimony in Modesto, the impact of a single year water supply deficit of as much as 40% in a dry or critically dry water year, much less multiple back to back years, will harm production and potentially kill trees. Research done by the ABC and the Alliance has also shown that deficit irrigation and drought stress on almond trees harms production in subsequent years.[Footnote 15: Shackel, K. 2012. Drought Survival Strategies for Established Almond Orchards on Shallow Soil. Almond Board of California Research Update.]</p> <p>The SED economic analysis should therefore be clear about potential impacts of single year reductions, and include reduced production estimates in subsequent years for permanent crops.</p>	<p>Please see Master Response 2.3, Presentation of Data and Results in SED and Responses to Comments, for discussion of why average results were presented. In addition, please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, and Master Response 8.2, Regional Agricultural Economic Effects, for presentation of the results of the revised SWAP model run averaged by water year type. Finally, please also Master Response 8.1 for discussion of how SWAP models permanent crops and stress irrigation.</p>
1304	22	<p>SGMA policy conflicts. Delayed analysis of SGMA impacts understates project impacts and may overstate flow benefits Many speakers spoke to how estimates of increased groundwater pumping resulting from decreased agricultural surface water supplies, as assumed in the Water Supply Effects model, will be in potential conflict with allowable and sustainable levels under SGMA. However, because effects “cannot be determined at this time with precision,” due to their speculative nature,[Footnote 16: SED p. 9-3] assumptions of groundwater substitution for agriculture result in understating actual long-term reductions in water supply.</p> <p>The recent drought is used as an example of agriculture’s ability to increase groundwater</p>	<p>Please see response to Comment 1304-10.</p>

Table 4-1. Responses to Comments

Ltr#	Cmt#	Comment	Response
		<p>pumping in response to lost surface water supply. Semi-permanent restrictions because of policy changes are not analogous to temporary drought accommodation that relies on increased groundwater pumping.</p> <p>The SED should therefore integrate analysis of the combined water supply and quality impacts of unimpaired flows and SGMA compliance on agriculture.</p> <p>There is a significant challenge in making water policy when on the one hand SGMA encourages local self-reliance including groundwater sustainability and recharge, while on the other the project would limit surface water supplies and reduce groundwater recharge. Conjunctive use opportunities to store surface water through groundwater recharge in wet years, with withdrawal in dry years, would therefore be reduced (without mitigation).</p>	
1304	23	<p>An impact not analyzed in the SED -- should farmers increasingly rely on groundwater on a long-term basis and not just in drought years -- is that assumed increased in-stream flows could be lost to expanding regional groundwater depressions. The SED briefly discounts this possibility as “unlikely” through reference to a USGS model.[Footnote 17: SED p. 9-14] The USGS report on this model, however, cautions against drawing just this sort of conclusion and cites the “substantial uncertainty” associated with the 2 cfs/mile estimate.[Footnote 18: See pp. 65-66 in: Phillips, S.P., Rewis, D.L., and Traum, J.A. 2015. Hydrologic model of the Modesto Region, California, 1960–2004: U.S. Geological Survey Scientific Investigations Report.] The assumptions of limited groundwater-surface water interaction is also contradicted by a later section: “If a groundwater basin has a large volume of average inflow, outflow from the basin is also high because groundwater would drain to the rivers when groundwater elevations are high. Under these conditions, it is possible to pump groundwater without affecting groundwater elevations, although river flows would likely be affected.”[Footnote 19: SED p.9-47, emphasis added]</p>	<p>The two statements noted in the comment are not contradictory. The discussion on the “Interaction between Rivers and Groundwater” in Chapter 9, Groundwater Resources, Section 9.2.1, San Joaquin Valley Groundwater Basin and Subbasins, references the USGS 2015 report as part of a general description of the concept of groundwater-surface water interaction and the baseline environmental setting of the plan area. The discussion on “Evaluation of Irrigation District Groundwater Balance and Impacts” in Chapter 9, Groundwater Resources, Section 9.4.2, Methods and Approaches, is intended to explain that when basins are in balance, inflows equal outflows and groundwater elevations remain stable. The discussion goes on to explain that the four subbasins are not in balance, because outflows (in the form of groundwater pumping) exceed inflows; therefore, groundwater elevations could be impacted if recharge is reduced.</p>
1304	24	<p>Given the lack of analysis of groundwater-surface water interactions, the SED may overstate surface flow benefits under the project. Maintaining higher groundwater levels through conjunctive surface water use and targeted recharge will keep water in the river and reduce leakage.</p> <p>The MERSTAN model from USGS or another appropriate one should be used to test groundwater- surface water impacts and interaction under different alternatives, and confirm SED estimates of surface water benefits given reduced surface water irrigation, increased groundwater pumping, and increased irrigation efficiency.</p>	<p>Chapter 9, Groundwater Resources, describes the interaction between rivers and groundwater, beginning on page 9-14. Chapter 9 also describes the quantitative approach for estimating increased, groundwater pumping, reduced recharge, and related effects (e.g., subsidence) that could occur as a result of the effect of the LSJR alternatives on surface water supplies. The SED does not require or encourage increased groundwater pumping. The SED analyses reflect that the historical local response to reduced surface water availability has been to choose to increase groundwater pumping. As identified in Impact GW-1, the actual amount and location of pumping is uncertain and unknowable, because it will depend on the individual decisions locals choose to make in response to potential water supply reductions. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for more discussion about groundwater-surface water interaction as well as a discussion about modeling groundwater effects.</p>
1304	25	<p>Economic Impacts to farms outside irrigation districts not analyzed. Increased groundwater pumping and reduced recharge are described as impacts to groundwater basins and therefore farms outside irrigation districts.[Footnote 20: SED pp.9-22, 23,47] “Even when the net irrigation district groundwater balance is positive, a decrease in the recharge could be detrimental because it could reduce the amount of compensation for groundwater pumping that happens outside of the irrigation district lands.”[Footnote 21: SED p.9-62] These impacts are not however included and quantified as part of the economic impact analysis in Appendix G, which currently only includes impacts to farmers within (certain) irrigation districts.</p> <p>Project impacts to farms outside irrigation district boundaries and to farms within irrigation districts in the plan area or otherwise affected that are not analyzed, should be included as</p>	<p>Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the geographic scope of the agricultural economic analysis and groundwater pumping costs.</p>

Table 4-1. Responses to Comments

Ltr#	Cmt#	Comment	Response
		part of the economic analysis.	
1304	26	<p>Lack of specificity for impacts to Disadvantaged Communities. Impacts to rural communities reliant on groundwater due to declining quality, reduced recharge from surface water supplies, and increased pumping, are significant. Impacts would be particularly damaging in areas of Merced and San Joaquin Counties that have existing groundwater depressions and low water quality.</p> <p>Sustainability includes ensuring that the drinking water supplies for disadvantaged communities throughout the state, including the Central Valley where almonds are grown, are protected. These are at risk from the Project due to the decreased drinking water quality that would result from increased reliance on groundwater by agriculture and potentially urban areas. "Although California recognizes water for domestic purposes as the most important use of water and irrigation as the next most important use (Cal. Code Regs., tit. 23, § 106), this does not necessarily mean that the water supply for domestic uses cannot be modified. Furthermore, if other water districts that supply domestic uses are receiving water through contracts with irrigation districts, then these uses would not necessarily be protected." [Footnote 22: SED p.13-61]</p> <p>Impacts from increased groundwater pumping on drinking water, particularly schools and disadvantaged communities, should be further analyzed to a more detailed level and mitigated.</p>	<p>Consideration of disadvantaged communities (DACs) in the context of potential public health impacts, as well as a discussion of the financial and technical assistance programs available to provide assistance to agencies for implementing water supply and water quality projects is provided in Chapter 22, Integrated Discussion of Potential Municipal and Domestic Water Supply Management Options.</p> <p>Please see Master Response 2.7, Disadvantaged Communities, regarding the plan amendments as they relate to DACs, consideration of DACs in the SED, and the State Water Board's technical and financial assistance programs for DACs.</p> <p>The right of every human to safe, clean, affordable and accessible water for human consumption, cooking and sanitary purposes (Water Code, § 106.3) has been and will continue to be a part of the State Water Board's consideration of the proposed LSJR flow objectives. As set forth in the program of implementation for the LSJR flow objectives (described in Appendix K, Revised Water Quality Control Plan), the State Water Board will take actions as necessary to ensure that implementation of the LSJR flow objectives do not impact supplies of water for minimum health and safety needs.</p> <p>Please see Master Response 1.1, General Comments regarding the programmatic nature of the SED's analysis. Please refer to Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act for a discussion regarding the plan amendments as they relate to the recent legislation aimed at achieving long-term sustainability of the state's groundwater resources.</p>
1304	27	<p>SWAP economic analysis. Simplified water transfer and supply assumptions.</p> <p>The Statewide Agricultural Production (SWAP) analysis minimized impacts to almonds through several simplified assumptions; primarily that water supplies could be reallocated from lower value field crops to higher value crops such as almonds. [Footnote 23: SED pp.11-2, 41; and Section G.4.1]</p> <p>Western United Dairymen gave a compelling explanation in Modesto for why the assumption that water could just be shifted to higher value crops was likely wrong, given the need for dairy crops not only to feed cows and produce milk, but also to facilitate manure management through use of waste and nitrogen. Disposal of manure in fields is often the most cost effective method to comply with nitrogen based water quality regulations. And dairies have traditionally bought almond hulls to feed to their cows. Thus, agriculture often has its own complex ecosystem where simple substitution fails to consider additional impacts.</p> <p>There are also technological and regulatory barriers that either limit or prohibit the types of water transfers assumed in the model. The SED assumes growers can substitute pumped groundwater for some amount of lost surface water supplies. Not all farmers could afford this new infrastructure, however. Furthermore, the ability to substitute pumped groundwater beyond sustainable levels would not be allowed following SGMA implementation.</p> <p>Water also can't simply be diverted between fields to service higher value crops. Irrigation districts often have rules limiting or prohibiting intra-district transfers. Although it appears inter-district transfers weren't included, any modeling assumptions that allow movement of water out of basin, area of origin, or county, may have their own prohibiting or limiting rules, policies, and laws. Such transfers may also not be technologically feasible given a lack</p>	<p>During recent drought (2014-2016) agricultural statistics indicate that 1) less acres of vegetables and permanent crops were fallowed compared to field crops and grains, and 2) the demand for feed crops highly depends on milk and market conditions. The SWAP model accounts for dairy operations by maintaining some level of corn silage production (because it is heavy and expensive to transport), while assuming that alfalfa (dry roughage) can be hauled from longer distances than silage. Please see Master Response 3.5, Agricultural Resources, for discussion of the potential effects on dairies and also please see Master Response 8.2, Regional Agricultural Economic Effects, for discussion of substitute feed crops for dairies. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for discussion of the SWAP model and the assumptions about intra-district transfers. Please also see Master Response 8.1 regarding the scope of the agricultural economic analysis.</p> <p>Also, please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for discussion of SGMA. The SED estimated overall groundwater pumping capacities for each district (including the district's capacity and the capacity of private growers) consistent with data published in Agricultural Water Management Plans. It is beyond the scope of this programmatic analysis to analyze the groundwater pumping capabilities for individual growers.</p>

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		<p>of connecting pipelines or available capacity.</p> <p>The SED should realistically analyze water supply impacts to almonds through making water transfer assumptions realistic, including vetting by water districts of assumptions to ensure accuracy. There should also be a sensitivity analysis for these and similar assumptions, to estimate a level of accuracy for and range of potential economic impacts.</p>	
1304	28	<p>Volatility impacts not analyzed. Because almonds are a permanent crop with a high initial investment and Return on Investment of 5-10 years, reliable water sources are a foundation for financial success. The greater water supply volatility under project conditions, particularly in dry and critically dry years, has the potential to harm almond production in ways that aren't fully analyzed in the SED, both for growers and associated hullers, processors, and manufacturers.</p> <p>Although the drought of 2011-2016 is used as an example of agriculture's resiliency in the face of reduced water supply,[Footnote 24: SED p. G-16] droughts are temporary while proposed unimpaired flows are semi-permanent. Since reliable water sources are a foundation for high-value permanent crops, increased water supply volatility and overall reduced supplies will harm almond farmers' ability to get long-term loans. This was highlighted in the testimony of Leonard Van Elderen from Yosemite Farm Credit in Modesto. Lack of water will also affect underlying land values, impacting tax revenues and intergenerational farm transfers.</p> <p>Volatility impacts should be incorporated into the SED analysis.</p>	<p>The direct effect of a reduced water supply in response to the LSJR alternatives is inherently analyzed as part of the SED economic analysis. Based on historical observation, the cropping decisions in any given year are mostly dependent on the waters supply available for that year. Therefore, as assumed in the SWAP model, the primary impacts from a reduced water supply will be the short term impacts of reduced crop production within each year. The potential effects on property values, the ability of growers to get loans, and intergenerational farm transfers that may arise because of water supply volatility between years would require a project level analysis of individual growers and properties, which is outside of the scope of this programmatic analysis. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the scope of the agricultural economic analysis and potential effects of reduced water supply reliability. Also, please see Master Response 8.2, Regional Agricultural Economic Effects, for discussion of potential economic effects on food processors.</p>
1304	29	<p>Unclear method of analyzing impacts to a permanent crop. Under the preferred alternative 3, the SED estimates significant and unavoidable impacts annually to approximately 22,879 acres, on average, of Prime or Unique farmland or Farmland of Statewide Importance.[Footnote 25: SED Impact AG-1 p.18-47. SED Table 11-17 figure is 23,679 acres] Even with the inaccurate assumptions and qualifiers listed above, the SWAP analysis still estimates almond acreage annual losses within irrigation districts of approximately 157, 529 and 1,527 acres for alternatives 2, 3, and 4, respectively.[Footnote 26: SED pp. G-49 to 54]</p> <p>What these acreage impacts mean is not clear, but conceivably is quantified in the total estimate of \$64M in economic impacts. Do the acreage impacts mean removed trees, lost productivity, or something else? Assuming these figures are correct, and that is large assumption as they have been disputed by the various water districts and affected counties, with capital costs of \$25,000 per acre,[Footnote 27: Sample Costs To Establish An Orchard And Produce Almonds- San Joaquin Valley South. 2016. UC Cooperative Extension. <a href="https://coststudyfiles.ucdavis.edu/uploads/cs_public/87/3c/873c1216-f21e-4e3e-8961-8ece2d647329/2016_almondsjv_south_final_10142016.pdf">https://coststudyfiles.ucdavis.edu/uploads/cs_public/87/3c/873c1216-f21e-4e3e-8961-8ece2d647329/2016_almondsjv_south_final_10142016.pdf</a>] a loss of 1,527 acres would result in at least \$38,175,000 of lost investment for the almond industry alone. This makes the \$64M total estimated impact for agriculture grossly understated. Additionally, there will be a loss in net income, land values, and other economic multipliers.</p> <p>As mentioned, reduced water supplies in a single year have been shown to have an impact on overall production for several years on almond trees (stress this growing season affects the bloom in the following growing season).</p> <p>Since economic impacts aren't separated out by crop, there isn't a way to confirm how impacts to permanent crops such as almonds were estimated and modeled. Water Board</p>	<p>These acreage reductions represent standard practices that have been seen in the recent drought where growers would fallow older trees a year early, so that they could plant new trees that do not need as much water. The economic effect of reduced almond acreage is accounted for as part of the revenue losses shown in Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results. However, as these trees are assumed to be older trees the capital cost associated with them should have already been recouped. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for discussion of the SWAP model and assumptions regarding permanent crops and stress irrigation. Revenue Impacts for specific crops can be obtained from the supporting modeling files posted on the SWRCB website.</p>

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		<p>staff responses to questions during hearings seeking to resolve how the SED analyzed impacts to permanent crops were also confusing, and follow up questions seeking clarification weren't answered.</p> <p>The SED analysis should resolve what is meant by annual impacts to permanent crops and clearly state how these impacts are quantified in the economic analysis by providing line item impacts for each crop.</p>	
1304	30	<p>Incomplete analysis of affected irrigation districts. Although the Eastside Water District and Ballico-Cortez are identified as receiving some portion of their supply from TID, potential reductions in their surface water supply and economic impacts aren't further analyzed.[Footnote 28: SED p.9-19] Madera Irrigation District receives a portion of its irrigation supplies from Big Creek, a tributary to Merced River, but potential impacts to its customers aren't analyzed.</p> <p>There are additional water districts that receive some portion of their water supply within the Plan Area, but potentially outside the flow measurement compliance points. These include Banta-Carbona, South Delta Water Agency, and West Stanislaus Irrigation District.</p> <p>If the Project will impact these districts and their agricultural operations, they need to be included in the SED analysis.</p>	Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the geographic scope of the economic analysis.
1304	31	<p>Inaccurate almond acreage estimates. The SED estimates almond acreage within both DWR's Detailed Analysis Units and irrigation district boundaries. These figures significantly underestimate current almond acreage and resulting negative economic impacts given almonds' higher value and recent acreage expansions.</p> <p>Within the Plan Area of San Joaquin, Stanislaus, and Merced Counties, the SED estimates 238,996 acres of almonds partially based on 2010 ag commissioner reports. This includes 115,111 acres of almonds inside and 123,885 acres outside of irrigation districts included in the SED analysis.[Footnote 29: Central San Joaquin Water Conservation District, Stockton East Water District, South San Joaquin Irrigation District, Modesto Irrigation District, Oakdale Irrigation District, Turlock Irrigation District, Merced Irrigation District, Le Grand-Athlone Water District, and Stevenson Water District] This totals 238,996 acres.</p> <p>The ABC has contracted with consultant LandIQ to prepare estimates of almond acreage based on analysis of satellite imagery.[Footnote 30: For LandIQ analysis methods and map see attachment.] These estimates, which have a 96% accuracy, are also used by DWR, and provide an even more precise figure than that used in the SED. Within the irrigation districts analyzed in the SED, the ABC estimates that as of 2016, there were 170,993 acres of almonds. This compares to 115,111 acres in the SED.</p> <p>There are other irrigation districts that aren't listed as part of the economic analysis, but appear to receive at least a portion of their water supply from surface water sources affected by the Project. A list of these districts follows, with almond acreage in parentheses: Merquin County Water District (226), Plainsburg Irrigation District (2,991), Ballico-Cortez Water District (3,834), and Eastside Water District (40,866). Together, this is a total of 47,917 acres of almonds that may be affected by the Project, but weren't included in the economic analysis.</p> <p>Additionally, there are large almond acreages outside irrigation districts that depend on</p>	2010 DWR DAU data was used in the analysis because it corresponds to the Baseline period for the SED and because it is part of a statewide, consistent database supported by a sister agency. CEQA does not require that the Baseline be continuously updated. Please see Master Response 2.5, Baseline and No Project, for information regarding the data used in the analysis. Also, please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the geographic scope of the agricultural economic analysis.

