Table 4-1. Responses to Comments			
Ltr#	**Cmt#**	**Comment**	**Response**
1200	1	The [Stockton East Water District] District has partnered with OID/SSJID on a number of very important research projects conducted by FISHBIO on the Stanislaus River. As a result, FISHBIO now has the most extensive monitoring and research of fisheries in the Stanislaus River -- more than any of the fishery regulatory agencies making recommendation for this SED. In addition, the District has funded gravel augmentation in the Stanislaus River for the benefit of the fishery. This should not go unnoticed by the State Water Board that only water users on the Stanislaus River have invested substantial time and resources into the protection and enhancement of habitat for the fall run Chinook salmon and steelhead fishery. Very little work has been done on the Stanislaus River by the regulatory agencies charged with protecting and enhancing the fishery including by the California Department of Fish and Wildlife and the National Marine Fisheries Service.	The commenter summarizes the research and restoration efforts of the Stockton East Water District on the Stanislaus River. The State Water Board recognizes and appreciates the importance of monitoring and ecosystem restoration. As described in Appendix K, Water Quality Control Plan Update, and Chapter 16, Evaluation of Other Indirect and Additional Actions, gravel augmentation is a non-flow measure that affected entities may undertake in the plan area between the rim dams on the Stanislaus, Tuolumne, and Merced Rivers or on the LSJR and in the southern Delta. Please also refer to Master Response 5.2, Incorporation of Non-Flow Measures, for more information on the importance of non-flow measures, and refer to Master Response 1.1, General Comments, and Master Response 1.2, Water Quality Control Planning Process, regarding the State Water Board's authorities.
1200	2	The proposed amendments to the Water Quality Control Plan that are analyzed in the Recirculated Draft SED are illegal, not implementable and will not achieve the desired result.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments.
1200	3	Only part of the San Joaquin River is being considered. The Plan purportedly involve changes in flow objectives in the San Joaquin River (SJR) basin. As depicted in Figure ES-1, the SJR basin includes numerous watersheds and reservoirs, including the Friant Dam and the main stem of the river. The flow objectives included in the Plan and evaluated in the SED are based upon an August 2010 technical report on the Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem (2010 Flow Criteria Report). The 2010 Flow Criteria Report "concluded that 60 percent of flow should be left in the Lower San Joaquin River for the benefit of fish." That analysis included the entire SJR. The importance of including the entire river is evident when you look at the historic percentage contribution of flow on the river. Yet, the Plan would impose the unimpaired flow obligation on only the three main tributaries -- completely ignoring the historical 30% contribution from the main stem. There has been no analysis of changing the parameters established in the 2010 Flow Criteria Report -- a percentage contribution from the entire watershed, to imposing unimpaired flow requirements only upon part of the river. Such a change cannot be supported without that analysis. Staff indicates that only the three tributaries are being included because they are the only salmon bearing rivers, and because Friant has already contributed through the San Joaquin River Restoration Plan settlement. Neither of these excuses support exclusion: first -- the flows anticipated by the settlement have not materialized at Vernalis. Friant is not contributing its fair share, and further, the criteria should be whether or not the stretch of the river is attaining its share of what this Plan is requiring -- is it meeting the 30 to 50% proposal?	Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the exclusion of the Upper San Joaquin River from the plan amendments and the 2010 Flow Criteria Report's recommendations. The flow objectives are not based on the 2010 Flow Criteria Report, but rather the report contained in Appendix C, Technical Report On The Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives. Please refer to Master Response 1.2, Water Quality Control Planning Process, for the relationship of the Delta Flow Criteria Report and the plan amendments.
1200	4	ATT3: Table 2-8. Median Annual Percent Contribution of Unimpaired Flow and Observed Flow by SJR Tributary and Upper SJR to Flow at Vernalis (1984-2009) from Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, February 2012 (Updated June 2016)	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.
1200	5	The SED does not identify a needed beneficial use. The water quality objectives being proposed include a narrative objective that requires: "the maintenance of flows sufficient to support and maintain the natural production of viable	Parts of the comment include inaccuracies. As explained in the Executive Summary, and throughout the SED, the plan amendments consists of the following proposed updates to the 2006 Bay-Delta Plan: the LSJR flow objectives for the protection of fish and wildlife, and southern Delta salinity. The flow proposal would

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		native San Joaquin River watershed fish populations migrating through the Delta." The unimpaired flow proposal is intended to implement this Narrative Objective. However, the SED itself (Table 19-32) indicates that approximately 11,373 Central Valley Fall-Run Chinook Salmon are produced annually on the three tributaries. There is no indication in the SED that the current flow regimes on the tributaries would not "support and maintain" that population. The SED seems to conclude that if the base case is continued with no changes to the system, there will continue to be 11,373 Central Valley Fall-Run Chinook Salmon annually; therefore, the current flow regimes would maintain this productivity as required by the Narrative Objective. It appears that despite the wording of the Narrative Objective, the unimpaired flow proposal is actually intended to improve, not support and maintain production on the tributaries. This was emphasized by one of the Peer Reviews of the 2010 Flow Criteria Report, who took issue with the conclusion in the report's conclusion "... since 1952, the average escapement of fall-run Chinook salmon has shown a steady decline." The peer review stated: "This statement is contradicted by the figure (3.5) associated with it. There is no obvious trend downward but rather there are a series of pronounced peaks (a pair of peaks around 1954 and 1960, then discrete ones around 1970, 1985, and 2003). Each of the peaks lasted about 8 years, with distinct 'troughs' in between. I think the conclusion that this was a 'steady decline' is not supported." This peer review comment has not been addressed. The unimpaired flow proposal, therefore, is not required to meet the Narrative Objective, and would therefore appear to be an unreasonable use of water.	provide the flow conditions necessary to reasonably protect fish and wildlife beneficial uses. It is well recognized in current scientific literature that salmonid populations in the Central Valley are in a state of decline. Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, provides a description of the population trends for fall-run Chinook salmon and Central Valley steelhead. Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, provides a problem statement of fish decline based on scientific evidence that indicates reductions in flows and alterations to the flow regime in the LSJR basin have negatively impacted fish and wildlife beneficial uses. Please refer to Master Response 3.1, Fish Protection, for more information regarding current fish declines and the need for increased flow. It is thus inaccurate to say that flow is not needed to meet the narrative objective, which sets forth the desired biological conditions in the LSJR and the three eastside tributaries that has yet to be achieved. Development of the 2010 Delta Flow Criteria report was an entirely separate process that is unrelated to the Water Quality Control Plan update: the 2010 Delta Flow Criteria Report was a unique product that was developed in response to water reform legislation. Please refer to Master Response 1.2, Water Quality Control Planning Process, and Master Response 3.1, Fish Protection, for more information regarding the Delta Flow Criteria Report. Please also refer to Master Response 1.1, General Comments, and Master Response 1.2 regarding the authorities of the State Water Board, including over beneficial uses, and the reasonable use of water.
1200	6	The geographic scope or plan area of the proposed plan is arbitrary. The stated goal of the Plan amendments is to "[m]aintain inflow conditions from the San Joaquin River (SJR) Watershed sufficient to support and maintain the natural production of viable native fish populations migrating through the Delta." [SED pg. 3-2.] Yet, rather than include the SJR watershed in the Project, the State Water Board strangely defines the Project area as only "the portion of the SJR between its confluence with the Merced River and downstream to Vernalis," a segment of the SJR that receives flow from only three of the river's numerous tributaries. The State Water Board provides a weak and legally insufficient rationale for a piecemealed Plan Area that excludes the Upper SJR: The State Water Board identified the geographic scope of the plan amendments to protect the existing fishery in the [Lower] SJR (LSJR)] Watershed--the three eastside salmon-bearing tributaries--because that portion of the watershed supports an existing fishery that can be maintained and improved. The State Water Board will consider additional measures in future Bay-Delta Plan updates to protect beneficial uses in other areas, such as the Upper SJR, when those areas are restored and can support a fishery. [SED pg. 3-4.] This statement only reinforces the need to include the upper SJR in the Plan. Most importantly, it will be impossible to support the existing fishery on the three eastside tributaries without the historic flows of the entire SJR, as those fish utilize the entire SJR for most of their life stages. The truncated Plan Area causes the analysis of environmental affects to come unhinged.	Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the geographic scope of the plan amendments and the exclusion of the Upper San Joaquin River from the plan amendments.

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1200	7	The State Water Board makes unsupported and largely nonsensical statements to support dispensing with flows from the Upper SJR: Though these goals do not explicitly preclude consideration of alternative flow objectives upstream of the Merced River confluence, that area does not currently support viable native fish populations, and such alternatives would not reduce or avoid impacts. For example, such an alternative would not reduce the quantity of water needed from the Stanislaus, Tuolumne, and Merced Rivers to achieve the goals. Inclusion of the flow alternatives for the SJR upstream of the Merced River confluence would increase the adverse environmental effects of the LSJR alternatives in a larger geographic area by reducing the quantity of water available for other uses in areas that rely upon water supplies in the SJR upstream of Merced River confluence. For this reason, alternatives that considered establishing flow objectives in geographic areas other than the LSJR Watershed and the Stanislaus, Tuolumne, and Merced Rivers, were eliminated from further consideration. [SED pg. 3-5.] Frankly, it appears that without sufficient scientific or technical study, the State Water Board simply chose three tributaries of the SJR, and then drew a line around the rim reservoirs on those tributaries without support or explanation.	Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the geographic scope of the plan amendments and the exclusion of the Upper San Joaquin River from the plan amendments.
1200	8	The arbitrary designation of the Plan Area violates due process rights and water priority rules, is arbitrary and capricious and, because certain portions of the watershed are excluded, violates the well understood California Environmental Quality Act prohibition against piecemealing. Limiting the geographic scope of the Plan Area violates the rules of water right priority. Water right priority is a central principle of California water law. (El Dorado Irr. Dist. v. State Water Resources Control Bd. (2006) 142 Cal.App.4th 937, 938). The water right priority rules require curtailment of all junior use prior to reducing senior water rights. [Id. at 963-964.] The SED's limited geographic scope violates the rules of water right priority and constitutionally protected vested rights. The SED assumes, without adequate justification from scientific or technical studies, that the water right holders within the Plan Area will be exclusively responsible to meet the LSJR Flow Objectives. However, there are water right holders upstream of the rim reservoirs, on the tributaries of the western San Joaquin watershed, and in the upper San Joaquin, that are junior to water right holders included within the Plan Area. The proposed Project requires, without legal basis, that the senior water right holders within the Plan Area will contribute to flows to meet the flow objectives before junior water right holders outside the Plan Area. This violates California's water right priority system. The State Water Board is obligated to protect water right priorities; its failure to do so by limiting the scope of the Plan Area directly contravenes this obligation, and violates the law.	Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments regarding the plan and extended plan area. The SED evaluates the whole of the plan amendments that may result in physical impacts to the environment in accordance with CEQA. (Cal. Code Regs., tit. 14, § 15378, subd. (a).) The State Water Board has not piecemealed environmental review related to the Upper San Joaquin River because future Board action in this area remains uncertain. The Board always has the prerogative to make future changes to the Bay-Delta Plan, but no commitments have been made regarding the Upper San Joaquin River other than to continue to evaluate the progress of the San Joaquin River Restoration Project, which is intended to restore and maintain fish populations. Please also refer to Master Response 1.2, Water Quality Control Planning Process, for responses to comments claiming that the proposed plan amendments violate the water right priority system.
1200	9	The abbreviated geographic scope of the Plan Area for the LSJR Flow Objective excludes the contribution of water upstream of the rim reservoirs on the San Joaquin tributaries, the west side of the San Joaquin River, and on the upper San Joaquin River. The explanation for excluding these areas and their corresponding water contributions is inadequate and not legally supported. a. Contribution from Upstream of Rim Reservoirs. The SED does not consider contributions from reservoir operation and water supply upstream of the rim reservoirs on the Stanislaus, Tuolumne and Merced Rivers, and omits explaining why the State Water Board reached the conclusion that these operations and diversions are not important. The SED omits and therefore does not evaluate respective water right priority, nor describe the amount of	The SED does consider contributions from upstream the rim reservoirs. The plan amendments are based on a percent of unimpaired flow from the three eastside tributaries (i.e., Stanislaus, Tuolumne, and Merced). The percent of unimpaired flow is defined as: the water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. It differs from natural flow because unimpaired flow is the flow that occurs at a specific location under the current configuration of channels, levees, floodplains, wetlands, deforestation, and urbanization. As such, it would include the flow from the tributaries above the rim dams that is captured at the rim dams and then released to meet the unimpaired flow requirement. However, as described in Chapter 5, Surface Hydrology and Water Quality, the Upper San Joaquin River is not considered part of the plan for the purposes of evaluating the LSJR alternatives.