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		<p>groundwater. As discussed above, the groundwater basins that they draw from will be impacted by the Project, affecting their agricultural operations as well. Within the DAUs analyzed by the SED, outside of the irrigation districts listed above, we estimate there are an additional 64,557 acres of almonds.[Footnote 31: DAUs: 182,205,206,207,208,209,210,211,212]</p> <p>As previously described, there are additional water districts that receive some portion of their water supply within the Plan Area, but potentially outside the flow measurement compliance points. A list of these districts follows, with almond acreage in parentheses: Banta-Carbona (153), South Delta Water Agency (8,858), and West Stanislaus Irrigation District (7,619).</p> <p>Madera Irrigation District also receives a portion of its irrigation supplies from a tributary to Merced River and has 38,445 acres of almonds, but potential impacts to its customers aren't analyzed.</p> <p>Accurate numbers based on these updated sources should be used to adjust almond acreage estimates inside and outside irrigation districts as well as the estimated economic impacts to almonds and other agricultural crops. Furthermore, the irrigation districts dependent on surface water diversions should be updated.</p> <p>Trees grown outside districts are both dependent on groundwater recharge from surface irrigation within irrigation districts and negatively impacted when crops within districts pump more groundwater in exchange for lost surface water diversions.</p> <p>Impacts to crops outside irrigation districts should therefore be included in the SED's economic impact analysis.</p>	
1304	32	<p>Economic Linkages. A report prepared for the ABC by the UC Agricultural Issues Center, "The Economic Impacts of the California Almond Industry," describes the significant contributions the California almond industry makes to the California economy. Almond production and value have been growing rapidly in recent years. California almonds are especially important in international trade, accounting for about 25 percent of California farm exports in value.</p> <p>Although its economic benefits are statewide (and global), the almond industry is especially important to the economy of the California Central Valley. For the 2014 crop, the report determined that, including direct, indirect, and induced economic outputs, total value was \$21.5 billion. Of this total, about \$11 billion is value added, with \$7.6 billion attributable to almond farming, and the remaining \$3.4 billion contributed by the almond processing and manufacturing sectors. Almond production requires multiple stages, moving from farms, through almond hulling and shelling, almond handling and initial processing, and finally to almond manufacturing. These ultimately lead to the retail sales of almonds and sales to domestic food processors or exports. The whole almond industry, including processing and marketing, generates about 104,000 jobs statewide, three quarters of which are outside of farm production.</p> <p>Researchers adapted the IMPLAN model to fit the specifics of the industry, partially through additional data provided by almond industry members. The model and data specify linkages (indirect effects) from each segment of the almond industry to associated input industries including farm inputs, such as fertilizers and tractors, as well as equipment and materials used in hulling and shelling, handling and manufacturing including transportation. It traced</p>	<p>Please see Master Response 8.2, Regional Agricultural Economic Effects, for discussion of potential economic effects on food processors and regarding the limitations of IMPLAN for estimating downstream economic effects.</p> <p>Furthermore, the 1.70 IMPLAN multiplier used in the SED refers to crop cultivation and was extracted from the IMPLAN 2010 database to estimate regional economic effects over the three county region (San Joaquin, Stanislaus, and Merced counties). The comparable multiplier within the Sumner et al. report is 1.87, obtained from the IMPLAN 2012 database for estimation of economic effect over the state, which tends to have larger indirect effects. 2010 IMPLAN data was used in the analysis because it corresponds to the Baseline period for the SED and CEQA does not require that the Baseline be continuously updated. Please see Master Response 2.5, Baseline and No Project, for information regarding why the baseline does not need to be updated. The Sumner et al. report also involved surveys of willing individual growers regarding their production decisions and the flow of nuts and byproducts through the economy, which is beyond the scope of a programmatic study.</p>

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		<p>the influence of income earned in the almond industry (induced effects) as it ripples through the economy because of purchases by employees and owners of farms and almond marketing firms.</p> <p>The reliable supply of almonds encourages additional investment in processing facilities that increase the economic value of the raw material (milk, butter, flour, etc.) as well as expansive supporting industries which not only produce jobs, but help growers farm more efficiently, sustainability, and effectively. It appears that these types of forward linkages and multiplier effects within the almond industry related to associated hullers, handlers, and manufacturers of processed products, aren't quantitatively estimated by the SED.[Footnote 32: SED section G.5]</p> <p>The ABC report estimated an economic multiplier of \$2.71 for every \$1.00 in output by the almond sector.[Footnote 33: See Table 1.1 in: Sumner, D., Matthews, W. Medellín-Azuara, J. and Bradley, A. 2014.The Economic Impacts of the California Almond Industry. UC Agricultural Issues Center.] This compares to a multiplier for tree nuts of 1.70 used by the SED, resulting in an underestimate of around 37% in economic impacts to almonds.</p> <p>The SED should use the information in the UC Agricultural Issues Center report to adjust their estimate of the economic benefits of almonds and therefore Project impacts.</p>	
1304	33	<p>County economic analyses confirm greater impacts. A pending separate economic analysis by San Joaquin, Stanislaus, and Merced Counties hasn't been released, but in testimony, staff describes a different bottom line impact partially based on issues discussed above. Speakers also noted the greater dependence on agricultural production and processing by this region, relative to the rest of the state, contributing significantly to economic development.</p> <p>Merced has released its own report saying, "The models do not estimate structural changes that could result from a long-term change in surface water supply." This report highlights how reductions in economic output in the Northern San Joaquin Valley stemming from this proposal are more significant given the region's higher rates of poverty. In general, the region is "beset by high unemployment and other impacts of a lingering recession and drought." [Footnote 34: See p.ES-7 in: Cardno and Highland Economics. Economic Impacts of Reduced Water Availability to Merced Irrigation District. July 2016.]</p> <p>Furthermore, over 91% of California's 6,800 almond farms are family farms, 73% are less than 100 acres, and are owned and operated by third- and fourth-generation growers.[Footnote 35: USDA 2012 Census of Agriculture.] With additional costs for supplying water harming their bottom line, these small businesses may cease operation and be forced to sell their land, abandoning an agricultural heritage. This impacts California's rural landscape and economic base.</p>	<p>Please see Master Response 8.2, Regional Agricultural Economic Effects, for discussion of the economic analysis performed by Merced Irrigation District and Stratecon, Inc. Also, please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the long term economic effects of changes in water supply availability. Please see discussion in section G.4.3.1 of Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results, for why the LSJR alternatives would not be expected to have a disproportionate effect based on farm size.</p>
1304	34	<p>Project balancing. Balancing requires developing accurate estimates of benefits for and impacts to all beneficial uses, and selection of the least damaging alternative necessary to achieve fishery goals, maximizing non-flow, adaptive management methods and mitigating impacts to farm water supply. The SED as drafted does not balance benefits and impacts as the impacts have been grossly understated.</p>	<p>Please refer to Master Response 1.2, Water Quality Control Planning Process, for information regarding the consideration of beneficial uses.</p> <p>Descriptions of a range of non-flow actions that would complement the flow objectives for the reasonable protection of fish and wildlife are provide in SED Chapter 16, Evaluation of Other Indirect and Additional Actions, Section 16.3, Lower San Joaquin River Alternatives – Non-Flow Measures. Please see Master Response, 5.2, Incorporation of Non-Flow Measures, for further information on non-flow measures, including their role in the overall health of the tributaries' ecosystems and how non-flow measures relate to</p>

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			<p>the plan amendments.</p> <p>Please also see Master Response 3.5, Agricultural Resources, for response to comments regarding the plan amendment’s potential impacts on agriculture and the approach to the analysis in SED Chapter 11, Agricultural Resources.</p>
1304	35	<p>Stakeholder Engagement and Process. The Water Board needs to engage and ensure the SED is vetted with irrigation districts and agricultural stakeholders, update the SED with missing germane fish science, and correct the SEVERE underestimation of water supply and agronomic impacts. Negotiated agreements need to address this collaborative shortcoming, while accounting for the complex and simultaneous state and federal policy and regulatory processes.</p>	<p>Please see Master Response 1.1, General Comments, regarding the public outreach process, the scope of the SED, and the State Water Board approach to analysis.</p>
1304	36	<p>SGMA policy conflicts. It is inappropriate to use a “speculative” analysis to assess the impacts of project implementation without combining it with recent groundwater legislation. Doing so creates a major policy conflict for farmers and system operators, and the livelihoods of Central Valley farmers and their employees cannot be destroyed based on speculation. Using a “speculative” analysis that leaves out SGMA also limits conjunctive management, groundwater recharge, and storage opportunities. It is the responsibility of this Water Board to take a holistic and statewide approach to agricultural water policy and planning; growers must comply with all regulations, and it is a complete injustice for the Water Board and other water agencies to operate in silos.</p>	<p>Please see response to Comment 1304-10.</p>
1304	37	<p>SWAP economic analysis. The amount of errors, omissions, and unsupported assumptions, including grossly underestimated acreage, is astounding. We have identified that under one scenario there is a potential impact to almonds alone of over \$37M -- over half of the total estimated agricultural impact of \$64M. Additionally, the analysis incorrectly assumes the farmers’ ability to transfer reduced water supplies to higher value crops such as almonds which results in significant underestimation of economic impacts. The Water Board needs to work with water districts and the local counties to identify the true economic impacts of this project.</p>	<p>Please see responses to comments 1304-27 through 1304-31.</p>
1304	38	<p>The ABC [Almond Board of California] and the Alliance [Almond Alliance of California] stand ready to work with the Water Board on improving the project and analysis, including development of negotiated agreements, to ensure that farming’s long-term prospects and sustainability are enhanced, alongside the increased sustainability of the region’s fisheries.</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that either raise a general comment on the plan amendments or do not raise a significant environmental issue.</p>
1304	39	<p>[ATT 1: California Almond Acreage Determination for Various Boundaries]</p>	<p>The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to comments; therefore, no additional response is required.</p>
1304	40	<p>[ATT 1: ATT 2: Map of 2014 Almond Acreage]</p>	<p>The commenter is providing this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to comments; therefore, no additional response is required.</p>
1305	1	<p>I am currently in charge of the San Joaquin River and have been for the past 45 years. This territory which is a stretch of about twelve miles is also known as Reclamation 2063 of Stanislaus County which is located just north of Merced County. In the spring of 2012 we had a very high river and in a specific area near Velasquez Farm which is located ¾ of a mile north of Crows Landing Rd. The river happens to curve at this point and eventually the river began taking away from the bank. I was losing roughly about 5 feet of bank per day and this resulted in a loss of about 150 feet of bank about 30 feet deep.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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		<p>To make things short when the river level went down there was this huge bank of dirt in the river about five hundred feet long. This caused the river to begin to back up so I took it upon myself to call a local contractor that has a big long reach excavator and he took the bank of dirt out. I noticed while he was removing the bank we were destroying the new fish habitat that had developed due to the bank that was made. The bank made a big pool of water and it became a fish haven, in fact the farmer that owns the land in this area was very angry because people were trespassing to come over and fish and so it turned into a very popular fishing spot. I went ahead and told the contractor to dig a deep hole in the same area since I am a fisherman myself and I wanted to conserve the area</p> <p>When I came to your meeting in Sacramento on January 3rd, 2017 I saw that the problem in those rivers is the temperature of the water. What I'm trying to tell you is this problem can be corrected if you dig the same holes about every 2000 feet and make them about 12 to 15 feet deep, 2 to 3 hundred long. Last summer I went to the Pyrenees Mountains in France and they had one of the longest droughts in many years. Even some of the older citizens hadn't seen a period of time that long without any rain.</p> <p>My cousin has a farm and he has a spring in his ranch and they happen to have German brown trout there. He mentioned to me that the fish had started dying because the temperature of the water was becoming too hot, so I shared my experience from the San Joaquin River with him. The next day he grabbed his back hoe and started digging holes and it was a complete success; it saved all his fish. To prove my point ask any fisherman that fishes in the Sierra and they will tell you that the best fishing spots are on beaver dams, when they dig those holes they have to make sure that they take that dirt out from the river it is obvious that the next high river will fill some but it will be worth to clean them and the cost will be minimal compared to dumping all that water. I'm sending you some small drawings [ATT1] explaining how the holes should be built.</p>	
1305	2	[ATT1: Salmon plan graphic.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to comments; therefore, no additional response is required.
1306	1	<p>The City of San Jose is concerned with the analysis of groundwater impacts during periods of water supply shortages and drought conditions identified in the SED. Recent multiple-dry-year conditions (since 2011) as well as historic drought rates in California have shown that water shortage has become more frequent and is an expected and common occurrence throughout the State.</p> <p>The current water allocation in the Bay-Delta Plan has been factored into the environmental analysis for both current development being implemented and future development anticipated to occur in plans adopted by the City including the City's General Plan, the North San Jose Development Policy Area Plan, and other master planned areas through the year 2040. The proposed changes to water allocation in the Bay-Delta Plan Phase I will result in water stress to existing development in the north San Jose area as approximately 4.5 million gallons per day of water would need to be extracted from groundwater using new wells, which would result in potential adverse environmental effects to groundwater basins within Santa Clara County.</p> <p>The anticipated environmental effects include construction of multiple groundwater wells, land subsidence resulting from overdrawn aquifers, potential groundwater contamination, and adverse impacts to groundwater-dependent ecosystems. Therefore, the City requests that the final SED include a discussion of the environmental impacts to groundwater basins</p>	<p>Please see Master Response 8.5, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System, regarding the State Water Board's evaluation of potential reductions in water supply and associated economic considerations and other impacts within the SFPUC Regional Water System (RWS) service area with implementation of the plan amendments. The master response identifies the main points of disagreement or differing assumptions between the SED and the comments. As described in Master Response 8.5, the SED identified reasonably foreseeable actions that could be taken by affected entities to comply with the plan amendments and in response to reduced surface water supplies. These actions did not include the severe mandatory rationing described by SFPUC because it was not reasonably foreseeable that a water supplier would impose drastic mandatory water rationing on its customers without first attempting other actions to replace any reductions in water supplies with alternative sources of water, such as through water transfers.</p> <p>Please also see Master Response 8.5, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System regarding groundwater use. Finally, please also see Master Response 1.1, General Comments, for a general discussion as to the approach to the analyses contained in the SED, and the programmatic nature of analysis, and Master Response 8.5, for a more specific discussion of programmatic analysis.</p> <p>Please see Master Response 2.5, Baseline and No Project, regarding the baseline used to evaluate effects. Please also see Master Response 3.2, Surface Water Analyses and Modeling, regarding the overall approach to modeling and the treatment of municipalities, and Master Response 8.5 regarding the modeling approach</p>