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		water diverted. Without this information and analysis, the State Water Board's conclusion that upstream contributions will not be considered is unsupported by reason or analysis. b. Contribution from the Upper San Joaquin River. The Project fails to include the Upper San Joaquin River, both below and above Friant Dam, despite the fact that the Upper San Joaquin River represents approximately 28 percent of the unimpaired annual flow of the San Joaquin River. The State Water Board's rationale to exclude the Upper SJR is insufficient, and forcing the senior water right holders on the lower San Joaquin River to meet the fishery beneficial uses for the entire river without contribution from the junior water right holders on the Upper SJR violates water right priorities in an egregious manner. c. West Side Contribution. The SED fails to discuss and analyze contributions to the San Joaquin River from return flows from land to the west of the San Joaquin River. The SED fails to adequately identify the quantity and quality of water contribution from the west side in its baseline.	Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the exclusion of the Upper San Joaquin River from the plan amendments and for information on west side contributions. As described in Chapter 2, Water Resources, implementation of the San Joaquin River Restoration Program flows is not part of the alternatives described in Chapter 3, Alternatives Description. The State Water Board expects the SJR Restoration Program would increase the existing SJR flows at Stevinson (the existing flows are currently simulated in CALSIM). The SED addresses water quality and quantity from the west side of the San Joaquin Valley in Chapter 5, Surface Water Hydrology and Water Quality. The WSE Model spreadsheet file, tab "SJR_Flow(Final)" shows that west side return flows, diversions, and inflows from the west side of the San Joaquin Valley are included in WSE calculations and therefore in the analysis of baseline and alternatives. Please refer to Master Response 3.2, Surface Water Analyses and Modeling for further discussion of the water balance modeling in the SED.
1200	10	The SED Provides No Evidence that the Plan will Protect Fish and Wildlife Beneficial Uses. The Plan's flow objectives evaluated in the SED are based upon 2010 Flow Criteria Report. The 2010 Flow Criteria Report suggested that 60 percent of unimpaired inflow from the SJR from February to June would preserve the attributes of a natural variable system to which native fish species are adapted. Unlike the Plan, however, the flow recommendation in the 2010 Flow Criteria Report included the entire San Joaquin River, not merely a portion of it. The SED does not discuss this change, and does not demonstrate or even suggest that the same water quality objectives could be met by using the suggested flows in a portion, rather than the entire river; therefore, there is no demonstrated rational connection between 2010 Flow Criteria Report relied on in the SED and the Plan that proposes to rely exclusively on three of the river's tributaries to meet the same goals. Thus the SED relies on a study that studied a different and geographically larger plan and omitted any analysis to explain why this differently focused study applies. Logic illustrates the legal error of relying on a study that considered a larger geographic watershed: it is impossible to mimic the magnitude, duration, and timing of historic flows if one-third of the contribution to the magnitude, duration and timing of the historic flows is excluded from the analysis. The SED lacks any contrary information. The Plan's failure to include the Upper SJR is contrary to the stated purpose of the Plan. The SED does not explain how relying exclusively on the Lower SJR will affect the analysis of unimpaired flow or protection of fish and wildlife. The SED also fails to provide sufficient explanation for excluding the Upper SJR from the Plan Area. For the foregoing, the SED and proposed Plan are legally deficient.	The commenter misrepresents the scientific basis of the plan amendments and supporting environmental document. Please see response to comment 1200-05 regarding the Delta Flow Criteria Report and scientific basis for the plan amendments, including the unimpaired flow approach. Additionally, the 2010 Delta Flow Criteria Report did not take into account beneficial uses other than fish and wildlife. Please refer to Master Response 3.1, Fish Protection, for more information. See also Master Response 1.2, Water Quality Control Planning Process, for a general discussion regarding the consideration of other beneficial uses during development of the plan amendments. In the SED, the State Water Board provided the scientific justification that increased and more natural, variable flows are needed to protect fish and wildlife beneficial uses. Furthermore, in order to achieve a more natural flow pattern, a percentage of unimpaired flow from each of the salmon-bearing tributaries should be provided in the February through June time frame. The scientific basis to support these assertions is described in Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Standards, and in Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30. Please refer to Master Response 3.1, Fish Protection, for more information on justification of the plan amendments and analyses to support evaluation of the LSJR alternatives. The Upper San Joaquin River is beyond the geographic scope of the plan amendments. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, and Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for more information.
1200	11	The natural hydrograph fallacy. Board staff has stated that the benefits of the unimpaired flow proposal is to "restore the pattern and some limited magnitude of flow that are more closely aligned to the conditions to which native fish species are adapted." The 2010 Flow Criteria Report on which the SED is based emphasized the importance of a natural flow regime -- noting "it is important to preserve the general attributes of the natural hydrograph to which the various salmon runs adapted to over time, including variations in flows and continuity of flows." To "mimic the natural hydrograph during the peak emigration period of February through June."	Please see Master Response 2.2, Adaptive Implementation, for responses to comments regarding adaptive methods, percent of unimpaired flow, flow shaping and how adaptive management can be implemented. The adaptive implementation provisions of the flow proposal do not discard the concept of mimicking the hydrograph. The narrative and numeric LSJR flow objectives and program of implementation work together to achieve the goal of reasonably protecting fish and wildlife beneficial uses in the LSJR. The numeric February through June LSJR flow objective of 40 percent of unimpaired flow within an adaptive management range of 30 to 50 percent works together with the narrative objective. The numeric objective provides flows that more closely mimic natural hydrograph conditions, but flows can also be shaped if information supports that shaping the flows better achieves the narrative goal of supporting San Joaquin River watershed fish

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		Peer reviewers of the 2010 Flow Criteria Report emphasized that: ". . . a more natural flow regime is necessary if the fish are to recover. Indeed, I would further conclude that the other stressors such as contaminants and non-native fishes will be less consequential for salmon and steelhead in a more natural flow and thermal regime, so the benefits of flow enhancement will likely be both direct and indirect." Despite the statements in the SED and the Peer review emphasis on the importance of natural flow regime, the proposed LSJR Flow Objective alternatives would not actually implement a natural flow regime because the program of implementation instead includes: a. "Optimized flow shaping" to improve temperature b. Flow shifting to fall c. Carryover storage guidelines d. End of September guideline e. Percent drawdown from storage f. Minimum district diversion during dry conditions g. Drought refill constraints There has been no analysis of these changes, and no discussion of the impact of these manipulations in flow and timing. Such flow shaping moves away from a natural flow regime and more towards a steady state, which has created the conditions with which we are now faced that are optimal for predation.	populations migrating through the Delta. The SED analyzed LSJR flow alternatives that include adaptive methods. The commenter is incorrect about analyzing these changes, disclosing impacts, and discussion regarding flow and timing in the SED. Please refer to SED Chapter 7, Aquatic Biological Resources, for the LSJR flow objective impact analysis and comparison among alternatives. Please refer to all impact categories and determinations. Please refer to SED Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, for information regarding benefits to fish that result from LSJR plan amendments.
1200	12	The State Water Board must adopt a plan that reasonably protects beneficial uses The State Water Board has a statutory commitment to establish flow objectives assuring the "reasonable protection of beneficial uses." [United States v. State Water Resources Control Bd. (1986) 182 Cal. App. 3d 82, hereinafter "Racanelli", citing Water Code § 13241.] The Racanilli court notes that it is the State Water Board's obligation to attain the highest reasonable water quality "considering all demands being made on those waters" [Id. at 116, citing Water Code Section 13000.] In performing its role in developing water quality objectives, the Board is required to consider all competing demands for water in determining a reasonable level of water quality protection. [Id. at 118; Water Code § 13000.] The Plan does not achieve the reasonable protection of beneficial uses.	Please see Master Response 1.1, General Comments, and Master Response 1.2, Water Quality Control Planning Process, for information on the State Water Board's consideration of beneficial uses.
1200	13	The Recirculated Draft SED impact evaluation suggests that the impact to water users will be minimal because reduction in available surface water will be replaced with groundwater pumping. After noting that groundwater pumping in most of these areas is already unsustainable, the Recirculated Draft SED fails to evaluate the impact of Sustainable Groundwater Management Act (SGMA) on this increased and continued unsustainable use of groundwater. Reductions in pumping that will be imposed by SGMA are ignored in the SED.	Please see response to Comment 1200-68.
1200	14	There is actually no evaluation of the impacts to [Stockton East Water District] District's agriculture production. In the Chapter 11 -- Agricultural Resources it asserts no impact will	Chapter 11, Agricultural Resources describes the thresholds or significance criteria used to evaluate potential impacts on agricultural resources and Stockton East Water District is included in the analysis.