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		under multiple-dry-year conditions, where intermittent customers like the City of San Jose are not allocated water from Hetch Hetchy Reservoir.	specifically related to SFPUC and the RWS service area. Finally, please see Master Response 6.1, Cumulative Analysis, regarding growth and housing needs.
1307	1	<p>The water proposal you are planning will destroy our community without improving the salmon lifecycle. There is a better way.</p> <p>If I had to drill an ag well the cost would be \$100,000 and I am 77 years old. This doesn't make sense. I am sending proof [ATT1]. Please read.</p> <p>Farming [is] the most important part in our food chain.</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1307	2	[ATT1: Article. "Maximum flows not helping Stanislaus salmon." Bob Holmes and Steve Webb.]	The commenter provided this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to comments; therefore, no additional response is required.
1308	1	<p>The Draft Revised Substitute Environmental Document in Support of Potential Changes to The Water Quality Control Plan For The Bay-Delta: San Joaquin River Flows and Southern Delta Water Quality, released on September 15, 2016 is received with great concern and contains substantial flaws. The impacts of the SEO as presently written will negatively affect farmers, municipalities and many others who rely on a safe, reliable, sustainable water supply.</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1308	2	<p>Reduce Surface Water.</p> <p>The inherent result of implementation of the SEO on my business, Merced County farmers, residents and water right holders in general is a significant reduction in water supply. A reduction in surface water supply for farmers increases reliance on groundwater which in the long term is unsustainable without removing prime farmland from production. Permanent crops like orchards and vineyards will not withstand continual deficit irrigation and maintain production at the same time. The result of this will be farmers following portions of their land to transfer available water to sustain the remaining crops.</p> <p>Ground planted to permanent crops is not easily or cost effectively converted to row crops or other seasonal crops. Additionally, row crops, which tend to have shorter growing seasons and less water usage, also offer significantly lower economic returns to the grower. Also, converting to row crops would require farmers purchase new equipment in order to farm new crops increasing the economic hardship for the farmers and their families.</p> <p>Additional storage requirements in the reservoirs, that were paid for and built by the irrigation districts and farmers that they serve, to maintain temperatures reduces the storage capacity of the reservoirs. Storage capacity is critical to maintaining supply during drought seasons when inflows to the reservoir are less than the demand downstream. The farmers are being put at a huge disadvantage by decreasing the storage with no plan to augment or increase storage. Furthermore, the regulation of storage capacity in the dams and reservoirs is nothing short of a regulatory taking. The proposal to regulate storage and supply regulates the very thing that makes the farmland in the San Joaquin valley so valuable. Regulation based on flow should be looked at as a last resort as the water which the farmers have a right to is a scarce resource and the storage space provided for that was paid for and is owned by the people.</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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1308	3	<p>Groundwater Depletion and Quality.</p> <p>The SED offers no plan to augment water supply for farmers and existing water right holders other than through increased reliance on groundwater. Groundwater, without recharge through rainfall or deep percolation of irrigation water will continue to become more difficult to sustain as a safe reliable source.</p> <p>As is already evident, the groundwater supply in California is an unsustainable source of irrigation and municipal water during drought conditions. Coupled with a significant decrease in surface water supplies during the peak irrigation months for farmers and the situation is exacerbated. The SED perpetuates a reliance on groundwater, directly conflicts with the Sustainable Groundwater Management Act (SGMA), and severely impacts municipalities and homeowners who rely on a stable groundwater supply.</p> <p>By reducing the surface water supply to farmers and other water right holders, the SED perpetuates the reliance on groundwater to make up the deficit from drought conditions and lack of surface water. An already tough situation for water users to manage now becomes more difficult by implementation of the SED which estimates that reliance on groundwater and groundwater overdraft would double.</p> <p>The continued depletion of groundwater and reduction in surface water flows is in direct conflict with SGMA which requires that groundwater supplies be sustainable. Continual overdraft will not be sustainable thus causing shortages of water for farmers resulting in fallowed ground, loss of production, loss of jobs and loss of business that will not be able to survive the economic hardship of reduced water supplies.</p> <p>For municipalities and homeowners who rely heavily or solely on wells for drinking water, dropping water tables results in disaster. Many communities have seen their drinking wells go dry from as well as the quality decreasing to the point that the water is no longer potable. Without the replenishment of groundwater through application of surface water, communities will continue to see their water quality and supply diminish. Not only with the surface water supply be cut to farmers, municipalities will also see the decrease resulting on further reliance on groundwater to meet the needs of the people.</p> <p>The SED offers no plan to augment water supply other than through "significant and unavoidable negative impacts". The quality and sustainability of the groundwater supply depends heavily on the availability of a reliable surface water supply. The burden and ramifications of the SED are placed on the people who will be negatively affected the most.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1308	4	<p>Economic Hardship.</p> <p>The economic losses to the communities affected by the SED are severely underestimated. For the farming community, the loss of production alone will be significant however, the losses associated with fallowing ground or converting ground will be devastating. Many farmers who have permanent crops will no longer have the water supply to sustain them. For the farmer to continue to farm the ground permanent crops will need to be removed or left to die. Not only does the farmer incur the loss of production, but the investment of the land, planting the crop, the infrastructure, the land preparation etc. that is commonly financed over the life of an orchard will be lost with no means of recovery. Also, removing of a permanent crop to convert the land to allow for a seasonal crop to grow has a significant cost associated with it. A loss in water does not just come with an equivalent loss in</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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		<p>production or economic benefit. A loss in water comes with sever impacts on the ability of a farm to survive.</p> <p>Along with the loss of farmland that is able to produce comes the loss of jobs. With less available water farmers will be required to fallow land or grow less valuable crops, both of which equates to job loss for the people who work on the farms. Not only are the people who own or work on the farms impacted, many industries and ag related businesses also rely on a viable agriculture economy for their jobs. Industries like, packers, haulers, and shippers all rely on an agriculture industry that is able to produce the most abundant, safest food supply in the world.</p> <p>With a decrease in farmable ground and increased costs for farmers, consumers can also expect to see an increase in the costs of fresh fruits and vegetables grown locally in grocery stores and markets if they will be able to find them at all. As the cost to produce food increase here in California, more and more fruits and vegetables will continue to be shipped in from foreign countries where food safety, worker safety, as well as worker pay is sub-par and the California food supply and consumer will suffer for it. Other economic losses include a decrease in property values without a reliable water supply, impact to the financial and lending institutions that have invested in agriculture.</p>	
1308	5	<p>Too Narrow of Focus on Flow.</p> <p>Overall the focus of the SEO is too narrow and does not consider the negative consequences of the actions it proposes. The narrow focus of improving fish population through flow while a minimal if any attempt to evaluate predation, hatcheries, harvest, and habitat, is irresponsible and dangerous. As written, the responsibility and burden of proof is on the water right holders and not on the regulators to evaluate alternatives that could be much more cost effective and would have significantly less impact on the people who are hit the hardest by this proposal. The proposal is a no compromise proposal and only allows for consideration of other beneficial uses as long as the intended benefits to fish and wildlife beneficial uses are not reduced placing fish and wildlife at priority number one and disregarding the rights and livelihood of the people of</p> <p>California. The concerns of the people have not been sufficiently addressed and the undue burden and overbearing nature of this regulation will have a significant negative impact on the people without a full evaluation of the alternatives.</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1309	1	I'm writing to plead with you to consider the alternative Merced River S.A.F.E. Plan.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1309	2	First you have to fix the river by removing the non-native bass!	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1309	3	How about desalination?	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1309	4	If you take our surface water, we will pump ground water!!	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1310	1	At this juncture, we respectfully oppose any request to delay or extend the comment period for the revised Phase 1 Supplemental Environmental Document (SED) process. While we are	Please see Master Response 1.1, General Comments for responses to comments that either make a general

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Ltr#	Cmt#	Comment	Response
		<p>hopeful that voluntary agreements could be negotiated among water agencies and stakeholders, it is our view that parties have not made enough progress in discussions to judge whether settlements will be possible. Therefore, an extension of the Phase I comment period would not be warranted. Furthermore, the Board has already granted two extensions of the original 2016 deadline for commenting on the revised SED. Interested parties have had adequate time to review and provide comment.</p> <p>An update by the Board of the WQCP is long overdue, remains legally required and is urgently needed to establish a pathway for protecting and improving water quality and for advancing viability of fish and wildlife in the Sacramento-San Joaquin systems. The effort to develop voluntary agreements does not relieve the Board of its obligation to update water quality standards.</p> <p>We urge you to take no action that would further delay or extend the completion of this important process.</p>	<p>comment on the plan amendments or do not raise significant environmental issues.</p>
1311	1	<p>Thank you for your innovations in this SED. It is an exciting advance.</p> <p>Please get this draft right such that you have confidence that we will accomplish our objectives for the protection of fish and wildlife with the SED. Not only have you and the State of California made extensive investments, but also so many other organizations have made investments relative to the use of this water. And it is likely that no matter what the final version of the SED is, unfortunately it looks like litigation is in its future. And most important of all, Californians will begin the process of adapting to the new regulations. If it turns out we got this wrong , meaning that the SED doesn't adequately protect fish and wildlife, then we will all go through this again, adding time and expense for everyone. There is significant value, likely to all parties, in getting the SED right today.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1311	2	<p>Find ways to finalize the SED this year. For example: While it appears from the 2010 Flow Report and various presentations at the hearings that the selected Alternative 3 (30%-50% flow) is unlikely to achieve the objective, switching the Alternative 4 is probably too big of a change to make to still get the SED done this year. However improving the specificity of the objective of protecting fish and wildlife with more detailed measurable criteria is a less substantive change and gives all parties a better understanding of where they stand relative to accomplishing the objective which in turn improves the chances of the objective being achieved and perhaps could be done without jeopardizing the current timeline. If improving the specificity of the objective/providing more detailed measurable criteria takes too much time to get the SED out this year, perhaps instead the SED could reference developing more specific criteria as a supplemental project.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1311	3	<p>We water users are great innovators and will be able to adapt to the SED: While I am less familiar with agricultural advances, it is remarkable what urban and suburban water agencies are already doing: Los Angeles setting a goal of reducing water imports from 85% to 50% of its needs (as you likely know the goal was set by Mayor Eric Garcetti, who was resoundingly re-elected); Santa Monica aiming for 100% local water ; and Orange County drinking 100 to 130 mgd of recycled water , meeting possibly 20% of its needs. Perhaps good news: The SFPUC and BAWSCA who rely heavily on the Tuolumne have not yet taken significant action to reduce imports-a wealth of opportunities await us (I am a BAWSCA water user).</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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1312	1	We urge adoption of instream flow objectives for San Joaquin River of at least 60% of unimpaired flow. Allowing these flows will greatly improve balance between environmental requirements and those of agricultural and residential users.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1312	2	Every California water user must contribute to the restoration of river flows through the Delta and San Francisco Bay. Maintaining healthy estuaries and rivers takes precedence over the ravenous thirst of agriculture in the desert regions of Southern Californian, particularly vast nut crops in arid areas.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1313	1	The Central Valley is the Bread Basket of the World. Our Agriculral products are shipped around the world. WE DON'T NEED SOME State bureaucrat Wto with our water supposedly meant to help the Salmon Spawning grounds. We need it here to replenish our water systems.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	1	I am writing to implore you to take the most aggressive action possible to restore healthy flows throughout the original range of our indigenous, anadromous fisheries, and associated ecosystems.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	2	My wife and I rely on wild-caught salmon for a large percentage of our dietary protein and nutrition. These fish are the most healthy, best tasting, and ecologically sustainable foods of our region. If our watersheds were properly managed, we could see a hundred times more salmon here, with enormous ecological multiplier benefits from the headwaters to the Delta and Bay. In addition, the commercial and recreational salmon fishery would flourish, creating a very significant economic multiplier effect for our region and state, including boat and tackle sales, hotels, restaurants, sports equipment stores, etc. ..	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	3	Restoring sustainable ecological function and health to the San Joaquin River watershed should be the Water Board's highest priority as a public agency. The current trends and conditions throughout the watershed are a travesty for fish, wildlife, recreation, and downstream communities. This condition indicates a failure to protect our Public Trust Resources for all beneficial uses and future generations.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	4	Chronic, excessive water diversions have resulted in "Super-critically Dry" river conditions in half of the years, over the past four decades, with less than half of the natural flow left to nourish the Riverine, Delta, and San Francisco Bay ecosystems. The residual flows are often impaired and toxic due to high temperatures, depleted oxygen, concentrated levels of pollutants, and pathogens. Water diversions are the ecological equivalent of "robbing Peter to pay Paul." They epitomize the unsustainable, and un- democratic practices of our culture, which exploit the many to enrich the few.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	5	The Water Board's own 2010 "Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem," indicates that 60% of unimpaired flow between February and June is needed to protect fish and wildlife in the lower San Joaquin, Stanislaus, Tuolumne, and Merced Rivers. I consider that estimate to be low, and would prefer to see at least 80% of free flows retained in the watershed to inundate flood plains, restore riparian and off channel habitat for many wildlife species, stimulate fish passage spawning, and increased survival rates of anadromous fish. Higher flows will recharge ground water, maintain natural sediment transport, enhance water quality, and promote riparian ecosystems and wetlands. The many species that will benefit from increased flows, include fish and fowl, eagles and otters, amphibians, and people including the birders, boaters and anglers of this and future	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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		generations.	
1314	6	We owe it to ourselves and future generations to put the ecological pieces back in place, in order to restore the puzzle of ecosystem function before it is too late. The world would be tragically diminished without the giant Sturgeon, annual Salmon runs, and great bird migrations that have sustained us and our grandfathers, and countless generations of Native Americans.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	7	The problem of over allocation of river water is ecological. The solution is political, and we are obligated to find it. Where there is a will, there is a way. Water use decreased by 30% in the Hetch Hetchy service area over the past ten years with minimal effort and inconvenience to customers.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	8	Commercial agriculture has hardly begun to devise and deploy water conserving Best Management Practices. Farmers must be made to live within their means in regards to irrigation.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1314	9	To go forward and prosper, California must implement systems of local and regional sustainability. Toward that end, keeping waters within their native watershed is an essential element.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1315	1	This proposal would have the devastating potential effect of implementing "unimpaired flow" requirements on the Stanislaus, Merced and Tuolumne Rivers of 30 to 50% of the natural occurring runoff in these rivers. This proposal will have profound impacts on the agricultural community in Merced, Stanislaus and San Joaquin Counties, especially the tree nut industry including growers, hullers and processors and anyone involved in the supply chain for those particular commodities. We are very concerned that the unimpaired flow approach will have significant and irreparable impact to the agricultural industry.	<p>Please see Master Response 8.2, Regional Agricultural Economic Effects, for discussion of the economic effects on food processors.</p> <p>Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or make a general comment regarding the plan amendments and general information regarding the economic analysis.</p>
1315	2	Economic Impact. We are very concerned that the state has completely underestimated the economic impact to the agricultural community. First, the economic study peculiarly uses cotton and pistachios in the analysis, which are two crops with little to no acreage in the impacted areas. Meanwhile, it does not analyze walnuts, which has significant acreage in the impacted counties. The walnut acreage is as follows: San Joaquin County- 39,012 acres; Stanislaus- 26,269 acres; and Merced- 6,789 acres [Footnote 1: 2015 California Walnut Acreage Report, USDA-NASS, May 24, 2016.] Is this accurate, and if so, would it significantly skew the results by leaving out a crop that will be significantly impacted by large reductions in surface water availability?	The SWAP crop categories are standard based on DWR land use surveys. The "Almond/Pistachio" category primarily represents acreage for almonds not pistachios. Cotton is only grown in one of the districts according to DWR DAU land use data. Walnuts are included in the category of "Other Deciduous".
1315	3	The SWRCB is requiring the reservoirs in these tributaries to hold back water for cold water pools for fish. This includes holding back 700,000 acre feet at New Melones, 800,000 acre feet at Don Pedro, and 300,000 at McClure Lake. These are very significant levels that will have huge impacts on downstream water availability for agriculture. It is our understanding that water releases to the Oakdale Irrigation District and South San Joaquin Irrigation District would have stopped in June this past year to maintain the required level. This loss of water must be quantified and factored in to the economic analysis. It is our understanding that in 2015, farmers in the Turlock Irrigation District and Merced Irrigation District would have received no surface water. That is a tremendous impact to the crops grown in those Districts and the people employed in those areas, that must be accounted	The effect of reduced water deliveries was accounted for in the SWAP analysis by reductions in crop production. Other significant droughts occurred within the period of record that was modeled, therefore potential impacts during drought conditions were analyzed. See Chapter 21, Drought Evaluation, for discussion of potential impacts during droughts.

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		for.	
1315	4	<p>Sustainable Groundwater Management Act (SGMA)</p> <p>There also seems to be a lack of recognition of the impact from the implementation of the Sustainable Groundwater Management Act (SGMA) that will undoubtedly reduce groundwater pumping. Currently, the SED, as laid out in Chapter 9, assumes groundwater pumping will make up for any lost surface water and does not consider SGMA as a limiting factor. Discussions with local water districts and recently formed Groundwater Sustainability Agencies (GSAs) say that is simply not a reasonable assumption, and that the State Department of Water Resources (DWR) will clearly manage groundwater and protect overdraft of impacted basins. This is simply unreasonable to ignore, and the SEC must be revised to make some consideration of the limiting factors SGMA will impose.</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding SED consideration of SGMA, the potential for increased groundwater pumping, and compliance of SGMA in the context of the plan amendments.</p>
1315	5	<p>Salmon Impacts</p> <p>The SWRCB's proposal fails to account for all stressors. These other stressors to salmon populations include commercial fishing, predation, habitat loss, downstream pollution and others. According to one paper [Footnote 2: "Effects of Fish Predation on Salmon ids in the Sacramento River- San Joaquin Delta and Associated Ecosystems", Grossman, et al., September 25, 2013.], "Juvenile salmon are clearly consumed by fish predators and several studies indicate that the population of predators is large enough to effectively consume all juvenile salmon production." It has been reported that a reduction of at least 10% of the predation can achieve the same as a 35% unimpaired flow. We believe there may be solutions, other than unimpaired flows, such as river and habitat improvements including gravel improvements, removal of water hyacinth, and riparian vegetation expansion.</p> <p>It is also important to note the results of a recently published twelve (12) year study [Footnote 3: "Environmental Factors Associated With the Upstream Migration of Fall-Run Chinook Salmon in a Regulated River", Peterson, et al., North American Journal of Fisheries Management, Volume 37, 2017 - Issue 1, December 21, 2016.] on Fall-run Chinook salmon in the San Joaquin River that concluded the installation of a "rock barrier" provided "positive and consistencies influences on daily counts in the years it was installed". By contrast, results showed "managed pulse flows only appeared in 2 of the 11complete years of data analyzed." Furthermore, the study also noted a drop off in daily counts when pulse flows exceeded 20 m3/sec. The study suggests that the pulse flows may actually do more harm than good, and make the point that more work and study is necessary.</p>	<p>In developing the plan amendments, the State Water Board looked at a variety of factors necessary to reasonably protect fisheries, including flow and temperature, but also examined the water costs of various approaches in relation to expected benefits.</p> <p>Please see Master Response 5.2, Incorporation of Non-Flow Measures, for further discussion on the role of non-flow measures, and consideration of non-flow measures in the plan amendments.</p> <p>The scientific basis and relevant research for the LSJR flow objectives to protect fish and wildlife are documented in Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives. For further discussion regarding the scientific justification for flow in protecting fish and wildlife, and a detailed clarification of predation as the non-contributing factor to salmon population decline, please see Master Response 3.1, Fish Protection.</p> <p>Chapter 16, Evaluation of Other Indirect and Additional Actions, includes a list of non-flow measures, and potential impacts of those measures, that may help reduce predatory fish. These are included in the SED because these are measures that parties could undertake to inform the body of scientific information potentially used to make adaptive implementation decisions in response to implementation of the plan amendments.</p>
1315	6	<p>We [Western Agricultural Processors] believe strongly that alternative solutions can, and should, be worked out with local water districts that can produce more reasonable and less impactful results. We encourage the SWRCB to work with local irrigation districts to find more reasonable and acceptable alternatives to the unimpaired flow approach.</p>	<p>Please see Master Response 1.1, General Comments, for regarding voluntary agreements and the public outreach process.</p>
1316	1	<p>Contra Costa County thanks the Board members and staff for all the effort put into developing the various drafts of the SED. We support the State Board's proposal to restore river flows in the San Joaquin Valley to protect fish and wildlife, setting minimum flow requirements as a percentage of unimpaired flow. These improved flow requirements and those proposed as part of Part II of the WQCP update will help restore and sustain the health of the Bay-Delta estuary and its tributaries. They will also set an important realistic baseline for regulatory decisions on future Delta and Central Valley water supply, water</p>	<p>Please refer to Master Response 1.1, General Comments for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues.</p>

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Ltr#	Cmt#	Comment	Response
		quality and ecosystem restoration projects.	
1316	2	Contra Costa County opposes the Board’s proposal to degrade, rather than improve, water quality in the Delta by relaxing the April-August irrigation water quality standard in the South Delta. The 2009 Delta Reform Act established as new State policy achievement of the coequal goals of ecosystem restoration and improved water supply reliability. The Act also established as State policy the inherent objective of improving water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta (California Water Code section 85020(e)). Relaxing water quality objectives in the south Delta is contrary to this policy of the State of California, and to State and federal antidegradation statutes.	The Program of Implementation requires USBR to maintain the EC at Vernalis at or below 0.7 dS/m April–August and 1.0 dS/m September–March, as it is under the current objectives. Therefore, salinity will not increase above baseline conditions and there will be no degradation. For more discussion of why water quality will not be degraded see chapter 23, Antidegradation. Also, please see Master Response 3.3, Southern Delta Water Quality, for discussion of why the southern Delta Salinity objectives are being updated.
1316	3	<p>The Plan Area is Insufficient for Disclosing Environmental Impacts of the Proposed Action. The revised draft SED is inadequate because it fails to include the Delta and San Francisco Bay in the Plan Area. The SWRCB’s plan amendments involve changes in flow objectives in the SJR Basin and changes in water quality objectives for the southern Delta but those changes will have the potential to adversely impact Delta water quality and the Delta ecosystem. The proposed changes will not only affect beneficial uses on the Stanislaus, Tuolumne and Merced</p> <p>Rivers and down the San Joaquin River to Vernalis, they will also impact beneficial uses downstream in the Delta and San Francisco Bay. The proposed actions will also change the water quality at, and operation of, diversion and export facilities in the Delta. These are not analyzed in the SED. Contra Costa County requests that the Phase 1 SED be revised to analyze and disclose any significant adverse impacts on the Delta and Bay. A new draft SED should then be released for public review and comment.</p>	Please see Master Response 1.1, General Comments, regarding the programmatic approach and analyses in the SED and a general discussion of the scope and methods of the impact analyses. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding a description of the plan amendments (i.e., the project description), the goals and objectives of the plan amendments, and the scientific basis for the plan amendments.
1316	4	<p>The SED Fails to Disclose Impacts on Restoration of the Upper San Joaquin River. The SED is inadequate because it fails to analyze the potential impacts of the proposed actions on restoration of salmon runs on the upper San Joaquin River below Friant Dam. The SED asserts that the San Joaquin River upstream of the Merced River confluence is not currently a salmon-bearing tributary of the Lower San Joaquin River. However, in 2004, the Ninth Circuit Court of Appeals confirmed that Fish and Game Code section 5937 [FOOTNOTE1: Fish and Game Code section 5937: The owner of any dam shall allow sufficient water at all times to pass through a fishway, or in the absence of a fishway, allow sufficient water to pass over, around or through the dam, to keep in good condition any fish that may be planted or exist below the dam. During the minimum flow of water in any river or stream, permission may be granted by the department to the owner of any dam to allow sufficient water to pass through a culvert, waste gate, or over or around the dam, to keep in good condition any fish that may be planted or exist below the dam, when, in the judgment of the department, it is impracticable or detrimental to the owner to pass the water through the fishway.] does apply to the San Joaquin River below Friant Dam. This led to a September 2006 settlement agreement between the parties and development of the San Joaquin River Restoration Program. After significant delay, some restoration flows have been released into the upper San Joaquin River to begin the process of restoring salmon runs. Contra Costa County requests that the Phase 1 SED be revised to analyze and disclose any significant adverse impacts of the proposed actions on the recovery and sustainability of fish species on the upper San Joaquin River. The proposed action should also be revised to include new minimum flow requirements below Friant Dam. A new draft SED should then be released for</p>	Please see Master Response 2.1, Amendments to the Water Quality Control Plan, and Chapter 3, Alternatives Description for information regarding the geographic scope of the plan amendments, and the Upper San Joaquin River (SJR) and the SJR Restoration Program (SJRRP). The purpose of the plan amendments is to establish flow objectives and a program of implementation for the Lower SJR (LSJR), including the three eastside tributaries. The plan amendments focus on the LSJR, because these river segments currently support salmon runs and the 2006 Bay-Delta Plan water quality objectives on the SJR at Vernalis do not provide reasonable protection for fish and wildlife beneficial uses. The plan amendments do not include objectives for the Upper SJR at this time because the SJRRP is intended to restore and maintain fish populations in “good conditions” on the Upper SJR. Currently, the USJR does not support salmon runs. Flows needed to support the re-introduction of spring-run Chinook salmon are being determined and provided through the SJRRP. The State Water Board may consider water quality objectives for the stream system above the San Joaquin River’s confluence with the Merced River in future updates to the Bay-Delta WQCP.

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		public review and comment.	
1316	5	<p>The SED Fails to Analyze the Full Flows Recommended in the 2010 Delta Flow Criteria. The SED is inadequate because it fails to analyze and disclose the environmental benefits and impacts of 60% of unimpaired flow on the San Joaquin River at Vernalis. The SWRCB’s 2010 report, Development of Flow Criteria for the Sacramento–San Joaquin Delta Ecosystem, determined this percentage of unimpaired flow was needed at Vernalis from February–June to fully protect fish and wildlife beneficial uses in the three eastside tributaries and the lower San Joaquin River when considering flow alone. The revised draft SED considers three alternatives:</p> <ul style="list-style-type: none"> <li>- between 20 and 30% of unimpaired flow on each of the three tributaries, with 20% as the starting percentage (LSJR Alternative 2)</li> <li>- between 30 and 50%, with 40% as the starting percentage (LSJR Alternative 3), and</li> <li>- between 50 and 60%, with 60% as the starting percentage (LSJR Alternative 4)</li> </ul> <p>However, these are percentages of the unimpaired flow on each of three tributaries but a contribution of 20-60% was not required from the upper San Joaquin River below Friant Dam. As shown in Figure 1 [ATT1], the combined contribution of unimpaired flow from the three tributaries (Stanislaus, Tuolumne and Merced) for February-June is only 70% or less of the total unimpaired runoff from the San Joaquin Valley. The largest percentage of unimpaired tributary flow analyzed in the SED was 60% which means that the actual flow reaching Vernalis was only 42% or less of total San Joaquin unimpaired flow, i.e., much less than the 60% recommended in the 2010 report.</p> <p>The recirculated Draft SED recommends Alternative 3, which increases flow on the San Joaquin River and its tributaries between a range of 30 to 50% of unimpaired flow from February through June, with a starting point of 40%. The 40% of unimpaired flow on each of the three tributaries only represents about 28% or less of total San Joaquin unimpaired flow at Vernalis. This is again much less than the 60% recommended in the 2010 report to fully restore and sustain fish populations in the San Joaquin River. Contra Costa County requests that a new draft SED be prepared that analyzes and discloses the environmental impacts of an alternative that provides the full 60% of total San Joaquin unimpaired flow recommended by the SWRCB and the California Department of Fish and Wildlife [FOOTNOTE2: California Department of Fish and Game (November 2010), “Quantifiable Biological Objectives and Flow Criteria for Aquatic and Terrestrial Species of Concern Dependent on the Delta” in 2010. The new draft SED should then be released for public review and comment.</p>	<p>Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the Upper San Joaquin River and the unimpaired flow contribution of different parts of the San Joaquin River watershed. Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, regarding the reasonable range of feasible alternatives selected and evaluated in the SED and the exclusion of the Upper San Joaquin River and other parts of the watershed. Please refer to Master Response 3.1, Fish Protection, for technical responses to comments asserting that the 60 percent unimpaired flow suggested by 2010 Delta Flow Criteria report is needed. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding hydrologic modeling and a discussion of the calculation of unimpaired flow. Also see Master Response 1.1, General Comments, and Master Response 1.2, Water Quality Control Planning Process, for more information regarding the separate process of developing the Delta Flow Criteria Report, the consideration of beneficial uses and the public trust when establishing water quality objectives for the reasonable protection of different beneficial uses.</p>
1316	6	[ATT1:] Figure 1: Ratio of total three-tributary unimpaired flow to total San Joaquin Valley unimpaired flow for the months of February through June (DWR data, 1922-2014)	The commenter is providing this attachment for reference purposes in support of their comments. Those comments are addressed in these responses to comments; therefore, no additional response is required.
1316	7	The new draft SED should also consider flow requirements for July through January to ensure that the proposed flow requirements for February-June do not redirect adverse impacts to fish and the environment in subsequent months.	Refer to Master Response 2.1, Amendments to the Water Quality Control Plan regarding the January through June time frame, adaptive methods for February through June flows, and modifications to the plan amendments.
1316	8	The new draft SED should also consider flow requirements downstream of Vernalis to ensure the outmigrating and returning anadromous fish species are able to pass safely through the Delta and San Francisco Bay. As discussed earlier, this will require expanding	Please see Master Response 1.2, Water Quality Control Planning Process, regarding the geographic scope of Phase 1 and the phased approach to the Update to the Bay-Delta Water Quality Control Plan.

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		the Plan Area to include the Delta and San Francisco Bay. The new draft SED should discuss Areas of Concern and how they are been addressed.	<p>Please see Master Response 2.1, Amendments to the Water Quality Control Plan, for a discussion of commenter recommended changes and modifications.</p> <p>Please see Master Response 3.1, Fish Protection, for a discussion of the justification and description of the plan amendments for protection of fish.</p>
1316	9	It is imperative to leave the increased unimpaired flow in the river for fish. Therefore, Contra Costa County requests that the State Board ensure that any settlement agreements or alternative proposals, based on habitat restoration or payments to a restoration fund, actually provide sufficient flow in the river to meet the minimum flows necessary to restore and sustain anadromous fish and other components of the San Joaquin River and Bay-Delta ecosystem.	Please see Master Response 1.1, General Comments, for responses to comments by the State Water Board supporting voluntary agreements. The State Water Board recognizes that voluntary agreements may provide durable solutions to provide reasonable protections for fish and wildlife. As described in the Executive Summary, Section ES 3.1, Lower San Joaquin River Flow and Southern Delta Salinity Proposals, and Appendix K, Revised Water Quality Control Plan, the plan amendments provide a framework for accepting voluntary agreements as an implementation route for enhancing fish and wildlife beneficial uses in the Bay-Delta and tributary watersheds.
1316	10	Contra Costa County and Contra Costa County Water Agency are willing and available to work with the SWRCB and Bay-Delta stakeholders on all aspects of the update to the Bay-Delta WQCP.	Please see Master Response 1.1, General Comments, for regarding voluntary agreements and the public outreach process.
1317	1	It is because your decision will have such an impact on California’s inhabitants, that I respectfully urge you to reconsider several of the plan’s components. I suggest improvements more favorably aligned with protection of public trust resources, respect for economic interests, and enhancement of aesthetic values.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1317	2	<p>The State Water Resources Control Board is legally obligated and lawfully authorized to set flow objectives that meet the needs of Delta fish and wildlife.</p> <p>Fish and wildlife within the Sacramento-San Joaquin Delta Estuary (the Delta) need to be accounted for and protected. The State Water Resources Control Board (SWRCB or the Board) is legally obligated to meet the needs of these fish and wildlife species in the Delta when proposing San Joaquin River flow objectives. In essence, it is up to this Board to set water quality objectives that will properly protect and preserve the priceless economic and aesthetic values of our Delta.</p> <p>The Bay Delta and its tributaries are home to "more than 750 wildlife species and more than 120 species of fish"</p> <p>[Footnote #1 Reclamation, Bureau Of. "News &amp; Multimedia." Fact Sheet - California Water. Accessed March 13, 2017. <a href="https://www.usbr.gov/newsroom/presskit/factsheet/detail.cfm?recordid=3001">https://www.usbr.gov/newsroom/presskit/factsheet/detail.cfm?recordid=3001.</a>]</p> <p>some of which are listed under the Endangered Species Act. The U.S. Fish and Wildlife Service lists Delta fish species including the Delta Smelt, the Green Sturgeon, and of course the Spring-run and Winter-run Chinook Salmon, which appear to be the spotlight species of this phase of the plan. [Footnote #2 Service, U.S. Fish and Wildlife. "Listed species believed to or known to occur in California." Listed species believed to or known to occur in California. Accessed March 13, 2017. <a href="https://ecos.fws.gov/ecp0/reports/species-listed-by-state-report?state=CA&amp;status=listed">https://ecos.fws.gov/ecp0/reports/species-listed-by-state-report?state=CA&amp;status=listed</a>]</p> <p>These endangered creatures require protection by all Federal Departments and agencies, including the SWRCB, under the Endangered Species Act of 1973.</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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		<p>[Footnote #3 "It is further declared to be the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." U.S. Government, Department of the Interior, U.S. Fish and Wildlife Service, Endangered Species Act of 19734, Washington, D.C. 20240, 1-2. ]</p> <p>The Board must also take into consideration the Public Trust Doctrine, which requires the Board to consider public interest and to "protect public trust uses whenever feasible"</p> <p>[Footnote #4 - "The state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible" J.L. Sax, R.H. Abrams, B.H. Thompson, Jr. J. Leshy (2000). 548.]</p> <p>This means "the State Water Board is responsible for the protection of resources, such as fisheries, wildlife, aesthetics, and navigation, which are held in trust for the public"</p> <p>[Footnote #5. California, State Of. "Water Rights: Public Trust Resources." State Water Resources Control Board. Accessed March 13, 2017. <a href="http://www.swrcb.ca.gov/waterrights/water_issues/programs/public_trust_resources/">http://www.swrcb.ca.gov/waterrights/water_issues/programs/public_trust_resources/</a>. ]</p> <p>Lastly, the Board is responsible for protecting beneficial uses under the California Constitution, Article X, Section 2.</p> <p>[Footnote #6 -"It is hereby declared that [...] the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare." "ARTICLE 10 :: WATER." Justia Law. Accessed March 13, 2017. <a href="http://law.justia.com/constitution/california/article_10.html">http://law.justia.com/constitution/california/article_10.html</a> .</p> <p>The purpose of Article X is to protect the beneficial uses of water. Protecting endangered species should be considered a beneficial use of California’s water resources. In light of these legal protections and the SWRCB’s authority to create and implement water quality control plans (WQCP) under the Porter-Cologne Water Quality Control Act</p> <p>[Footnote #7 - "Each regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance; however, it is recognized that it may be possible for the quality of water to be changed to some degree without unreasonably affecting beneficial uses." Porter-Cologne Water Quality Control Act. Water Code Division and Related Sections (As amended, including Statutes 2016). 30. ]</p> <p>...and the 2009 Delta Reform Act.</p> <p>[Footnote#8 Recirculated Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay - Sacramento San Joaquin Delta Estuary San Joaquin River Flows and Southern Delta Water Quality Executive Summary, September 2016, State Clearinghouse #2012122071, Sacramento, CA</p>	

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		<p>95812-0100. ES.8]</p> <p>... it is this Board’s responsibility to protect and conserve all the species of the Delta and to meet those species’ needs when formulating flow objectives.</p> <p>Moreover, Delta fish and wildlife are an essential economic treasure for California. The California Salmon industry is critically reliant on the Delta as "salmon fishing accounts for 20-30,000 jobs and an annual \$2-3 billion in state revenues".</p> <p>[Footnote#9 - "The Delta." Save the California Delta Alliance (STCDA). August 05, 2013. Accessed March 13, 2017. <a href="https://nodeltagates.com/the-delta/">https://nodeltagates.com/the-delta/</a>.]</p> <p>Bass fishing also occurs in the Delta, adding to a multi-million dollar industry “which supports many in the Delta in a wide variety of careers.</p> <p>[Footnote #10 Ibid]</p> <p>As for the Delta’s unquantifiable aesthetic value, "many people live in the 10 Delta area to be close to boating, fishing and water-based recreation. They are brought together by their common bond and love for the scenic Delta." [Footnote #11 - ibid]</p> <p>Because of the beneficial use, public trust protections, and the SWRCB’s authorities, actions to protect fish and wildlife within the Delta, especially endangered species, should be implemented. The specific needs at all stages of the life-cycle for each species should be identified and fully addressed in setting flow objectives for the San Joaquin River.</p>	
1317	3	<p>The proposed Lower San Joaquin River (LSJR) flow objectives of 30-50% of unimpaired flow is not enough flow to protect fish and wildlife species and therefore fails to protect public trust resources. The Substitute Environmental Document (SED) in support of potential changes to the Water Quality Control Plan of The San Francisco Bay- Sacramento San Joaquin Delta Estuary, which proposes to change San Joaquin River Flow Objectives and Southern Delta Salinity Objectives, offers only one step for the protections of fish and wildlife. It suggests an unacceptably low flow proposal. The flow proposal includes a numeric objective of a range from 30-50% of unimpaired flow (UF).<sup>12</sup> [Footnote #12: Recirculated Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay–Sacramento San Joaquin Delta Estuary San Joaquin River Flows and Southern Delta Water Quality Executive Summary, September 2016, State Clearinghouse #2012122071, Sacramento, CA 95812-0100. ES 4.] San Joaquin River flows are a determining life factor for in-Delta fish species. According to the SED, “nearly every feature of habitat that affects native fish and wildlife is, to some extent, determined by flow (e.g., temperature, water chemistry, physical habitat complexity). These habitat features, in turn, affect risk of disease, risk of predation, reproductive success, growth, smoltification, migration, feeding behavior, and other physiological, behavioral, and ecological factors that determine the viability of native fish”.<sup>13</sup>[FOOTNOTE# 13 Recirculated Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay–Sacramento San Joaquin Delta Estuary San Joaquin River Flows and Southern Delta Water Quality Executive Summary, September 2016, State Clearinghouse #2012122071, Sacramento, CA 95812-0100. ES 9.]</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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		<p>For Chinook Salmon, “inflows are needed to provide appropriate conditions to cue upstream adult migration to the San Joaquin River [...], adult holding, egg incubation, juvenile rearing, emigration from the San Joaquin River [...], and other functions”.<sup>14</sup>[FOOTNOTE #14-California State Government, State Water Resources Control Board, California Environmental Protection Agency, DRAFT Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009, July 20, 2010, Sacramento, CA 95812-0100. 60.]</p> <p>A flow proposal of 30-50% of unimpaired flow is simply not enough flow to protect fish species in the Delta and is certainly not enough flow to facilitate a habitat that would increase populations at all, let alone doubling it.</p> <p>A science-based flow criteria report released by the SWRCB in 2010 stated that “60 percent of unimpaired SJR inflow from February–June would preserve the attributes of a natural variable system to which native fish species are adapted”.<sup>15</sup>[FOOTNOTE#15-Recirculated Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay–Sacramento San Joaquin Delta Estuary San Joaquin River Flows and Southern Delta Water Quality Executive Summary, September 2016, State Clearinghouse #2012122071, Sacramento, CA 95812-0100. ES 8.]</p> <p>The California Department of Fish and Wildlife strengthened evidence supporting this percentage of unimpaired flow when it determined that 50-60% of natural flow should remain to preserve and protect salmon and the health of the river.<sup>16</sup> [FOOTNOTE#16-California State Government, State Water Resources Control Board, California Environmental Protection Agency, DRAFT Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009, July 20, 2010, Sacramento, CA 95812-0100.]</p> <p>Evidence shows that at least 50% of unimpaired flow is necessary to achieve healthy fish populations but 50% is the cap of the Board’s currently favored alternative, Alternative 3.</p> <p>If this Alternative 3 is approved, it is very likely that the San Joaquin River will only rarely, if ever, reach 50% of unimpaired flow, and will likely spend a majority of time barely meeting the 30% of unimpaired flow objective. For these reasons, I urge the Board reject Alternative 3 (30-50% of unimpaired flow) and instead to adopt Alternative 4 (50-60% of unimpaired flow), which would be the absolute minimum that could be effective in protecting Delta fish species.</p>	
1317	4	<p>Alternative 4 (50-60% of unimpaired flow) should be approved despite possible impacts to water diverters. The agricultural industry should take accountability for meeting unimpaired flow requirements by cutting back on water usage.</p> <p>Although the 2010 Flow Criteria released by the SWRCB does not consider other public trust or beneficial uses, it is still extremely relevant information and by statute must be seriously considered when allocating water resources. Several highly established scientists studied rivers around North America and the European Union and they recommend 90% of unimpaired flow to ensure a high-level of ecological protections and 80% UF to ensure moderate levels of protection.<sup>17</sup>[FOOTNOTE #17-Richter, B. D., Davis, M., Apse, C., and Konrad, C. P. 2011. A presumptive standard for environmental flow protection. River Research and Applications. DOI: 10.1002/rra.1511. <a href="http://eflownet.org/downloads/documents/Richter&amp;al20!!!.pdf">http://eflownet.org/downloads/documents/Richter&amp;al20!!!.pdf</a> ] By lowering the</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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		<p>proposed range of unimpaired flow objectives down to 50-60%, which is 30-40% less than what scientists recommend for moderate ecological protection, we are making compromises that will inhibit raising salmon populations in the Delta and diminish public trust resources.</p> <p>Conflicts are likely to arise when asserting that 60% of unimpaired flow should remain in the SJR, leaving less than 40% for water diverters; however, these conflicts should be resolved in favor of fish and wildlife and environmental interest. There are no qualified justifications to deny these species' needs because it is certainly in the Board's authority to propose objectives that protect public trust resources. As stated in the 2010 Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem, "under the public trust doctrine, the State Water Board must take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible. (National Audubon Society v. Superior Court (1983) 33 Cal.3d 419, 446.)".18[FOOTNOT#18 - California State Government, State Water Resources Control Board, California Environmental Protection Agency, DRAFT Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem Prepared Pursuant to the Sacramento-San Joaquin Delta Reform Act of 2009, July 20, 2010, Sacramento, CA 95812-0100.] An unimpaired flow of 50-60%, significantly lower than what is actually needed "to achieve a high level of ecological protection"19[FOOTNOTE #19 - Richter, B. D., Davis, M., Apse, C., and Konrad, C. P. 2011. A presumptive standard for environmental flow protection. River Research and Applications. DOI: 10.1002/rra.1511. <a href="http://eflow.net.org/downloads/documents/Richter&amp;al20!!..pdf">http://eflow.net.org/downloads/documents/Richter&amp;al20!!..pdf</a>] and to protect public trust resources, is absolutely feasible if water diverters take reasonable steps to cooperate.</p> <p>The agricultural and dairy industries would absolutely continue to thrive if compromises are made in the favor of public trust resources such as fish and wildlife. According to the USDA, California almonds use about 1.1 trillion gallons of water each year, or 10% of California's agricultural water supply each year.20 [FOOTNOTE #20- Holthaus, Eric. "10 Percent of California's Water Goes to Almond Farming. That's Nuts." Slate Magazine. May 14, 2014. Accessed March 15, 2017. <a href="http://www.slate.com/articles/technology/future_tense/2014/05/_10_percent_of_california_s_water_goes_to_almond_farming.html">http://www.slate.com/articles/technology/future_tense/2014/05/_10_percent_of_california_s_water_goes_to_almond_farming.html</a> ]</p> <p>A single almond takes about 1.1 gallons of water [FOOTNOTE #21- Julia Lurie. "It takes how much water to grow an almond?!" Mother Jones. Accessed March 15, 2017. <a href="http://www.motherjones.com/environment/2014/02/wheres-californias-water-going">http://www.motherjones.com/environment/2014/02/wheres-californias-water-going</a>] and the average almond yield per acre was 2,670 pounds of shelled almonds in 2013. [FOOTNOTE # 22- Almonds become California's second-most valuable commodity." ANR Blogs. Accessed March 15, 2017. <a href="http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=8539">http://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=8539</a></p> <p>At 276 almonds per pound, [FOOTNOTE #23-23"Guess How Many Gallons of Water It Takes to Produce a Single Almond." MRCTV. Accessed March 15, 2017. <a href="http://www.mrctv.org/blog/guess-how-many-gallons-water-it-takes-produce-single-almond">http://www.mrctv.org/blog/guess-how-many-gallons-water-it-takes-produce-single-almond</a>] these almond farmers could save 761,760 gallons of water for every acre of almond farm they removed. Considering these numbers and that the average Californian uses 181 gallons of water a day, [FOOTNOTE # 24- California Water Science Center, U.S. Geological Survey. "California Water Use." California Water Use   USGS. Accessed March 15, 2017. <a href="https://ca.water.usgs.gov/water_use/">https://ca.water.usgs.gov/water_use/</a>] cutting out just one acre of almond farms could save</p>	