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		occur because the District will substitute for the lack of surface water through groundwater.	Stockton East Water District is included in the analysis as demonstrated in tables 11-12, 11-15, 11-16 and 11-17. The comment provides no evidence as to how the analysis or conclusions are flawed. No further response is required.
1200	15	The Recirculated Draft SED suggests the [Stockton East Water District] District could utilize the Calaveras River as a municipal water supply, an unrealistic suggestion since the Calaveras River is already fully subscribed.	The SED identifies in Chapter 9, Groundwater Resources (and Chapter 13, Service Providers) that SEWD receives water from both the Stanislaus and Calaveras Rivers. SEWD has a number of surface water supply contracts with various entities; it can receive up to 40 TAF/y from New Hogan Reservoir, with an additional 27 TAF/y of New Hogan Reservoir water that is not used by Calaveras County Water District (NSJCGBA 2004). Thus, the commenter has certain rights to Calaveras water. In addition, the commenter has expressed interest in its own plan about securing additional water from the Calaveras River. In any case, the commenter has not provided specific details as to what is incorrect in the SED and therefore no further response can be provided.
1200	16	The Recirculated Draft SED asserts that municipal water supplies will not be affected. This is simply not true. The [Stockton East Water District] District has historically provided up to 50,000 acre feet of its Stanislaus River supply for municipal purposes. Implementing the plan as proposed would have drastic adverse impacts on the District's municipal users, completely eliminating their supply in many years. How is this a reasonable protection of all beneficial uses?	The impact analysis in SED Chapter 13, Service Providers, indicates that under LSJR Alternative 2, service providers and private users that rely primarily on groundwater would have sufficient sources for municipal and domestic uses. Similarly, service providers relying on surface water diversions are expected to receive similar surface water supplies relative to baseline under LSJR Alternative 2 without adaptive implementation. Reductions would be greatest for service providers receiving water from the Merced and Tuolumne rivers. Under LSJR Alternatives 3 and 4 (with and without adaptive implementation), surface water supplies from the Stanislaus River (as well as from the Tuolumne and Merced rivers) would be substantially reduced. These reductions would potentially require service providers to construct new and expanded water supply or wastewater treatment facilities. Please refer to Master Response 1.1, General Comments, regarding consideration of beneficial uses, and Master Response 1.2, Water Quality Control Planning Process, regarding the water quality control planning process and consideration of beneficial uses in that context.
1200	17	The Recirculated Draft SED neither contains information and data to demonstrate how the proposed Project will protect fish and wildlife beneficial uses, nor does the SED support the State Water Board's presumption that 30-50% unimpaired flow will provide benefit to fish and wildlife. The SED simply assumes that 30-50% unimpaired flow will increase fish populations -- an assumption that does not satisfy the requirements of Water Code Section 13241. If the State Water Board has scientific evidence that demonstrates the proposed flows will benefit fish and wildlife, then the Board is required to include that evidence in the SED. Instead, the State Water Board relies exclusively upon the 2010 Flow Criteria Report as supporting its flow standards. Such reliance is neither appropriate nor sufficient for several reasons.	Please see responses to comments 1200-05 and 1200-10 regarding the scientific basis for the plan amendments, and the measureable benefits that are expected with implementation of the plan amendments. Please see responses to comments 1200-05 and 1200-10 regarding the Delta Flow Criteria Report. Additionally, please refer to Master Response 1.2, Water Quality Control Plan Process, for information regarding State Water Board authorities including a description of compliance with California Water Code Section 13241.
1200	18	The 2010 Flow Criteria Report suggested that 60% of the unimpaired flow of the entire SJR would provide benefit to fish and wildlife. The SED does not propose to require 60% of the unimpaired flow of the entire river, and yet arbitrarily concludes that requiring 30-50% flows from a portion of the river would achieve the same results.	Please see response to comment 1200-10 regarding the 2010 Delta Flow Criteria Report, the scientific basis and geographic scope of the plan amendments, justification for the unimpaired flow approach, and analyses used to evaluate the LSJR alternatives.
1200	19	As recognized by the State Water Board when it adopted the 2010 Flow Criteria Report, the report suggests the flows that would be needed in the Delta ecosystem if fishery protection was the sole purpose for which its waters were put to beneficial use. The State Water Board recognized that many other factors must be considered before flow objectives could be adopted. However, the Project appears to randomly select numbers from the 2010 Flow Criteria Report, and then compare them to a faulty evaluation of potential impacts to other beneficial uses. At no time does the SED evaluate the specific benefit to fishery from a 30%	Please see response to comment 1200-10 regarding the 2010 Delta Flow Criteria Report, and the consideration of other beneficial uses during development of the plan amendments. The benefits to fish from 30 to 50 percent unimpaired flow are evaluated in the SED. Please see, for example, Chapter 19. Please see Master Response 1.2, Water Quality Control Planning Process, regarding the State Water Board's consideration of beneficial uses.

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		or 50% flow, and compare that demonstrated benefit to the potential impact to other beneficial uses. Such balancing is required to legally update the Plan.	
1200	20	The proposed unimpaired flow objectives exceed the State Water Board's jurisdiction to protect "beneficial uses," and is arbitrary, capricious, and lacking in evidentiary support The State Water Board is required to balance several factors identified in Water Code Section 13241 when developing water quality objectives, including: a. Past, present, and probable future beneficial uses of water. b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto. c. Water quality conditions that could reasonably be achieved through the coordinated control factors which affect water quality in the area. d. Economic considerations. e. The need for developing housing within the region. f. The need to develop and use recycled water. All of these factors must be identified and the State Water Board must thereafter demonstrate a rational connection between those factors and the proposed regulation. [Racanelli, at 182; California Hotel & Motel Assn. v. Industrial Welfare Com. (1979) 25 Cal.3d 200, 212.] The SED discloses that the State Water Board failed to adequately consider these factors, and the Plan does not demonstrate a rational connection, or nexus, between the factors and the proposed flow objectives for the Lower SJR.	Please refer to Master Response 1.2, Water Quality Control Planning Process, for responses to comments regarding consideration of beneficial uses and 13241 factors.
1200	21	The SED does not confirm that the plan would reasonably protect all beneficial uses. In order to increase water dedicated to fish and wildlife beneficial uses the Plan Amendments decreases beneficial uses of water for agriculture, domestic, municipal and industrial uses. Before decreasing water for these other beneficial uses and increasing water for fish and wildlife, the State Water Board is required to determine whether the proposed flow objectives provide reasonable protection of beneficial uses. This determination requires the State Water Board to weigh and balance all beneficial uses and then demonstrate a rational, causal connection and nexus between the Project and the benefit to fish and wildlife beneficial use. The SED fails to include such an analysis. The State Water Board acknowledged this requirement when it adopted the 2010 Flow Criteria Report, stating: "The State Water Board's evaluation will include an analysis of the effect of any changed flow objectives on the environment in the watersheds in which Delta flows originate, the Delta, and the areas in which Delta water is used." [2010 Flow Criteria Report at p. 3.] Nowhere in the SED does the State Water Board undertake such an analysis of the 30-50% proposed flow criteria.	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 processing, including the State Water Board's consideration of beneficial uses. The SED evaluates the environmental impacts of the LSJR alternatives, including the 30 to 50 percent unimpaired flow alternative (LSJR Alternative 3), as envisioned in the 2010 Flow Criteria Report. The SED also includes, in Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, an analysis of the benefits to native fish populations from increased flows, including providing 30 to 50 Percent unimpaired flows, between February 1 and June 30. For additional clarifying discussion regarding the flow needs related to salmonids, please see Master Response 3.1, Fish Protection. Please also see Master Responses 1.2 and 3.1 for information regarding the Delta Flow Criteria Report and how it relates to the plan amendments.
1200	22	The program of implementation for carryover storage in new Melones is also not supported by substantial evidence. In order to adequately satisfy the balancing requirement for beneficial uses, the SED must understand and demonstrate the level of protection or extent of the benefit the proposed	Please see Master Response 1.1, General Comments regarding the programmatic scope of the SED, use of best available science, and how the substantial evidence standard does not apply to the State Water Board's quasi-legislative action to amend the Bay-Delta Plan. Please see Master Response 1.2, Water Quality Control Planning Process, regarding State Water Board implementation of the LSJR flow requirements through independent water rights proceedings, and State Water Board consideration of beneficial uses in the context

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		Project will provide fish and wildlife. This level of protection must then be weighed against the adverse impacts to all other beneficial uses, including agriculture, hydropower, municipal use, etc. that the proposed Plan will adversely impact. This essential balancing of competing interests is fundamental to the development of water quality objectives. The proposed flow objectives would drain most of the reservoirs in the SJR basin, resulting in no water available for fish and wildlife, or any other beneficial uses in following years. In an attempt to prevent such a catastrophe, the State Water Board proposes in its program of implementation a requirement for minimum carry-over storage in the three tributary reservoirs. Such requirements drastically change operations of the reservoirs in the SJR basin, as well as drastically reducing the quantity of water available for beneficial uses. Despite this, the SED does not include any analysis of the potential impacts or benefits of this plan. Because the SED fails to include this analysis, the carryover storage requirements are not supported by substantial evidence and cannot be approved by the State Water Board as part of the program of implementation.	of the water quality control planning process. Please see Master Response 2.1, Amendments to the Water Quality Control Plan for clarification on the LSJR Flow Program of Implementation, including carryover storage. Please see Master Response 3.2, Surface Water Analyses and Modeling, for information on the carryover storage assumptions used in the WSE model. Carryover storage parameters are included in the WSE model which estimates surface water supply effects for deliveries and river flows. Please refer to SED Chapters 5, 7, 9, 11, 13, 19, and Appendix F.1.
1200	23	Requiring the bypass of 30-60 percent of unimpaired flow without documented benefits to fish and wildlife is an unreasonable use of water. Article X, Section 2 of the California Constitution prohibits the "waste or unreasonable method of use or unreasonable method of diversion of water." The State Water Board is required to "take all appropriate proceedings or actions before executive, legislative, or judicial agencies to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion in this state." [Water Code § 275; 23 CCR § 764.] Besides preventing the unreasonable use of water, the State Water Board is prohibited from compelling the unreasonable use of water. [State Water Board Cases, at 762; Baldwin v. County of Tehama (1994) 31 Cal.App. 4th 166, 183.] Whether a use is "reasonable" is a question of fact to be determined by the facts and circumstances of each case. [Joslin v. Marin Municipal Water Dist. (1967) 67 Cal.2d 132, 139; Environmental Defense Fund, Inc. v. East Bay Mun. Utility Dist. (1980) 26 Cal.3d 183, 194; Jordan v. City of Santa Barbara (1996) 46 Cal.App.4th 1245, 1268.] To determine whether any particular use is "reasonable," the Board must evaluate: (a) the quantity of water needed for the beneficial use served (City of Barstow v. Mojave Water Agency (2000) 23 Cal.4th 1224, 1241); (b) a comparison of other potential uses (Imperial Irrigation Dist. State Water Resources Control Bd. (1990) 225 Cal.App.3d 548, 570-571); and (c) local environmental conditions [Tulare Irr. Dist. v. Lindsay-Strathmore Irr. Dist. (1935) 3 Cal.2d 489, 567], among others. The SED does not even attempt to estimate or analyze the level of benefit the proposed Project will provide to viable fish populations. In addition, no scientific or other evidence supports the assumption that the proposed flow objectives alone will provide reasonable protection to fish. Conversely, even though the impacts to agriculture and other consumptive beneficial uses are drastically underestimated in the SED, the SED nevertheless demonstrates adverse impacts. When unsupported benefits to fish and wildlife are compared to documented adverse impacts to agriculture, it becomes clear that the contribution of the recommended 30-60% unimpaired flow to fish and wildlife is unreasonable. Without specifically documenting that the Plan will protect beneficial uses, and comparing those specific benefits against the documented injuries, the proposed Plan cannot be deemed a reasonable and beneficial use of water.	Please see master Response 1.2, Water Quality Control Planning Process, regarding State Water Board consideration of beneficial uses in the context of the water quality control planning process and State Water Board Authorities related to the water quality control planning process, including discussions on public trust resources and Article X, Section 2 of the California Constitution. Please see Master Response 1.1, General Comments, regarding the scientific basis for the LSJR flow objectives and the State Water Board's use of best available science. The overwhelming body of evidence, as explained in Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Standards; 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, demonstrates that increased flow is the foundation for fish survival. The plan amendments will reasonably protect fish and wildlife beneficial uses as demonstrated in the SED and as such are not an unreasonable use of water.
1200	24	The State Water Board's plan and program of implementation violate the public trust doctrine. The public trust doctrine requires the State Water Board ensure water be placed	Please see response to Comment 1200-23.