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		<p>enough water for more than 4,200 people in one day. And almonds are just the tip of the iceberg of water intensive crops. While almonds require 3.8 million acre-feet of water a year, alfalfa requires 5.2 MAF.[FOOTNOTE #25 - Woody, Todd. "Holy Cow! Crops That Use Even More Water Than Almonds." TakePart. May 11, 2015. Accessed March 15, 2017. <a href="http://www.takepart.com/article/2015/05/11/cows-not-almonds-are-biggest-water-users">http://www.takepart.com/article/2015/05/11/cows-not-almonds-are-biggest-water-users</a>] For wealthy industries like these, it would absolutely be feasible to save public trust resources such as the fish and wildlife in the Delta by limiting water use or growing fewer acres of almonds or alfalfa. Frankly, the almond and dairy industries have continuously, exponentially, and unsustainably expanded without any accountability and it is about time these water users make a cutback.</p> <p>Other alternatives, besides cutting back agricultural water use in order to preserve public trust resources, are also just as feasible. The Board should be pushing for the investment of money and research into finding new sources of water to replace flows which should be allocated to fish and wildlife uses. A joint study [...] by the Natural Resources Defense Council and the Oakland-based Pacific Institute found that by instituting basic modern-era water-saving technologies, like wastewater recycling, storm water capture, drip irrigation and replacement of urban lawns with native landscaping, the state could save enough water to reverse its dramatic groundwater decline with loads of water left over. [FOOTNOTE #26- Holthaus, Eric. "Yes, Almonds Use a Lot of California's Water. They're Also a Convenient Scapegoat." Slate Magazine. April 17, 2015. Accessed March 15, 2017 <a href="http://www.slate.com/articles/business/moneybox/2015/04/almonds_in_california_they_use_up_a_lot_of_water_but_they_deserve_a_place.html">http://www.slate.com/articles/business/moneybox/2015/04/almonds_in_california_they_use_up_a_lot_of_water_but_they_deserve_a_place.html</a>]</p> <p>Any action that saves water or seeks new water resources to protect Delta species and therefore the Delta's ecology, can be argued as feasible and in the interest of the public.</p> <p>It is time to truly analyze how the Board's decision could impact the existence of Delta species and the Delta as a whole. It is our turn to make a feasible compromise of limiting water use, eliminating acres of water intensive crops, and researching new sources of water. For the sake of the future of the Delta, the people who enjoy its recreational and aesthetic value, and the endangered species who suffer because of our inconsiderate farming practices, the Board should instill a logical flow objective, of at least 50-60% UF that will facilitate preservation of river habitat.</p>	
1317	5	<p>The proposal to add three compliance stations at Stanislaus, Tuolumne, and Merced Rivers is supported but needs adjustment. The flow proposal in the SED in support of potential changes to the Water Quality Control Plan includes language describing the addition of three compliance locations at Stanislaus, Tuolumne, and Merced Rivers.[FOOTNOTE #27 - Recirculated Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay Sacramento San Joaquin Delta Estuary San Joaquin River Flows and Southern Delta Water Quality Executive Summary, September 2016, State Clearinghouse #2012122071, Sacramento, CA 95812-0100. ES 12.]</p> <p>This action is supported and should be approved. Lack of compliance stations allows for error in use and makes it impossible to hold users and diverters accountable for not meeting flow requirements. This new WQCP proposes adding three more compliance locations which would inevitably assist tracking the compliance of Delta water users in meeting specific requirements at all times. In keeping with the goals of protecting fish species in the Delta, actions to create more compliance locations are supported; however, more compliance stations should be established, they should be more evenly distributed around</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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		<p>the Delta, and they should check for all essential factors at all times affecting healthy fish populations. Furthermore, there should be incentives to meet requirements as well as punishments for inability to meet requirements.</p>	
1317	5		<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1317	6	<p>Measures to lower salinity concentrations are supported and should be strengthened. For the protection of Delta waters, which farmers as well as in- Delta fish and wildlife species rely on, optimal and scientifically supported salinity objectives should be established and consistently met. One goal, stated in this SED, in implementing salinity objectives in the Southern Delta is to “establish salinity objectives, supported by existing scientific information, that are not lower than necessary to reasonably protect [...] crops [...] in the southern Delta”. In essence, this Board must implement a salinity objective that will reasonably protect water for agricultural uses in the Delta.</p> <p>As you know, salinization can be detrimental to crops. Higher concentrations of salt in Delta waters not only harms water quality, but it adversely impacts the approximately 230,000 hectares of some of the world’s most fertile land which is irrigated by Delta waters. [FOOTNOTE #29- 8. EXPERIENCES USING WATER OF VARIOUS QUALITIES." Water quality for agriculture. Accessed March 13, 2017. <a href="http://www.fao.org/docrep/003/t0234e/T0234E09.htm">http://www.fao.org/docrep/003/t0234e/T0234E09.htm</a>] The Food and Agriculture Organization of the United Nations (FAO) conducted several studies around the US and other countries concluding, through a variety of methods and subjects, that higher salinity concentrated water used to irrigate crops will decrease the maximum crop yield.[FOOTNOTE #30- Ibid.]</p> <p>Another report, Salt Tolerance of Crops in the Southern Sacramento-San Joaquin Delta, found that “salinity adversely affects the quality of some crops [...]. By decreasing the size and/or quality of fruits, tubers, or other edible organs, salinity reduces the market value of many vegetable crops, e.g., carrot, celery, cucumber, pepper, potato, cabbage, lettuce, and yam. [...] Generally [...] beneficial effects of salinity are offset by decreases in yield. [FOOTNOTE#31- Glenn J. Hoffman, Salt Tolerance of Crops in the Southern Sacramento- San Joaquin Delta Final Report, for the State Water Resources Control Board, January 5, 2010. 4. ]</p> <p>It is in agreement among credible scientific researchers that higher salinity will lead to problems, problems we can easily avoid if we take measures now to control and monitor current salinity concentrations. If we continue to allow salinity concentrations to increase, we will be drastically harming a source of economic value. Between1998-2004, the average gross agricultural output from the six Delta counties was calculated by the Department of Water Resources to be \$654,766,017 (2004 dollars). [FOOTNOTE#32 Ken Trott, Memorandum: Agriculture in the Delta, August 10, 2007. 4 <a href="http://deltavision.ca.gov/Context_Memos/Agriculture/Agriculture_Iteration2.pdf">http://deltavision.ca.gov/Context_Memos/Agriculture/Agriculture_Iteration2.pdf</a>]</p> <p>This is 2% of the state’s total production value which may seem small, but if the Delta were a country, it would rank 15th out of the state’s 58 counties in agricultural production value. [FOOTNOTE #33 Ibid]</p> <p>Allowing salinity concentrations to increase by relaxing current concentration objectives will be detrimental to current and future generations of in-Delta farmers. It will directly</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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		<p>impact the entirety of California agriculture and consumers, and it will set a precedent ideology that encourages ill treatment of valuable resources. The proposal to lower salinity objects in the Southern Delta is vastly opposed by substantial scientific evidence and therefore must be rejected. To protect Delta waters, salinity objects for the south and central Delta should remain at .7 EC.</p>	
1317	7	<p>I look forward to the approval of a plan that benefits and protects public trust resources such as the fish and wildlife, which are so essential to our ecosystem and economy as well as plan that preserves the natural and the unequivocal beauty of California.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1318	1	<p>NSJWCD's [North San Joaquin Water District] only surface water right is on the Mokelumne River and is junior to East Bay Municipal Utility District. While the LSJR SED does not directly impact the Mokelumne River, NSJWCD has grave concerns about the methodology and policy used for the SED and its extended use and implications for the Mokelumne River.</p>	<p>As described in the Executive Summary of the SED, the plan area encompasses the areas where the plan amendments apply to protect the beneficial uses. This does not include the Mokelumne River. Please refer to Master Response 1.2, Water Quality Control Planning Process regarding the updates to the Bay-Delta Plan in independent proceedings.</p> <p>Please refer to Master Response 1.1, General Comments regarding the watersheds considered in the SED's analysis. As identified in the State CEQA Guidelines: an EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes into account of environmental consequences (State CEQA Guidelines Section 15151). An evaluation need not be exhaustive for commenters to provide comments or for decision makers to make a decision. In addition, as identified by the State CEQA Guidelines, persons and public agencies should focus on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided or mitigated. The adequacy of an environmental document is determined in terms of what is reasonable feasible, in light of factors such as the magnitude of the project at issue, the severity of its likely environmental impacts, and the geographic scope of the project (Section 15024(a)).</p>
1318	2	<p>NSJWCD [North San Joaquin Water District] shares an overdrafted groundwater basin with water agencies to the south of NSJWCD who are directly impacted by the LSJR SEWD (Stockton East Water District and South San Joaquin Water District; for example). Any harm to the ability of these districts to utilize surface water as part of a conjunctive use program will further harm the groundwater basin and make it that much for difficult for NSJWCD and others to achieve groundwater sustainability.</p>	<p>Please see response to Comment 1318-3</p>
1318	3	<p>The Proposal Will Force Agricultural Users to Shift to Groundwater to Meet Irrigation Demands.</p> <p>The SED recognizes that there will be significant and unavoidable impacts to groundwater sources in the affected regions as a result of the Flow Proposal. Under current conditions, groundwater users in the Plan and Extended Plan Areas are already seeing significant negative impacts from the rapid-depletion of groundwater sources: wells are being deepened at an alarming rate, groundwater quality is being diminished, and aquifers are losing capacity as a result of subsidence. If the Flow Proposal evaluated in the SED is adopted, then surface water users will see a dramatic reduction in surface water reliability. These water users are already extremely efficient and there is only a small increment of additional efficiency that can be obtained without fallowing land. Inevitably, to meet demand, groundwater use will increase significantly, particularly in dryer years. Additional stress on groundwater basins will have the social, economic, and environmental impacts. These impacts will be especially difficult for disadvantaged rural communities who often rely on shallow residential groundwater wells, as well as employment in the agricultural</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding SED consideration of SGMA and the potential for increased groundwater pumping.</p> <p>Please see Master Response 3.5, Agricultural Resources, for discussion of the impacts of the plan amendments on agricultural resources.</p> <p>Please see Master Response 2.7, Disadvantaged Communities, for discussion of the plan amendments as they relate to disadvantaged communities.</p>

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		industry. The SED has completely failed to identify and analyze these impacts.	
1318	4	<p>The Proposal Will Cause Wide-Spread Land Fallowing and Loss of Property Value in Affected Regions.</p> <p>For many agricultural operations in the affected region, implementation of the Sustainable Groundwater Management Act (SGMA) coupled with adoption of the Flow Proposal will prevent access to reliable water supplies for irrigation during most water year types. Agricultural parcels without a reliable source of water following adoption of the Flow Proposal will see reductions in property values and revenue losses for counties, cities, and special districts that provide essential services to residents in these areas. Loss of water supply reliability will force agricultural operations to cease irrigating portions of their land or to cease farming altogether, exacerbating current land conversion trends towards high-value permanent crops and urban development. These impacts are not speculative. In contrast, proponents of the Flow Proposal admit that the potential environmental gains are speculative and that flows alone will not provide desired results.</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or make a general comment regarding the plan amendments.</p> <p>Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the long term economic effects of changes in water supply availability and property values. Also, please see Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results, section G.5.4 for discussion of potential fiscal impacts to local governments.</p> <p>Please see Chapter 11, Agricultural Resources, and Master Response 3.5, Agricultural Resources, for discussion of potential impacts to agriculture.</p> <p>Finally, please see Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, and Master Response 3.1, Fish Protection, for discussion of potential benefits of the plan amendments to fish and wildlife.</p>
1318	5	<p>The Significant and Unavoidable Impacts are Not Justified by the Anticipated Benefits</p> <p>Although the SED recognizes that the Flow Proposal would result in numerous significant and unavoidable impacts, the discussion of the benefits that could be anticipated from increased flows are simply too speculative to justify such a wide-ranging policy shift. For example, the SED makes clear that a drastic decrease in surface water supplies will inevitably cause largescale negative impacts for the farms and communities that currently rely on this water. (See Table 18- 1). Less-clear is how the benefits identified in the Draft Revised SED will be weighed against these negative impacts to support the findings that must be included in a "Statement of Overriding Considerations" under CEQA Guidelines section 15093. The Draft Revised SED summarizes these benefits as follows:</p> <p>The results of the temperature, floodplain, and SalSim analysis presented in this chapter indicate that as the percentage of unimpaired flow is increased during the February through June time period, the flow related benefits to salmon and steelhead also increase...Although increasing now and providing a more natural flow regime is expected to provide substantial and necessary benefits to native fishes; flow alone cannot solve the many issues that native fish populations face in the SJR Watershed. To reach the goal of achieving and maintaining viable populations of native fish, many other non-now actions must be taken.</p> <p>(Draft Revised SED, pg. 19-88.) In other words, reductions in water availability will inevitably result in a wide range of negative impacts, but increases in water availability will not necessarily result in clear and definite benefits to fish, even if coupled with non-flow related measures. When comparing such speculative promise of success to the clear and unavoidable negative impacts that have been identified in the Draft Revised SED, it does not appear that the State Board has the evidence necessary to support the findings required by 14 C.C.R. 15093. We also question how the State Board can satisfy its public trust obligations in light of these conclusions. The public trust requires balancing. It prohibits the Board from dedicating flow to potential and speculative environmental benefits, at the expense of certain widespread human and environmental harm.</p>	<p>Please see Master Response 3.1, Fish Protection, regarding the benefits of the plan amendments, the unimpaired flow approach, the use of the best available science, and making adjustments and addressing uncertainty. Please also refer to Master Response 3.1 regarding the adequacy of the analyses conducted in Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30. Refer to Master Response 5.2, Incorporation of Non-flow Measures, for discussion of the role of non-flow measures and the State Water Board's authority.</p> <p>The purpose of the environmental review process is to disclose potential environmental impacts on the public and decision-makers. The State Water Board gives consideration to potential economic effects in Chapter 20, Economic Analysis, per the requirements of Water Code Section 13141 and Section 13241. The State Water Board is not required to include a cost-benefit analysis, as the commenter seems to suggest. Please see Master Response 1.2, Water Quality Control Planning Process, regarding consideration of beneficial uses by the State Water Board, and for discussion of the State Water Board's authorities and regulations governing the water quality control planning process. Please see Master Response 1.1, General Comments, regarding general responses to economic-related comments, including those attempting to compare costs and benefits.</p> <p>The State Water Board acknowledges that uncertainty is inherent in any programmatic planning effort of this geographic and temporal scale. Moreover, foreseeing the unforeseeable is not possible. The State Water Board, however, has strived to use the best available science throughout the impacts analysis, consistent with the requirements of the certified regulatory planning process, and, in accordance with CEQA, used its best efforts to find out and disclose what it reasonably can.</p>
1318	6	<p>The State Water Board Must Address Stakeholder Concerns.</p> <p>Throughout the public outreach process for the State Water Board's proposal to update the</p>	<p>Please see Master Response 1.1, General Comments, for regarding voluntary agreements and the public outreach process. The State Water Board used the best available science throughout the SED. A variety of data were obtained for the water quality planning process: quantitative data from peer-reviewed published</p>