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		to beneficial use to the fullest extent. The overarching principle of the public trust doctrine is "the general welfare requires that the water resources of the state be put to beneficial use to the fullest extent to which they are capable, and that the waste or unreasonable use of water must be prevented." [Siskiyou at 423-424, citing People v. Weaver (1983) 147 Cal.App.3d Supp. 23, 28-29.] Because the proposed Plan fails to adequately analyze and balance the reasonable and beneficial uses of water, the State Water Board has failed to fulfill its fundamental Public Trust duty. In particular, the State Water Board does not indicate how the dedication of a randomly selected percentage unimpaired flow to the benefit of fish and wildlife, to the documented detriment of other trust uses, is consistent with the purposes of the trust. Although the State Water Board attempts to protect an important state interest by providing flow to fish and wildlife, the State Water Board cannot determine the reasonableness of these flows in vacuo, isolated from other statewide interests, and without considering the effect of these unimpaired flows on all of the needs of those in the stream system. (Siskiyou at 424; In re Waters of Long Valley Creek Stream System (1979) 25 Cal.3d 339, 354 (Long Valley).) Failing to adequately analyze the effect of the unimpaired flows on other important needs on the stream system is inconsistent with the State Water Board's duty under the Public Trust Doctrine. In addition, this failure lends additional support that the unimpaired flow objectives constitute an unreasonable use of water, because the Board fails to demonstrate that through the unimpaired flows that "'limited water resources be put only to those beneficial uses 'to the fullest extent of which they are capable,' that 'waste or unreasonable use' be prevented, and that conservation be exercised 'in the interest of the people and for the public welfare.'" [Cal. Const. Art. X, § 2; Long Valley at 354; Light v. State Water Resources Control Bd. (2014) 226 Cal.App.4th 1463, 1479-1480.]	
1200	25	The State Water Board cannot rely on its authority under the Public Trust as support for its decision to impose the unimpaired flow criteria. Under the Public Trust doctrine, the State Water Board may curtail water rights in certain narrow circumstances. [State Water Board Cases, 149-150; 23 CCR, § 780(a).] However, this authority does not justify curtailing water rights to implement the Lower San Joaquin River Flow Objectives for several reasons. First, the State Water Board may only utilize the Public Trust Doctrine to curtail vested water rights when it "is necessary" to protect the public trust interest. [23 CCR, § 780(a).] This is a stringent standard, more stringent than what is required for the State Water Board to set water quality objectives; that standard requires the State Water Board "establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection" of the beneficial use. [Water Code § 13241.] Even assuming, arguendo, that the State Water Board's analysis for the establishment of the flow objectives were sufficient, the State Water Board may not rely on that analysis to implement the flow objectives under its public trust authority. Instead, the State Water Board needs to notice and perform separate Public Trust proceedings to determine whether the objectives are necessary to protect the public trust: The continuing authority of the board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Sec. 2; is consistent with the public interest and is necessary to	Please see response to Comment 1200-23. Arguments regarding the curtailment of vested water rights are premature since implementation of the plan amendments through water right and water quality proceedings has yet to occur. Please see Master Response 1.2, Water Quality Control Planning Process, regarding implementation of the flow objectives through future proceedings.

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		preserve or restore the uses protected by the public trust. [23 CCR 780(a).] Additionally, to curtail a vested appropriative right under the Public Trust Doctrine, the State Water Board must first affirmatively find based on substantial evidence, that the particular diversion is "harmful to the interests protected by the public trust." [State Water Board Cases at 151.] Essentially, the State Water Board may not justify the exercise of its public trust authority to curtail a particular vested appropriative right simply because fish and wildlife are specifically "harmed" by the particular diversion at issue. This severely limits the State Water Board's ability to exercise its public trust authority to implement in the unimpaired flow objective. Even if the State Water Board were able to demonstrate the flow necessary to protect public trust resources, the State Water Board must also find that the proposed curtailment of the targeted vested water right(s) is in the "public interest." [Id.; Water Code § 1253; 23 CCR § 780(a).] The public interest consideration requires that the State Water Board "consider and protect all of the other beneficial uses. . . including municipal, industrial, and agricultural uses." [State Water Board Cases at 778.] The great majority of the beneficial uses the flow objective supports are municipal and agricultural uses, which many people rely on for their livelihood and health and safety. The current SED fails to establish the level of protection, if any, the proposed Plan will provide to fish and wildlife. The established benefit of existing uses, combined with the undefined benefit of the proposed Project, reveals that it's unlikely that an appropriate balancing of the public interest would result in the curtailment of these vested rights pursuant to the public trust. In order to utilize the public trust to implement the LSJR Flow Objectives the State Water Board must weigh and balance the best available scientific information to determine that (1) the flow objectives are necessary to protect fish and wildlife; (2) the diversion of the water by vested water right holders is causing harm to the native fishery; and (3) the flow objectives promote the public interest. This severely truncated methodology lacks the necessary evidence and analysis to support reliance on public trust authority to legally justify this extreme decision.	
1200	26	The plan fails to adequately consider and establish water quality objectives that can reasonably by achieved through the coordinated control of all factors. Requiring the bypass of 30-60 percent of unimpaired flow without implementing other physical solutions is an unreasonable use of water. When it adopted the 2010 Flow Criteria Report, the State Water Board acknowledged the need for an integrated approach to management of the Delta: Best available science supports that it is important to directly address the negative effects of other stressors, including habitat, water quality, and invasive species, that contribute to higher demands for water to protect public trust resources. The flow criteria highlight the continued need. . . to develop an integrated set of solutions and to implement non flow measures to protect public trust resources. Yet the SED fails to adequately address other local environmental conditions that limit the survival of fish, and thus cannot support unimpaired flow as a reasonable use of water. Predation is one example of the local environmental conditions that pose a significant threat to the survival of native anadromous fish. Other examples include fish mortality caused by dewatering, lack of velocity, impaired water quality, or local hatchery practices.	The premise of the comment is that non-flow measures, not flow, “drive fish populations.” That is incorrect. The scientific basis for the LSJR flow objectives to protect fish and wildlife beneficial uses is documented in Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives. Best available science has shown that non-flow factors, such as predation, are affected by flow, because a reduced, flattened flow regime favors nonnative species. Increasing flow in the river will enhance the effect of predator removal. Please see Master Response 3.1, Fish Protection, which further explains the scientific justification for flow in protecting fish and wildlife, and provides additional discussion of other stressors (e.g., predation, climate change). The State Water Board recognizes the importance of complementary non-flow measures, such as predator removal and local hatchery practices, for protection and recovery of the salmon population. As stated in Appendix K, Revised Water Quality Control Plan, the recommended non-flow measures are complementary to the LSJR flow objectives for the protection of fish and wildlife. Non-flow measures were identified and their environmental impacts were evaluated in Chapter 16, Evaluation of Other Indirect and Additional Actions, Section 16.3, Lower San Joaquin River Alternatives – Non-Flow Measures. However, the plan amendments are fundamentally about addressing water quality by providing more flows necessary to reasonably to protect fish and wildlife. Flow is a critical water quality parameter that the State Water Board has the obligation and responsibility to address under the Porter-