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		<p>Water Quality Control Plan, there have been extensive comments submitted by members of the affected communities expressing deep concerns with the baseline assumptions and technical data utilized by the Board in performing its analysis. Despite this out pouring of public participation, the Draft Revised SED does not address many of the questions and concerns raised by stakeholders, casting doubt on the accuracy and the credibility of its findings. NSJWCD [North San Joaquin Water District] urges the State Water Board to fully participate with local stakeholders to answer outstanding questions and vet potentially inaccurate data with the communities most familiar with the waterways impacted by this proposal. A newly-revised SED should be issued only after Water Board staff have these substantive discussions.</p>	<p>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>
1318	7	<p>The State Board Should Rely on Experts Actually in the Field.</p> <p>The LSJR flow proposal and SED contradict and largely ignore the experience and empirical evidence collected by the actual stakeholders on the LSJR tributaries who have been working on fisheries issues for decades. We [North San Joaquin Water Conservation District] urge the State Board to interview and engage the experts who are actually in the field working on these issues in the river day in and day out before proposing new flow standards. The State Board will learn that fishery populations actually do well within the tributaries, but suffer from predation and other non-flow stressors after leaving the tributaries. We cannot continue to throw precious flow at this problem as we have done since the mid-1990s, and expect improvement. There is general consensus among scientists and stakeholders that non-flow measures are the key to improving fishery conditions and survival.</p>	<p>The State Water Board used the best available science throughout the SED, as discussed in Master Response 1.1, General Comments. A variety of data were obtained for the water quality planning 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 plan amendments; unpublished quantitative data from within the plan area and from outside of the plan area; qualitative data or personal communication with topical experts; as well as expert opinion.</p> <p>Please see Master Response 3.1, Fish Protection, regarding the scientific justification for the plan amendments and the type of scientific information used throughout the water quality control planning process.</p> <p>The topic of predatory fish posing a threat to anadromous fish in the San Joaquin River system is discussed in Chapter 7, Aquatic Biological Resources and Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives. The body of evidence does not support the claim that predatory fish are the primary limiting factor to salmonid survival. The best available science demonstrates that flow is the primary limiting factor to survival. The SED concludes that predatory fish are a stressor but not the primary limiting factor. The body of evidence described in Chapter 7, Aquatic Biological Resources; Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30; and Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, provides ample reason to conclude that improved flow conditions would help fish and the ecosystem overall. Chapter 16, Evaluation of Other Indirect and Additional Actions, also includes a list of non-flow measures, and potential impacts of those measures, that may help reduce predatory fish. These are included in the SED because these are measures that parties could undertake to inform the body of scientific information potentially used to make adaptive implementation decisions in response to implementation of the plan amendments.</p>
1319	1	<p>Under the SED, the State Water Resources Control Board (SWRCB) proposes substantial changes to flow objectives for the Tuolumne River. These changes are anticipated to result in significantly reduced surface water available for diversions, thereby causing significant, potentially unavoidable impacts to water supply and the environment.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1319	2	<p>Under drought conditions, CCWD (Coastside County Water District) would be forced to rely more on local surface water supplies, having unknown and potentially significant impacts; in addition, local surface water supplies would likely be greatly depleted or completely unavailable during drought conditions, which were not adequately analyzed in the SED.</p>	<p>Please see Master Response 8.5, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System, regarding the State Water Board's evaluation of potential reductions in water supply and associated economic considerations and other impacts within the SFPUC Regional Water System (RWS) service area with implementation of the plan amendments. The master response identifies the main points of disagreement or differing assumptions between the SED and the comments. As described in Master Response 8.5, the SED identified reasonably foreseeable actions that could be taken by affected entities to comply with the plan amendments and in response to reduced surface water supplies. These actions did not include the severe mandatory rationing described by SFPUC because it was not reasonably foreseeable</p>

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			that a water supplier would impose drastic mandatory water rationing on its customers without first attempting other actions to replace any reductions in water supplies with alternative sources of water, such as through water transfers.
1319	3	CCWD (Coastside County Water District) has made significant strides in water conservation in the past 10 years. Per capita water use decreased 26% from 2008 to 2015, and residential use in 2016 was 55 gallons per capita per day. This increase in water use efficiency makes further reductions more difficult and increases the impacts of water shortage.	The State Water Board acknowledges CCWD's water conservation effort and ongoing commitment to demand management. This comment does not raise significant environmental issues or make a general comment regarding the plan amendments. Please see response to comment 1319-2.
1319	4	Based on the District's 2015 Urban Water Management Plan, this significant cut to SFPUC water supply could force CCWD (Coastside County Water District) to implement Stage 5 - Critical Water Shortage Emergency - of its Water Shortage Contingency Plan. In addition to a moratorium on new connections, Stage 5 imposes extreme cuts and hardship on both residential and non-residential customers in order to prioritize public health, sanitation, and safety. CCWD's (Coastside County Water District) largest customers are water-dependent businesses (floriculture, public recreation, hotels, restaurants), many of which would be unlikely to survive with 50% of the water they currently use.	Please see response to comments 1319-2. Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for additional discussion regarding health and safety and the emergency provision. Please also see Master Response 3.6, Service Providers, for a discussion of Water Code Section 106 and water for minimum health and safety needs.
1319	5	Given the interconnected nature of the economy within the Bay Area and BAWSCA (Bay Area Water Supply and Conservation Agency) service area, CCWD (Coastside County Water District) will be impacted by water shortages on the San Francisco Regional Water System resulting in economic and environmental impacts to neighboring communities and the Bay Area as a whole.	Please see response to comment 1319-2. Please also see Master Response 8.5, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System, for a discussion regarding economic considerations, growth effects, environmental effects based on a rationing-only approach, and demand management.
1319	6	CCWD (Coastside County Water District) serves water to a residential population of 17,000 people and to over 600 businesses and other non-residential customers. Potential consequences of the SED proposal include health and safety concerns due to lack of potable supplies, major job losses, slower economic growth and delayed community development in the CCWD's service area.	Please see response to comments 1319-2, 1319-4, and 1319-5.
1319	7	Since outdoor use represents a relatively small promotion of CCWD's (Coastside County Water District) commercial, industrial, and institutional account water demand, commercial, industrial, and institutional customers generally have fewer opportunities to reduce water use without changing their operations or incurring significant economic impacts.	Please see response to comments 1319-2, 1319-4, and 1319-5.
1319	8	Coastside County Water District requests that environmental and economic impacts of any shortage on the San Francisco Regional Water System, and the associated lost jobs and delayed development be fully and adequately analyzed as part of the SWRCB's proposed flow alternatives. Such full and adequate analysis should be given at least equal weight with all other elements of the SWRCB's subsequent deliberations and decision making.	Please see response to comments 1319-2, 1319-4, and 1319-5.
1319	9	The Governor has indicated his strong support for negotiated voluntary agreements to resolve these issues. Coastside County Water District requests that the SWRCB provide adequate time for a voluntary agreement to be reached amongst the stakeholders prior to any action on the SED. Please give this settlement process a chance for success instead of expediting the implementation of the current proposal. CCWD shares BAWSCA's (Bay Area Water Supply and Conservation Agency) commitment to continue working closely with the diverse interests and stakeholders to develop that shared solution.	Please see Master Response 1.1, General Comments, for information regarding voluntary agreements and collaboration with agencies.
1320	1	The October 16, 2016 version of SWRCB's SED does not adequately identify or address the impacts that the proposed unimpaired flows would have on the CVP power function. The	CVP was, and is, primarily a project for water supply to farms and communities, with an ancillary function of power generation for CVP customers and sale of excess power when available. The CVPIA of 1992 elevated

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		<p>CVP is a multi-purpose, multi-reservoir, and geographically dispersed project with facilities, features, and authorized beneficiaries throughout northern and central California.</p>	<p>the role of fish and wildlife protection, enhancement, and restoration. The SED addresses the impact on the CVP on each of these functions within the specific range of the proposed regulations, namely, the three watersheds of the San Joaquin Valley. With respect to the power function of the CVP, the SED considers how changes in unimpaired flow will affect power production at the one facility subject to the plan amendments, the facility at New Melones Reservoir on the Stanislaus River.</p>
1320	2	<p>Preparing separate SEDs for the Sacramento and San Joaquin River systems dilutes the real impact of such decisions and results in potential segmentation of the analyses required under both the National Environmental Policy and the California Environmental Quality Act. Since the CVP is operated as a single, integrated project, WAPA notes that instead of bifurcating the environmental analyses for the Sacramento and San Joaquin River systems, both analyses need to be combined and incorporated with an impact analysis of the Delta. A consolidated analysis is necessary in order to accurately capture the magnitude of proposed unimpaired flows to project beneficiaries. This is true for not only the CVP, but other upstream hydropower facility asset owners who may be similarly situated.</p>	<p>The plan amendments are not subject to the National Environmental Policy Act and there is no federal lead agency. Please see Master Response 1.2, Water Quality Control Planning Process, regarding the independent proceedings of the updates to the Bay-Delta Plan that address different watersheds. Hydropower for the Sacramento River Watershed and other Delta tributaries will be evaluated in a separate and independent proceeding.</p>
1320	3	<p>When the SWRCB first initiated its effort to consider the establishment of potential new unimpaired flow standards, after the passage of the Delta Reform Act shortly after 2009, WAPA, along with a number of similarly situated stakeholders, commissioned a study by HCR consultants to evaluate the potential impacts on the regional hydropower system associated with alternative unimpaired flow standards. At that time, preliminary studies indicated if a 40 percent impaired upstream flow standards were imposed upon the CVP for both the Sacramento and San Joaquin River systems, the total hydropower generation production output of the project would be reduced by approximately 30 percent. A hydropower generation reduction in this magnitude would have a major impact on WAPA and the CVP operations.</p> <p>As a policy matter, the state of California has committed to achieving environmentally friendly objectives in the areas related to water and air. Accordingly, continued viability of the CVP is essential to realizing those statewide environmental objectives. However, such an impact as it relates to the CVP is not listed or identified anywhere in the report. The proposed unimpaired flow standards would require increased releases from reservoirs during the spring runoff months, which translates to less hydropower generation during the peak summer months. The consequences of less hydropower generation during peak demand include (1) loss of financial value, (2) inability to generate clean power during peak demand thus increasing California's reliance on out-of-state power and potentially less environmentally friendly alternatives, and (3) potential spring over-supply conditions causing negative pricing and power price volatility.</p> <p>Finally, as Reclamation's statutory project-use energy provider, WAPA is concerned that in addition to reduced overall hydropower generation, the proposal may also create a need to purchase power on the market for certain hours of the day during the peak summer months, resulting in not only additional costs, but the specter of no surplus hydropower generation available to be marketed to WAPA preference power customers.</p>	<p>Please see response to comment 1320-2 and Master Response 1.2, Water Quality Control Planning Process, regarding the State Water Board's efforts to update the Bay-Delta Plan under different independent proceedings. These proceedings are sometimes referred to as Phases I and II of the Bay-Delta Plan update and as the Executive Summary, Section ES1, Introduction, makes clear, the use of the term "Phase" to describe different processes is solely used for administrative convenience to distinguish the different proceedings. The SWB cannot comment on the cited study because it is not in the public domain and, therefore, the assumptions and models critical to developing the results and conclusions cannot be compared. Furthermore, the comment indicates that the analysis was not applicable to the Phase I plan amendments and SED because it was for the combination of Phases I and II. The State Water Board stands by the general findings of the analysis of the impacts on the New Melones hydroelectric generation contained in Appendix J, Hydropower and Electric Grid Analysis of Lower San Joaquin River Flow Alternatives; Chapter 14, Energy and Greenhouse Gases; and Chapter 20, Economic Analyses, in the 2016 Recirculated SED.</p> <p>Please see Master Response 8.4, Non-Agricultural Economic Considerations, regarding potential loss of seasonal flexibility in power generation and effects of hourly fluctuations in power generation. See also Section J.4, Effects on Generating Capacity and Electric Grid, which concludes that there would be little change in the distribution of available generation capacity in both July and August, peak energy-use months.</p> <p>A review of CVP Project Financial Statements provides useful context. Historic power generation revenues of the CVP as a whole, and the Stanislaus Division in particular, for the period 2010 through 2015 indicate that Stanislaus Division sold power worth \$1,685,089.97 in revenues in 2015, and similar amounts in 2010 through 2014. The CVP as a whole sold power worth \$34.1 to \$43.7 million in revenues during the same period. The Stanislaus Division power generation was responsible for between 4.8 to 5.4 percent of CVP power revenues during the period (USBR, 2011; USBR, 2012; USBR, 2013; USBR, 2014; USBR, 2015). The analysis contained in Appendix J and Chapter 20 describes that power revenues would increase for two of the three alternatives by virtue of increasing power generation in late spring and producing more power overall. This includes an increase within the Stanislaus Division, although it would be relatively minor compared to the CVP's overall hydroelectric power generation revenues.</p> <p>The analysis contained in the SED explicitly considers the effects on the primary mission of the CVP, including irrigation, municipal water supply, power generation, and fish and wildlife protection and enhancement. For hydropower in particular, the analysis considers reservoir storage, power generation, and price levels over the course of the year in its determination and conclusions that the overall impact on</p>

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			<p>power production would be minimal.</p> <p>It is correct that CVP hydropower effects were not separated from overall hydropower effects. Hydropower effects were not parsed out by facility ownership because the potential effects depend on the combined effects to issues that are global (i.e., GHGs) or state-wide (i.e., grid stability, cost for hydropower customers in general, not just WAPA preference power customers).</p> <p>Please also see Master Response 3.2, Surface Water Analyses and Modeling, regarding hydrologic changes and potential effects on hydropower.</p>
1320	4	<p>The SED comes to broad conclusions of less than significant impacts without providing sufficient facts to back up the conclusions. In particular, the document states in Impact EG-2, "Additional groundwater pumping would not result in inefficient, wasteful, and unnecessary consumption of energy to the extent groundwater pumping is used to meet water supply irrigation demand". However no evaluation of the power rates required for this compensation are provided or compared to the current rates. WAPA recovers all costs associated with the construction and operation of the CVP power function on a cost-of-service basis. However, that cost-of-service basis is often times, during many hours of the day, above the hourly day-ahead price that is established by the California Independent System Operator. Should additional regulatory and environmental costs be imposed upon WAPA's operations, the CVP may no longer be financially viable.</p>	<p>Please see Master Response 1.1, General Comments, for a discussion regarding substantial evidence and regarding the general approach to economic considerations evaluated within the SED (primarily in Chapter 20, Economic Analyses). The analyses contained in Chapters 9, Groundwater Resources, Chapter 14, Energy and Greenhouse Gases, and Chapter 20 recognize that groundwater pumping by irrigators could increase (as it has in the past) to offset reductions in surface water supply. The agricultural production model provides estimates of the associated economic cost in Chapter 20 and Appendix G, Agricultural Economic Effects of Lower San</p> <p>Joaquin River Flow Alternatives: Methodology and</p> <p>Modeling Results, and Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, provides clarifying information regarding groundwater and cost. Please refer to Chapter 20, under Baseline Agricultural Production and Revenues and Potential Farmer Effects, with details provided in Appendix G, Section G.4.4, Groundwater Pumping Costs. The additional energy costs are likely to be paid to utility companies. As noted in Section G.4.4, the assumed energy rate (\$0.189/kWh) remains constant, but may overstate the cost for irrigation district members who receive discounted power rates from hydropower projects; this applies to CVP customers.</p> <p>With respect to cost recovery on a cost-of-service basis, the comment suggests that "additional regulatory and environmental costs" would be imposed upon WAPA's operations without compensation. Optimizing power generation for peak prices would continue to require advance planning whether or not the plan amendment is implemented (as described in Master Response 8.4, Non-Agricultural Economic Considerations). However, the State Water Board economic analysis does not conclude that there will be additional, unaccounted-for (hidden) costs. The State Water Board finds that what economic effects would accrue would apply to the Stanislaus Division, not to WAPA operations in full or to all of the CVP, and would therefore not cause the CVP to "no longer be financially viable."</p>
1320	5	<p>The financial impact of hydropower also extends to water contractors. A recent Department of Interior Inspector General's audit (Report No.WR-EV-BOR-0003-2012 released March 2013) indicated that the irrigation function for the CVP is currently not on track to fully recover all of the allocated capital investment costs by the year 2030. The Inspector General found that if Reclamation was unable to undertake the necessary corrective actions to the rates in a timely manner the cost "increases to water contractors could create the potential for rates to exceed irrigation contractors' ability to pay and shift the repayment requirement to the power users."</p> <p>If timely corrective action is not undertaken, the Inspector General estimated that based on current trends, the projected shortfall could range from a low of \$330 million to a high of \$390 million. This is another example of an enterprise wide risk that is independent of the proposed project being evaluated, and could affect the overall economic and financial viability of the CVP. In short, should the cost of power become prohibitively expensive for</p>	<p>The State Water Board is cognizant of the history of the CVP, its original purposes of managing stream flows and providing irrigation water supply (and generating power), and its later expanded purposes including municipal water supply and fish and wildlife protection and enhancement. It is also aware of the history of irrigation water rates that have not kept pace with capital costs, despite preferential power rates for irrigators. But as the commenter noted, the financial circumstances of the CVP would exist with or without the plan amendments. Whether the CVP's preference power customers, who can purchase excess power after the CVP's own pumping requirements, would face higher rates, or CVP's own irrigation or municipal customers incur higher rates to address the capital shortfall is an internal rate-setting or political decision beyond the reach of the State Water Board plan amendments. As WAPA recognizes, power rates in the future would be affected by the changing environment of energy production and markets, especially from competing renewable sources such as wind and solar (see Master Response 8.4, Non-Agricultural Economic Considerations, for general information about energy market). The CVP's preference power customers would likely ultimately weigh the relative cost of power from all potential sources.</p>

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		the project's preference power customers, the only customers left to repay for the CVP will be the project's water customers, and some of those customers (i.e., irrigators), may be constrained by an "ability to repay." The net result would be deleterious to California's agricultural economy.	
1320	6	<p>While the SWRCB is on its own, independent track to potentially require additional releases from upstream reservoirs, WAPA notes that there are a number of other water resource initiatives underway with both the Reclamation and the California Department of Water Resources. Each of these initiatives would add additional costs to the CVP. These include, but are not necessarily limited to, billions of dollars in proposed projects: (1) North of Delta Off-Stream Storage project, (i.e., Sites Reservoir); (2) Enlarged Shasta Dam Project; (3) Upper San Joaquin River Storage Project (Temperance Flat); (4) San Luis Reservoir Low Point Project and (5) the proposed \$16 billion Delta Twin Tunnels Project (California Water Fix); in addition to the existing requirements under the Central Valley Project Improvement Act and the San Joaquin River Settlement Act.</p> <p>Individually, each proposal reduces project vendible accomplishments while increasing costs. Collectively the costs to WAPA are not sustainable. WAPA believes that all of these actions need to be not only acknowledged, but analyzed within the context of the proposed SWRCB decision to understand the context and the totality of what could potentially occur, including the environmental impact if the CVP is no longer financially viable.</p>	The State Water Board is aware of the other water resource initiatives and projects. However, each of the identified water resource initiatives and projects is designed to increase water supply and associated revenue. In other words, the projects may add costs but the additional water supply would likely result in net benefits. Each of these projects must undergo both engineering and economic feasibility studies to demonstrate that the project will be technically operable, and that sufficient benefits are generated to cover capital and operating costs. It is therefore not a foregone conclusion that the CVP would be harmed financially, and its overall operations would actually benefit from one or all of the plan amendments. Furthermore, each of the projects cited by the commenter remain in the planning stage, and are subject to change. It would be speculative and not appropriate for the State Water Board to analyze the plan amendments in such an uncertain context.
1320	7	WAPA understands the desire of the SWRCB to find a solution to improve the biology of the San Francisco-Bay Delta estuary. However, in order to fully understand the implications of the proposed actions, stakeholders need to be aware of the related and cumulative impacts which when viewed in their entirety, may generate a different perspective of the baseline and recommendations.	Please see Master Response 1.1, General Comments, regarding the State Water Board authorities and the consideration of beneficial uses throughout the water quality control planning process. The SED provides consideration of the many aspects of the plan amendments, including potential effects on agricultural irrigators and hydroelectric power generation and the associated economic consequences. Please see Master Response 2.5, Baseline and No Project, for a discussion of the baseline used in the CEQA impact analysis. Please also see Master Response 6.1, Cumulative Analysis, and Chapter 17, Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources, for a discussion of cumulative environmental impacts.
1321	1	As a wholesale customer of SFPUC that purchases 100% of its potable water supply from the San Francisco Regional Water System, water supply available to Palo Alto under the SED proposal could be reduced by more than 50% under drought conditions for multiple consecutive years.	Please see Master Response 8.5, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System, regarding the State Water Board's evaluation of potential reductions in water supply and associated economic considerations and other impacts within the SFPUC Regional Water System (RWS) service area with implementation of the plan amendments. The master response identifies the main points of disagreement or differing assumptions between the SED and the comments. As described in Master Response 8.5, the SED identified reasonably foreseeable actions that could be taken by affected entities to comply with the plan amendments and in response to reduced surface water supplies. These actions did not include the severe mandatory rationing described by SFPUC because it was not reasonably foreseeable that a water supplier would impose drastic mandatory water rationing on its customers without first attempting other actions to replace any reductions in water supplies with alternative sources of water, such as through water transfers.
1321	2	Palo Alto has made significant strides in water conservation in the past 10 years. Residential per capita water use decreased 40% from 200 gallons per capita per day (gpcd) to 121 gpcd.	The State Water Board acknowledges Palo Alto's water conservation effort and ongoing commitment to demand management. The comment does not raise significant environmental issues or make a general comment regarding the plan amendments. Please see response to comment 1321-1.
1321	3	Based on Palo Alto's 2015 Urban Water Management Plan, this significant cut to water supply would force Palo Alto to take a number of drastic actions including, but not limited to, a potentially costly increase in incentive-based demand side management programs,	Please see response to comment 1321-1.

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		<p>escalated information, outreach and education programs, and more rigorous and resource intensive enforcement activities. In addition to a suite of water use restrictions required in less severe water shortages, Palo Alto would place a moratorium on new water service connections (unless the customer pays for sufficient offsetting conservation measures to be applied elsewhere in the service territory), prohibit ornamental landscape and turf irrigated, prohibit washing of vehicles, and prohibit sprinkler irrigation to ensure nonessential uses of water are minimized so that water is available for human consumption, sanitation, and fire protection. Protection of Palo Alto's valuable urban canopy will be of concern during such severe restrictions.</p>	
1321	4	<p>Palo Alto serves water to more than 25,000 residential customers and more than 2,500 businesses and other non-residential customers. Potential consequences of the SED proposal include health and safety concerns due to lack of potable supplies, major job losses, slower economic growth and delayed community development in Palo Alto's service area.</p> <p>Since outdoor use represents a relatively small proportion of Palo Alto's commercial, industrial, and institutional account water demand, commercial, industrial, and institutional customers generally have fewer opportunities to reduce water use without changing their operations or incurring significant economic impacts.</p>	<p>Please see response to comment 1321-1. Please refer to Master Response 3.6, Service Providers, regarding Water Code section 106, minimum health and safety needs and a broad discussion regarding conservation. Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for additional discussion regarding health and safety and the emergency provision. Please also see Master Response 8.5, regarding economic considerations, growth effects, and demand management.</p>
1321	5	<p>Reductions in water supply from the SFPUC may force Palo Alto to use emergency local groundwater supplies, having unknown, and potentially significant undesirable results, such as groundwater overdraft, sea water intrusion, and subsistence, which were not adequately analyzed in the SED.</p>	<p>Please see response to comment 1321-1 and 1321-4. Please also see Master Response 8.5, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System regarding groundwater use. Finally, please also see Master Response 1.1, General Comments, for a general discussion as to the approach to the analyses contained in the SED, and the programmatic nature of analysis, and Master Response 8.5, for a more specific discussion of programmatic analysis.</p>
1321	6	<p>In the light of these aforementioned impacts as well as those articulated in the BAWSCA and SFPUC comment letters incorporated here by reference, Palo Alto requests that environmental and economic impacts of any shortage on the San Francisco Regional Water System, and the associated lost jobs and delayed development, be fully and adequately analyzed as part of the SWRCB's proposed flow alternatives. Such full and adequate analysis should be given at least equal weight with all other elements of the SWRCB's subsequent deliberations and decision making.</p>	<p>Please see responses to comments 1321-1, 1321-4 and 1321-5. Please also see Master Response 8.5, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System, for a discussion regarding economic considerations, growth effects, environmental effects based on a rationing-only approach, and demand management. To the extent that this comment letter raises similar issues or the same issues raised by SFPUC or BAWSCA, please refer to letter 1166 or letter 1191 to review responses to those letters.</p>
1321	7	<p>The Governor has indicated his strong support for negotiated voluntary agreements to resolve these issues. Palo Alto requests that the SWRCB provide adequate time for a voluntary agreement to be reached amongst the stakeholders prior to any action on the SED. Please give this settlement process a chance for success instead of expediting implementation of the current proposal. Palo Alto shares BAWSCA's commitment to continue working closely with the diverse interests and stakeholders to develop that shared solution.</p>	<p>Please see Master Response 1.1, General Comments, for information regarding voluntary agreements and collaboration with agencies.</p>
1322	1	<p>The City of Lodi supports the State's goal to ensure that the San Joaquin groundwater basin becomes sustainable. In light of that support, Lodi has many concerns about the plan's effect on the San Joaquin groundwater basin. Under SGMA, the State concluded that the San Joaquin groundwater basin is critically over drafted and requires expedited action under the Act. Our basin is mandated to reduce groundwater pumping to become sustainable by the year 2040. I am sure this Board recognizes that the State is proposing to hit the Central Valley twice as a result of the confluence of SGMA and the plan before you today: reducing</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding SED consideration of SGMA, the potential for increased groundwater pumping, and compliance of SGMA in the context of the plan amendments.</p> <p>The SED does not require or encourage increased groundwater pumping. The SED analyses reflect that the historical local response to reduced surface water availability has been to choose to increase groundwater pumping; therefore, the SED was required to analyze this reasonably foreseeable and potentially significant and unavoidable impact on the groundwater basin from this local response. The SED does not assume that</p>

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		<p>supplies currently sourced from both surface and groundwater.</p> <p>Our concerns run deeper than the injury of the dual take. Your staffs environmental review actually assumes that the water lost to the rivers will be made up by increased groundwater pumping in evaluating the impact of the plan on the County. Yet this Board knows better than anyone that increased pumping is not possible in the face of the State's SGMA mandates. Even if staff's assumption was correct, Lodi's allocation of groundwater through the SGMA process will necessarily be reduced. Board staff has not assessed reduced allocations to other users, including Lodi, in the basin. As such, staff's analysis is insufficient. The Central Valley is entitled to a full and fair assessment of the impact of this proposal before it is implemented and we will hold this Board to its obligation to provide it.</p>	<p>all reductions in surface water supplies can be met with increased groundwater pumping. Rather, if local water users choose to replace reduced surface water with groundwater, maximum groundwater pumping could reach the levels associated with 2009 and 2014 infrastructure. It would be speculative to assume how pumpers in each area would respond to implementation of the flow objectives, because it would depend on many individual and collective decisions including, but not limited to, the discrete actions of local water users in response to reductions in surface water, crop choices in response to markets and other factors, and implementation of SGMA and conservation measures.</p> <p>Under SGMA, GSAs have 20 years to implement GSPs and achieve sustainability. GSAs are now formed in the plan area, but GSPs have yet to be drafted or implemented. Groundwater sustainability could be implemented through projects and programs in a number of ways. It would be speculative to assume how GSAs in each area will implement SGMA. The State Water Board acknowledges reaching sustainability in these overdrafted basins will be challenging, but the plan amendments do not conflict with SGMA. Instead, knowledge of the plan amendments during the GSP drafting phase allows for integrated planning of scarce water resources that does not trade impacts between surface and groundwater.</p>
1323	1	<p>I'm writing in strong support of measures that would help revitalize and protect salmon and other native species that depend on the health and water flow in streams below dams in California. Specifically, and in response to your invitation for public comment, I'm voicing my support of the minimal proposals and urging you to do more to reduce diversions of water in the Merced, Tuolumne and Stanislaus rivers so that more water is left for salmon. Leaving 40% of the rivers in-stream is a start, but I'd urge you to increase that to 60%, an amount that the California Dept. of Fish and Wildlife says is needed to rebuild the salmon run, as required by law.</p> <p>My understanding is that we already have state law REQUIRING that streams below dams be maintained at levels that sustain native fish in good condition and requiring California to rebuild salmon runs to an annual million fish per year. Other interests may be challenging adherence to these legal requirements, however leaving 60% of the spring flow in the rivers would have a relatively small negative effect on other interests, such as agriculture (90-95% of California Ag would be untouched), compared to the large positive effect on salmon and industries related to fishing.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1323	2	<p>There's overwhelming evidence that wild Pacific salmon can provide an excellent source of health promoting nutrients not plentiful in much of the rest of the American diet. Specifically, salmon provides one of the richest sources of heart disease fighting omega-3 fatty acids not plentiful in meat, as well as inflammation inhibiting anti-oxidants, Vitamins A and E). And, finally, there's overwhelming evidence that healthy waterways and wetlands are integral to maintaining clean soil, air, and drinking water, for wildlife as well as for the health of ALL Californians.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1324	1	<p>This water issue started when the first dams were put in place. The dams were needed for farm irrigation; otherwise the water would run off quickly and just leave a trickle when it was needed. This is called survival for humans. The fish will have to be raised on farms with ponds. Look at the beginning of time, farming is the most important use of water for our survival, the fish will have to take second place over human life.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1324	2	<p>The Los Angeles water district is way too powerful to dictate to the northern California about putting two 40 foot tunnels in under the delta, and they bought the land where the tunnels would go under so there can be no protest. This is another reason they won't more</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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		<p>flow down the rivers. There not fooling any one with their tactics, and our state officials go right along with Las angles every time, like someone is being paid off to vote in their favor. Once someone is in office they fall right in line and follow the crooks and leave us voters hanging or paying the bill. How much money is the state going to pay for the tunnels?</p>	
1324	3	<p>Back to the salmon issue; a couple of years ago my wife and I were at the Natomas fish hatchery near Sacramento. We noticed that come 5 o'clock the fish and game workers shut the fish ladder gate and the fish just kept banging at the gate trying to deliver their eggs up stream. This is pretty sad. The fish and game should work 3 shifts during the sponging season to catch the most eggs. Some of the fish trying to come up the ladder when it is closed go off and die trying to find a place to lay their eggs. So don't try and say this water is for the fish, you're just little hypocritical, blind leaders of the blind.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1324	4	<p>When you took your office you were appointed; saying you will do the will of the people and not be one sided and be persuaded by outside sources with money or whatever, but you have your mind made up going into this water meeting, that it is your way or the highway.</p> <p>These public meetings are just a formality you have to do, but most of you have made up your mind to follow the Governor in his yes vote on the tunnels, we the people need to vote every one of you out of office that can't see what's coming by taking our water and giving it to Los Angeles, lock stock and barrel. The everyday common person can't change a politicians' mind; it takes the masses to make them listen to reason. Once a person gets to be a politician they can run over the people that put them in office and still keep their job and medical insurance. But the everyday person can't do that. This water issue has turned into a politician's playground. I pray that people will wake up and see the light, that water is our life blood.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1325	1	<p>I write on behalf of the hundreds of students and thousands of families who live within the Denair Unified School District and would be adversely affected by your board's stated intent to dramatically increase flows in our region's rivers.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1325	2	<p>Our community is dependent upon wells for the water for our homes, businesses and schools. Already during the current drought, some residential wells have failed, causing distress and financial hardship for those affected.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1325	2	<p>Our community is dependent upon wells for the water for our homes, businesses and schools. Already during the current drought, some residential wells have failed, causing distress and financial hardship for those affected.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1325	3	<p>Recharging the aquifer is critical for long-term water sustainability. The orchards, farms and pastures that surround our district frequently use flood irrigation, an important component to healthy groundwater management. Your plan, unfortunately, would require the Turlock Irrigation District to substantially reduce surface water deliveries to those farmers, impeding groundwater recharge.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1325	4	<p>I am concerned about the potential economic damage created by your plan and its effect on our schools. It has been estimated that thousands of jobs and hundreds of millions of dollars in economic output would be lost under your proposal. The Northern San Joaquin Valley already is one of the poorest regions of California, with employment rates chronically in</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>