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		Requiring increased flow without addressing these other factors impacting fish populations is a legal flaw in the SED and proposed flow objectives. The SED's failure to properly account for and evaluate these other local environmental conditions demonstrates that the proposed flow objectives are an unreasonable use of water.	Cologne Water Quality Control Act. For more information on the consideration of non-flow measures in the plan amendments, please see Master Response 5.2, Incorporation of Non-Flow Measures. Since more flow is necessary to reasonably protect fish and wildlife beneficial uses and the commenter's premise that non-flow measures drive fish populations is incorrect, the required LSJR flow objectives do not constitute an unreasonable use of water. Moreover, the program of implementation allows for non-flow measures to support reduced flows within the prescribed range, as long as the criteria for the adjustments are met, thereby maximizing the beneficial uses of water. Future water right proceedings may support the imposition of non-flow measures as a physical solution on a particular party and waterbody. Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for information regarding a reasonable range of alternatives and the need for the alternatives to meet the objectives of the plan amendments, as well as why non-flow measures are not alternatives to the proposed LSJR flow objectives.
1200	27	Predation is probably the biggest barrier to increasing fish populations. The National Marine Fisheries Service's 2009 Draft Recovery Plan for salmon and steelhead found predation to be one of the most important stressors. A 2014 study by Department of Water Resources found that "predation plays a large role in the survival rates of out-migrating salmon." This Board has identified non-native species as one of the water quality impairments in the Bay-Delta. Water quality laws require that before flow is used, this Board must control all factors that can reasonably be controlled through non-flow measures. The facts on predation are simply illustrated by the following: - Research on the Tuolumne River shows 95% to 98% of salmon and steelhead -- which are protected under the federal Endangered Species Act -- are lost to predation before they even leave that river (attempts to collect similar data on the Stanislaus River have been blocked by government red tape). - There are 300 bass per kilometer in the San Joaquin River – this is not hot spots, this is the entire river. - It is estimated that 800,000 to 1.5 million adult striped bass live in the Delta, with a total (all age groups) predator population of 6 million to 8 million. - In Clifton Court Forebay we have from 80 to 100% loss to predation with no fix being planned. Until predation is addressed, native salmon and steelhead populations may never increase in the river, no matter how much water is released.	Please refer to Master Response 3.1, Fish Protection, for discussion of predation and the expected benefits of the unimpaired flow approach, including increased emigration survival and decreased predation under higher flows conditions during the outmigration period. 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. Please also refer to Master Response 5.2, Non-flow Measures, regarding consideration of non-flow measures, such as predator reduction and habitat restoration.
1200	28	The recent actions with hatchery fish in the San Joaquin River watershed raises more issues with the unimpaired flow proposal -- and provides a perfect illustration of the reasons that flow will not provide the result sought by the Plan. The Stanislaus River has already met the doubling goal for salmon: - Spawning adult salmon in the Stanislaus have increased by a factor of five since 2007. - Numbers in 2015 were the 12th highest since 1950. However, flow is not responsible for this success. Study of the fish returning to the	Please see response to Comment 1200-26.

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		Stanislaus River show that they are all hatchery fish. In 2013 California Fish and Wildlife increased hatchery production on the Merced River to 1.5 million fish. These fish are spawned and reared in the hatchery, but they are not then released into the Merced River; rather, they are trucked to the Bay and released. As a result, these fish do not face the gauntlet of predation that is described above resulting in 98-100% predation rates. Rather, they are escorted past the predators, and released into the ocean where they must face only an ocean harvest of 60%. Therefore, up to 40% of these hatchery fish are returning to the tributaries to spawn. Under Department of Fish and Wildlife regulations, when these hatchery fish spawn in the Stanislaus River, they are no longer hatchery fish, but are considered natural. Despite reports to the contrary, because of this combination of predation and increased hatchery production, there is no natural production of Central Valley Fall-Run Chinook Salmon on the tributaries; they have been overrun by hatchery practices. The non-flow issues currently drive fish populations in the tributaries -- not flow. Yet again, the SED focuses strictly on flow -- which is irresponsible, and an unreasonable use of water under the circumstances. Again, even the 2010 Flow Criteria Report relied on by the SED acknowledged that issues other than flow must be considered, stating: "it is highly unlikely that any fixed or predetermined prescription will be a 'silver bullet'. The performance of native and desirable fish populations in the Delta requires much more than fresh water flows." They also need "habitat having a particular range of physical characteristics, appropriate variability, adequate food supply and a diminished set of invasive species." While folks ask "How much water do fish need?" they might well also ask, "How much habitat of different types and locations, suitable water quality, improved food supply and fewer invasive species that is maintained by better governance institutions, competent implementation and directed research do fish need?" The answers to these questions are interdependent.	
1200	29	The Recirculated Draft SED indicates that "non-flow measures can also be important, but State Water Board has limited authority to require non-flow measures." This is simply not the case. The State Water Board has consistently acknowledged that flow alone is insufficient to meet the beneficial uses for fish and wildlife. Successful implementation of nonflow measures may support adaptive adjustments to the required flow within the adaptive range of 30 to 50 percent of unimpaired flow, as long as the criteria for such adjustments are met. Summary of Proposed Updates to the Bay-Delta Water Quality Control Plan (September 15, 2016). . . .a key element of successful adaptive management is the implementation of non-flow measures that could reduce the flows needed, within the adaptive range, to achieve reasonable fish and wildlife protection goals, such as restoration of gravel spawning beds, suppression of habitat beneficial to predatory fish, and enhancement of habitat beneficial to native species". Summary of Proposed Updates to the Bay-Delta Water Quality Control Plan (September 15, 2016).	Please see response to Comment 1200-26.

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		The State Water Board recognizes the importance of habitat restoration and direct control of other stressors, and that non-flow actions could reduce the flows needed to achieve reasonable fish and wildlife protection goals. These factors also interact with flow; therefore some level of increased flows will be needed even with non-flow actions, but non-flow actions can also mitigate the need for increased flows. Fact Sheet: Working Draft Scientific Basis Report for Flow Requirements on the Sacramento River, its Tributaries, Eastside Tributaries to the Delta, Delta Outflow, and Interior Delta Flows Oct. 19, 2016 While flow is one of the primary factors affecting fish and wildlife, the Report also describes other stressors, such as pollutants, predation by non-native species, and habitat alteration, and how stressors interact in the ecosystem. Non-flow measures will be addressed in the Bay-Delta Plan program of implementation, including actions the State Water Board may take related to those issues. Fact Sheet: Working Draft Scientific Basis Report for Flow Requirements on the Sacramento River, its Tributaries, Eastside Tributaries to the Delta, Delta Outflow, and Interior Delta Flows Oct. 19, 2016 FN 2 Despite these acknowledgements, the SED neither includes nor implements identified non-flow actions beneficial fishery and reduce the need for flow in the SED. The State Water Board's failure to analyze impacts to and solutions to address water quality issues through non-flow measures is unreasonable, and the Plan's reliance on flows exclusively when the State Water Board acknowledges that adoption of non-flow factors would require less water violates Article X Section 2 of the California Constitution and the Public Trust.	
1200	30	The Plan's exclusive reliance on unimpaired flows to address fish and wildlife beneficial uses violates Water Code Section 13241. When establishing its Plan, the State Water Board must "ensure the reasonable protection of beneficial uses" and in doing so must consider "[w]ater quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area." Clearly in order to remain consistent with the State's emphasis on the reasonable use of water, controlling water quality conditions through the coordinated control of all factors" that affect water quality rather than relying exclusively on flow measures is required. The State Water Board's failure to do so violates Water Code Section 13241.	Please see the discussion of Water Code section 13241 in Master Response 1.2, Water Quality Control Plan Process.
1200	31	The Plan relies exclusively on dilution flows to decrease salinity in the Delta, and fails to address any other factors affecting salinity in the south Delta violates Water Code Section 13241. Article X, Section 2 of the California Constitution requires water resources of the State be put to beneficial use to the fullest extent of which they are capable. The State Water Board's actions are limited and controlled by this constitutional requirement. In addition, Water Code Section 275 directs the State Water Board to take appropriate action to prevent the unreasonable use of water. The State Water Board's responsibility and authority to take appropriate action to prevent water was upheld in State of California v. Forni (1976) 54 Cal.App.3d 743. The State Water Board disregards this responsibility in the Plan, instead asserting that it is appropriate and acceptable to release water to dilute pollution rather than addressing pollution through non-flow measures. This approach is neither acceptable nor legal when there are other implementable controllable factors available to the State Water Board to address the salinity water quality issues within the Southern Delta. The State Water Board has already concluded that controllable factors could and should be used	Please see Master Response 3.3, Southern Delta Water Quality, for the causes of salinity problems in the southern Delta, which are not solely related to pollution. As found in Decision 1641, the actions of the Central Valley Water Project are the principal cause of salinity exceedances at Vernalis and have caused significant deterioration of water quality in the southern Delta. In any case, the program of implementation in Appendix K requires the Central Valley Water Board to address salt discharges in accordance with Porter-Cologne Water Quality Control Act and the Clean Water Act. It also describes efforts like the ones the commenter specifies as ongoing actions that will assist in implementing the salinity objectives. The proposed salinity objectives would require less flows than keeping the existing salinity objectives, thus allowing water to be used for other beneficial uses. To meet the existing salinity objectives, on average 60 TAF from New Melones Reservoir would be required, as explained in Master Response 3.3. The Board has not violated section 780(b) of the title 23 of the California Code of Regulations as it is inapplicable in this proceeding.