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		double digits. We cannot afford a blow with such widespread consequences.	
1325	5	I encourage you and your board to take a sensible approach to water management that appropriately balances many important needs- people, health and food production as well as fish and the environment. I ask you to identify and assess the potential impacts and offer viable proposals to mitigate against those detriments.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1325	6	I urge you to work with local water, agribusiness, political, community and school leaders to identify the best ways to accomplish your goals without bringing undue harm to our students, their families and the hard-working people of our region.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1326	1	I am concerned about the plan to divert water from Merced County Rivers to flush out the Delta. I am not against salmon. I am concerned about the environment, clean water, endangered species, and the Delta ecosystem.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1326	2	I feel that it is wrong to take the water from our county, depriving our farmers and populace of water that we need also. During the drought farmers, deprived of their usual water supplies, have been drilling wells and depleting the groundwater. In some areas of our county land has settled as aquifers have been depleted. I fear that this will continue and increase as the drought continues and more drilling ensues. Our roads and our housing will be affected as the ground sinks. Furthermore, our source of drinking water will dry up as well. Many rural homeowners have already been forced to dig new and deeper wells as the water table drops	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1326	3	The salmon in Merced County are not the wild salmon of old. They are hatched and managed. They need the colder water that our county, due to a warming climate, can no longer provide. They, like many other species, will migrate north as it gets warmer. This summer my backyard finches disappeared during the summer. They are back now that the weather has cooled. We are not helping the salmon -they need to move north also.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1326	4	I feel that this is a water grab by the Westlands Water District and other southern California water districts. By sending our water to the Delta, water from north of the Delta will then be sent south. The west side of the Valley is a dry area. We should not be growing anything at all there. A great spot for wind farms. I know that Westlands has lots of money, lobbyists and clout and that bothers me. I am against the twin tunnels and against sending money to another farming area when our own farmers and cities need that water ourselves. We need for our water table to be replenished here in Merced County. I don't mind sending excess water to somewhere else in the state, but I resent sending water that is needed here. Why not send water from the Sacramento and American Rivers to the Delta instead. No to the twin tunnels and No to the excessive amount of our water being sent to flush out the Delta. And forget the salmon -the warming climate here is not favorable to their future.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1327	1	I support the increased flow objectives of local conservation groups, and ask for a 60% unimpaired flow rate.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1328	1	You are presently, on average, receiving nearly half of the Merced River flow and when you want it. Plus the bottom 115,000 acre feet of McClure belongs to you and we deliver 15 second feet to the Merced Wildlife Refuge. MID constructed and paid for the Exchequer Dam containment.  If Exchequer Dam were constructed today, the cost would be One Billion Two Hundred Fifty	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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		<p>Million Dollars, (\$1,250,000.00). MID irrigating 100 thousand acres, also influences with the underground recharge, another 400 thousand acres totaling 1 half million acres with a crop value of % of a Billion Dollars. With land, equipment and capital improvement value of 10 billion dollars. We have built these improvements, infrastructure and inputs together for over 100 years. MID has 700 miles of Canal System with all resulting Fish and Wildlife enhancements thereof.</p> <p>We have had a cattle ranch for 80 years which is also a private Fish and Wildlife Reserve with no fishing or hunting allowed. The large creek within depends on small amounts of MID flow change overflows. During the drought this creek dried intermittently and we loss fish. If increased, Merced River flows were required. We are concerned that would occur more often.</p> <p>Merced River has the least reliable and the lowest yielding watershed of all major rivers north. It also delivers the highest concentration of salt. 700 ppm after entering the San Joaquin. Merced River flow requirements have been maximized and balanced considering all aspects of this entire project. But we are interested and want to do our part to enhance the life of the Fish with our MID Merced River SAFE Plan.</p>	
1329	1	<p>If any of you Board members have ever witnessed hunger in people - especially children - we would not even be considering this river proposal. Simply travel to a 3rd world country and see the horrible ravages of hunger. I implore you to think of those people to whom food is a luxury and unavailable. If any of you have some compassion or sense of caring for others you would be embarrassed to even consider this radical proposal.</p> <p>You must think about the most basic of needs to survive and have food before we squander our valuable river water. The world's demand for food will double by 2050- based on population growth and rising incomes. How will we double our food production with less water?</p> <p>We are all truly blessed to live in a country where food is affordable and not given a second thought. Yet 1 out of 5 kids still go to bed hungry each day in the USA.</p> <p>My family has owned a dairy farm for 71 years, producing wholesome milk. This milk is dehydrated and shipped throughout the world. We don't milk cows because it is profitable or lucrative. We feel obligated and called to help feed a hungry world.</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1329	2	<p>We live and farm along the Tuolumne River near Modesto. During the summer months corn is grown to help feed our cows. This requires irrigation water, both from the river and Modesto Irrigation District. Without adequate water, corn cannot be grown and it would be difficult to feed the cows. We simply can't be subject of drought-like conditions due to this proposal. Water must be captured and stored in the Don Pedro Reservoir to provide water in the summer (a very simple process). Not enough water = not enough food grown= less food for people.</p> <p>We know that low flow in the summer means difficulty pumping out of the Tuolumne River. It is very frustrating to manage irrigating.</p>	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1329	3	Let's all work together and do something productive to come up with better solutions, to capture more water when it is plentiful.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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1329	4	We must have enough water to keep our crops alive. Groundwater pumping is not practical in our area, nor is it sustainable. Only surface water is the long-term solution.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1329	5	We, as all people, can do better to solve some of these issues; by working together with each other. We are compelled to grow food for other hungry people in other countries. Let's use our gift of water to do this.  Please reconsider your proposal. We are all in this together. Let's be responsible so that others may simply live.. Lives depend on this.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1329	6	[ATT1:  Modesto Bee newspaper article: Dated Sunday, March12, 2017.  Titled "World facing largest humanitarian crisis since U.N.'s founding" discusses more than 20 million people in four countries facing starvation and famine.]	This attachment was included with the comment letter. The attachment does not make a general comment regarding the plan amendments or raise a significant environmental issue.
1330	1	According to the Modesto Bee (newspaper) one of the reasons for salmon decreases is the predation upon salmon fingerlings by non-native fish such as striped bass. If this is the case then why doesn't the Fish & Game Department raise the fishing limit on non-native fish? Especially such as striped bass so there are more salmon swimming out to sea.  Since these fish are non-native they shouldn't be here anyway. You cannot expect to raise the salmon population to the numbers that existed in the past if you are allowing predators that did not exist then, that are here now to eat them as fingerlings.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1330	2	Literature states that too large an amount of water flow is just as damaging and harmful to salmon as too little.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1331	1	I grew up near the Delta in Sacramento and spent many hours as a child playing along the river banks up there, enjoying what were then unspoiled natural areas. I am sad to be a witness now to the contamination of the Delta, the increase in salinity, the blue-green algae blooms, and of course the terrible decline of fish populations (especially salmon, an important species for the survival of the Delta as well as a source of jobs for many people). Now I live on the Peninsula and have learned that a major problem here is the reduced flow of water from the Central Valley into the SF Bay. Not only fish but marine mammals, birds along the Pacific Flyway, and the Bay-Delta's many other wildlife species depend on fresh water. Much of this water is being sent south to produce almonds, pistachios and other such water intensive products for export, which is an affront to common sense.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1331	2	I would urge the board to follow the advice of scientific experts and increase winter-spring flow from San Joaquin Valley rivers to at least 50 percent in an effort to reverse some of the destructive effects that low river flows have been causing.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1332	1	My concern is for the appreciation and preservation of water for agricultural use. We need to maintain all of the historical rights for Water Rights of the agricultural domain. We have beautiful and bountiful high yield agricultural soils. We need our Water Rights protected.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1333	0	While pumping groundwater is an alternative to irrigation, our community does not see this as a viable long-term solution as the quality of groundwater decreases at lower levels in	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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		addition to the fact that our aquifers are negatively affected over the long term	
1333	1	As the recent drought conditions over the last several years have proven, our water is one of central California's most prized resources. Our entire infrastructure and economy in the valley is vastly reliant on our water supply.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1333	3	Water Board's proposal and look to seek alternative options to this decision and preserve our precious water Water is essential to our school and community which is located in an agricultural area west of Modesto. Agriculture provides sustenance to us all and water is essential to our future. We would like to ask that you consider our concerns regarding the State.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1334	1	I am a resident/farmer in Merced County and I am asking you to abandon the proposed Bay Delta Water Quality Plan because it will have a considerable negative impact on our area.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1334	2	Less Merced River water available for our communities will cause a loss of farm income.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1334	3	Less Merced river water available for our communities will cause increased unemployment.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1334	4	Less Merced River water available for our communities will cause further depletion of our groundwater supply.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1334	5	The Merced Irrigation District has developed an alternative plan (the Merced River S.A.F.E. Plan) that will be good for salmon, the environment and the people. I recommend adopting this plan.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1335	1	Our company [Valley Tool & Mfg.] is concerned with your Substitutive Environmental Document that supports phase 1 of the Bay Delta Water Quality Control Plan. This proposal that requires 40 percent of flow to fish and wildlife to be an unnecessary overreach of our community's water.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1335	2	Your staff is proposing taking control of our locally paid for, built and operated Don Pedro Reservoir. Don Pedro was built specifically to allow our community to survive a drought like the one we are currently going through.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1335	3	The SED harms the effort of local water agencies to work to achieve the state mandated groundwater sustainability goals in the SGMA.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1335	4	Valley Tool's farm products are dependent upon a healthy agri-economy to survive and water is the most basic of resource for agriculture. Please consider all options that will benefit the most for our citizens, many of which have been proposed by many California water districts.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1336	1	Our company [Valley Farm Supply Stores] is concerned with your Substitutive Environmental Document that supports phase 1 of the Bay Delta Water Quality Control Plan. This proposal that requires 40 percent of flow to fish and wildlife to be an unnecessary overreach of our community's water.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

**Table 4-1. Responses to Comments**

Ltr#	Cmt#	Comment	Response
1336	2	Your staff is proposing taking control of our locally paid for, built and operated Don Pedro Reservoir. Don Pedro was built specifically to allow our community to survive a drought like the one we are currently going through.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1336	3	The SED harms the effort of local water agencies to work to achieve the state mandated groundwater sustainability goals in the SGMA.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1336	4	Valley Farm Supply's owners, staff and our customers are dependent upon the responsible management of our water. Please consider all available options to protect our communities and region first.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1337	1	I SUPPORT RESTORING FLOWS TO LOWER SAN JOAQUIN RIVER  In my opinion, the State Water Resources Control Board (SWRCB) should use its authority to set strong flow standards on the Lower San Joaquin River and its tributaries, in order to restore fisheries and recreational uses.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1337	2	I am a fly fisher, and I rely on the health of California's rivers. I have watched the ongoing degradation of our waterways as a result of the over appropriation and out- of -stream use of these waters. We all need healthy rivers and the habitat they create for our salmon and steel head. I spend time and money in small communities throughout California where I fish. I pay fishing guides, buy food, gas, and meals.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1337	3	I support the SWRCB objectives that would help improve flows on the Lower San Joaquin River. This will help protect and restore streams and the communities and businesses that depend on healthy rivers and a healthy Bay-Delta system. We need to restore the balance between those who extract water from the San Joaquin River and the businesses and livelihoods that depend on leaving more water for our fish.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1338	1	Many people that are terrified by what will happen if what is proposed goes through. We are in that group. Farmers have to have water when it is needed, not when some group that is not related to the industry says they can have it.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1338	2	We are very concerned that the taking of the water from our area as is proposed would devastate this area. This valley produces diversified food for our nation. If our nation has to depend on other countries for our food we are at their mercy. Our local farmers need to be able to help make sure that does not happen.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1338	3	Please consider using the SAFE plan proposed by MID. It uses common sense to help the salmon population and protects farm water.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1339	1	We are writing to implore you to stop the proposed Bay Delta Water Quality Control Plan SED and instead give fair consideration to implementing the alternative Merced River Salmon, Agriculture, Flows, Environment (S.A.F.E.) Plan proposed by the Merced Irrigation District. Among other positive points, this plan will:  - Increase water flows in every type of water year, from wet to dry.  -Restore and enhance 5.5 miles of river habitat altered by dredge mining before the Merced	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.

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Ltr#	Cmt#	Comment	Response
		<p>Irrigation District even existed.</p> <p>-Target flows at various times of the year to maximize benefit to salmon and other wildlife.</p>	
1339	2	<p>For 5 years we have held modest farming interests in Merced and are Merced Irrigation District customers. There is no doubt that farming provides a lot of work for many people from all walks of life, who work in many industries. The Bay Delta Water Quality plan would deal a lasting blow to the Merced area economy.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1339	3	<p>We have been impressed with the Merced Irrigation District's professionalism, fairness and community involvement.</p> <p>Please oppose the Bay Delta Water Quality Control Plan and support the Merced Irrigation District S.A.F.E. plan.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1340	1	<p>I strongly encourage the adoption of a plan that would require a 60% inflow to the Delta for the sake of the salmon and all the species that depend on them - including humans!</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1341	1	<p>I urge the board to protect our rivers by setting goals and deadlines for cleaning the waterways, keep pollutants out of the water and keep them clean.</p> <p>People fish in the waterways and they should be kept clean because people eat the fish. Also, the fish and wildlife need clean water.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1342	1	<p>Spending part of my childhood in central Florida, drinking water that smelled like sulfur, I am keenly aware that water can be potable without being especially tasty. I think the water we get from the Hetch Hetchy system is among the very best in the world. Keeping the Delta and the entire river system alive and vibrant as a living ecosystem strikes me as a very high priority indeed. Keeping the ecosystem healthy depends on several factors, but certainly the most important of these is water itself. Unless we let the rivers flow more freely, the Delta, that is such a crucial part of this ecosystem, will die and our water supply will be degraded as a result. Salinity will continue to increase and the creatures who live in and on the river will continue to suffer.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1342	2	<p>Beyond acting as a critical resource of excellent drinking water, the rivers and Delta provide great recreational opportunities for many Californians.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1342	3	<p>The deeply depleted salmon fishery is another part of our economy and our quality of life that simply needs more water flow.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1342	4	<p>Agriculture forms another important part of our economy and blesses us with the best produce obtainable in America. I was struck, however, as I listened to the people speaking at the Board's hearing in Sacramento on January 3, 2017, at how unevenly the financial rewards of the agriculture sector seem to be distributed. Speaker after speaker referred to the number of "disadvantaged" communities in the Central Valley, and the many citizens there were barely getting by. Surely this should bring into focus the degree to which farm workers are an artificially cheap input for the agriculture business.</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.</p>
1342	5	<p>Much of our 21st century farming is absentee-investor-owned, growing thirsty crops for</p>	<p>Please see Master Response 1.1, General Comments for responses to comments that either make a general</p>

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		the export market. Is this the best allocation of a public trust resource? Perhaps not.	comment on the plan amendments or do not raise significant environmental issues.
1342	6	The Board's own study in 2010 concluded that an unimpaired flow during the summer months would be required to preserve the Delta's health. Surely, we can manage 40%. We've been taking too much of the rivers' benison, and we all need to learn to get by on less. I urge the board to adopt Revised 2016 Bay Delta Plan Amendment and SED.	Please see Master Response 1.1, General Comments for responses to comments that either make a general comment on the plan amendments or do not raise significant environmental issues.
1343	1	Most of my river experience is with the Tuolumne River. I went to work for the Turlock Irrigation District in 1969 while preparation for the foundation for the Don Pedro Dam was under way. After Don Pedro was completed in 1971 I was then responsible for the instrumentation and performance of the Don Pedro Dam and reported to the State Division of Safety of Dams and FERC until 1988 During this same time period I observed the river flows each year and then observed the salmon runs 2 and 3 years later. There seemed to be no correlation directly between flows and salmon runs 2 or 3 years later. There seemed to be other things effecting the salmon runs on the river, other than flow. The salmon runs improved some when all fishing of salmon was halted for a time. This is understandable.	The scientific basis and relevant research for the LSJR flow objectives to protect fish and wildlife are documented in Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives. For further discussion regarding the scientific justification for flow in protecting fish and wildlife, please see Master Response 3.1, Fish Protection.
1343	2	<p>During the 1977 drought, Don Pedro Dam was emptied down into dead storage. This could happen again under your proposed plan.</p> <p>Releasing 40% of the unimpaired flow from January to June could set up a situation of not putting enough water into Don Pedro Dam for the farmers, domestic water users or fish in the summer and fall.</p> <p>During 1977 TID and MID cooperated with Fish &amp; Game providing pulse flows and improving salmon spawning areas.</p>	<p>Please see Master Response 1.1, General Comments, regarding a discussion of the approach to the analyses contained in the SED as well as responses to comments that for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues.</p> <p>As described in Master Response 3.2, Surface Water Analyses and Modeling, a wide range of various hydrologic conditions over the 82-year period of record from 1922-2003 are modeled for the SED analyses. Please see Master Response 2.5, Baseline and No Project, for a description of baseline and modeling assumptions associated with baseline.</p>
1343	3	<p>Salinity in the Delta has been studied for years. Salinity has mostly been repulsed by flows from Shasta and Oroville reservoirs into the Sacramento River. Salinity does encroach more during drought years. However, the farmers and domestic users are better off with the two dams in place and making controlled releases than they would be if the water all ran down the river in the spring and fall.</p> <p>I do not believe it is the SWRCB responsibility to take additional water from three rivers with senior water rights trying to solve this problem.</p>	Refer to Master Response 1.2, Water Quality Control Planning Process, regarding the State Water Board's authorities related to water rights and water quality, including the State Water Board's protection of beneficial uses in the Bay-Delta and tributary watersheds. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, for a description of the plan amendments, including the SDWQ objectives. Please see Master Response 1.1, General Comments, regarding responses to comments that do not raise significant environmental issues. Please see Master Response 3.3, Southern Delta Water Quality, regarding the water quality of the southern Delta.
1343	4	<p>Predators are a BIG problem. Environmental groups turn their backs and look the other way and ask for more and more water releases. Some groups are asking for more than the 40% of unimpaired flows from February to June.</p> <p>One study showed that 93% of young salmon are devoured by large adult predators lurking in ponds and gravel pits in a 25 mile stretch between check points from Waterford to Grayson on the Tuolumne River. Less than 7% survive this attack. Let's work on predation. If the predators could be reduced from LaGrange to Grayson or to the San Joaquin River, the salmon could grow in size - ready to battle to the ocean. It boils down to predators or salmon. Which one are we trying to protect?</p>	Please refer to Master Response 3.1, Fish Protection, for discussion of predation, recent predation studies considered in the SED, and effects of higher flows on both juvenile salmonid survival and reduced habitat suitability for non-native predators. Also see Master Response 3.1 regarding seasonal flows from February to June and regarding the proposed implementation of a more natural flow regime, including adaptive implementation. As discussed in Master Response 3.1, reducing predator populations without addressing habitat alterations that provide non-native predators favorable conditions is unlikely to be successful for predator control. A combined effort of habitat improvement to less-favor predators (through implementation of a more natural flow regime) and predator reduction efforts is needed. Also refer to Master Response 5.2, Non-flow Measures, for consideration of non-flow measures, including predator management.
1343	5	Releasing more water to the ocean infringes on senior water rights (prior 1914) and encourages more pumping, which causes groundwater levels to drop and results in shortages for farmland and domestic use, even land subsidence.	Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for discussions of potential increases in groundwater pumping, SED consideration of SGMA, and groundwater recharge.

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		With the water running down the Tuolumne River, there will be no way to recharge the groundwater as is being done now with irrigation from the river. The SWRCB is putting everyone in a two way bind with no way out.	Please see Master Response 1.2, Water Quality Control Planning Process, for discussion of water rights in the context of the water quality control planning process.
1343	6	The SWRCB should be working with the existing dams and reservoirs, making the best use of their storage and releases, rather than running unimpaired water releases down from January to June. This would be better for farmers, domestic users and salmon. I believe this can be done without outlandish and inappropriately timed releases. I am sure the Irrigation Districts will work with you if you take this approach.	Please see Master Response 1.1, General Comments, for information regarding the description of the plan amendments. Evaluating water releases from the existing dams and reservoirs is the subject of the SED. See Master Response 1.1, General Comments, for information on voluntary agreements. Please also see Master Response 3.1, Protection of Fish regarding the justification for the plan amendments.
1343	7	Have limited salmon fishing season. The fishermen should do their part	Recreational and commercial fishing are regulated by CDFW and NMFS, and regulations are available online (CDFW 2017; NMFS 2017a). Regulations include minimum size limits as well as daily bag and/or trip limits and seasonal quotas.
1343	8	The Feds should keep large harvest ships 200 miles from our shores where they are scooping salmon up by the thousands.	Please refer to Master Response 1.1, General comments for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues.
1343	9	Work on spawning areas and get accurate counts of salmon.	Please refer to Master Response 5.2, Incorporation of Non-flow Measures, regarding habitat restoration, such as for spawning habitat improvements (e.g., gravel augmentation). Spawning counts are currently monitored by CDFW in the Stanislaus, Tuolumne, and Merced Rivers by mark-recapture carcass surveys, during which fish counts and redd counts are also tallied. Automated fish counters are also run during the fall-run Chinook immigration season in the Stanislaus River by FISHBIO Environmental, LLC (CDFG 2012) and in the Tuolumne River, funded by the Turlock Irrigation District, Modesto Irrigation District, and the City and County of San Francisco (Cuthbert et al. 2010, as cited in CDFG 2012).
1343	10	Build desalination plants NOW.	Please see Master Response 1.1, General Comments, for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues, as well as for general information regarding the State Water Board’s authority over construction and operation of infrastructure projects. In addition, Chapter 16, Evaluation of Other Indirect and Additional Actions, Section 16.2.6, Water Supply Desalination, and Section 16.4.3, Desalination, identifies desalination plants as potential actions the regulated community could take in response to the plan amendments.