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		to control the problem of salinity. [State Water Board D1641.] California courts and the State Water Board both recognized that when the causes of pollution can be controlled, the continued use of water to dilute that pollution is an unreasonable method of attaining a water quality standard. For example, in Antioch v. Williams Irrigation District (1922) 188 Cal. 451, 465 the court found that it was unreasonable to require upstream diverters to cease water use in order to maintain downstream water quality. In Jordan v. City of Santa Barbara (1996) 46 Cal.App.4th 1245, 1269, the court clearly stated that "[u]se of upstream water to wash out salts downstream is an unreasonable use of water." [Id. at 1270.] Yet for decades the State Water Board has failed to control the sources of pollution into the San Joaquin River, choosing instead to condition water right permits to require bypass flows and releases from storage to dilute pollution in the SJR and south Delta. In Decision 1628, adopted in 1992, the State Water Board indicates the appropriate standard at page 16: The use of water to dilute pollutants other than ocean derived salts may be unreasonable. The Board prefers to control pollution at its source. The Board's regulations provide that the quantity of water diverted under a permit or license is subject to modification if necessary to meet water quality objectives, but the regulations also provide that the Board will not modify a permit or license if water quality objectives can be achieved through the control of waste discharges." [23 Cal. Code Regs. § 780(b).] The Plan directly violates the Board's own regulations – Section 780(b) of Title 23 California Code of Regulations, describes standard permit terms that may be included in water right permits. For water quality objectives the Board has adopted a term that allows it to modify permits in the future subject to the following restriction: No action will be taken pursuant to this paragraph unless the board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges." There are multiple non-flow factors available to meet the salinity objective, including source control, real time management, or implementation of the preferred method – regional management. But rather than implement any of these alternatives, the State Water Board's proposed Program of Implementation would continue to require the release of water for dilution. To the extent that the Plan relies heavily on flow measures for implementing the salinity objectives, rather than initially utilizing non-flow measures, the State Water Board is in violation of state law and State Water Board regulations.	
1200	32	The State Water Board's assertion that it has no authority to require non-flow factors is absurd. The law clearly requires the State Water Board to consider control of all factors, including non-flow actions, when protecting beneficial uses. [Water Code Section 13241.] In fact, the constitution and the public trust would require that non-flow factors be looked to first in order to protect flows, and ensure that water is being placed to its highest and best use.	Please refer to Master Response 5.2, Incorporation of Non-Flow Measures, for responses to comments regarding the State Water Board's authority to Impose Non-Flow measures.

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		The State Water Board itself recommends, but does not require, non-flow actions be undertaken by regulated parties as part of the implementation plan: While flow remains a key factor, the State Water Board also recognizes that a number of other factors, such as nonnative species, predation, high water temperatures, barriers to fish passage, and habitat loss contribute to the degradation of fish and wildlife beneficial uses in the LSJR. Direct actions to address these other stressors would complement LSJR flows to protect fish and wildlife. The State Water Board, therefore, recommends certain actions in the program of implementation. These recommended actions, together with the coordinated monitoring and adaptive implementation described above, are expected to improve habitat conditions that benefit native fish and wildlife or are expected to improve related science and management within the LSJR Watershed, and could reduce the flows needed, within the adaptive range, to achieve reasonable fish and wildlife protection goals. [SED pg. ES-19.] The State Water Board does not explain why essential non-flow measures are not imposed as part of the program of implementation, to be implemented as conditions to water right permits. In oral statements, not included in the SED, State Water Board members have stated that it does not have the legal authority to impose non-flow conditions – nothing could be further from the truth. The instances of the State Water Board imposition non-flow requirements as conditions on water right permits are too numerous to mention; the State Water Board has required permit holders to perform fishery studies (D1616), groundwater studies (D869), studies for mitigation of streamflow reductions and sediment buildup (D1582), to consult with other regulatory agencies to develop plans to reduce fish losses resulting from diversion of water, and to identify proposed sources of funding to implement projects (D1644), to fund a study to be performed by the Department of Fish and Game of the steelhead resource potential and flow requirements necessary for the transport of adult and juvenile steelhead to and from spawning and rearing areas to gather data and make recommendations as to feasible alternatives for the improvement and perpetuation of a steelhead resource that may reasonably be undertaken using water appropriated pursuant to a permit (D1586), to conduct a study to determine the permitted project's impacts on fishery habitat and fish populations. (D1609), to install physical barriers in the river (D1641) to study recirculation, and hundreds of other examples. In addition, to demonstrate that the State Water Board itself believes it has authority to impose non-flow conditions on water right permits, one need look no further than the carryover storage requirements its Program of Implementation proposes to impose on all SJR water right holders.	
1200	33	The State Water Board's failure to require non-flow measures in the plan. When establishing its Plan, the State Water Board must "ensure the reasonable protection of beneficial uses" and in doing so must consider "[w]ater quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area". [Emphasis added] The State Water Board fails to do so. Yet, California law prohibits the State Water Board from adopting a plan requiring more flow be released from reservoirs on the SJR than is required for the beneficial use to be served: "[t]he right to water or to the use or flow of water in or from any natural stream or watercourse in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served. . ." [Water Code Section 100 (Bolding and underlining added).] The State Water Board acknowledges that implementing non-flow measures would reduce the	Please see responses to Comments 1200-26 and 1200-32.

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		amount of flow needed to meet the beneficial uses; therefore, California law requires those actions be required as part of the Plan.	
1200	34	The State Water Board's assertion in the Program of Implementation to leave the 0.7 dS/m salinity objective as a permit condition for the USBR's permits is also not legally supported. The SED adjusts the South Delta Salinity Objectives from 0.7 dS/m to 1.0 dS/m in recognition of new scientific information regarding the water quality necessary to protect agricultural interests. Despite this conclusion that 1.0 dS/m is the salinity objective required to protect beneficial uses, the Program of Implementation proposes to continue to impose a 0.7 dS/m permit condition on upstream water right permits, including those for New Melones. Imposing this permit condition is contrary to the evidence and state law requirements.	Please see Master Response 3.3, Southern Delta Water Quality, for discussion of the responsibilities of USBR and DWR with regards to southern Delta salinity.
1200	35	[State Water Board's] Authority to Impose Permit Conditions. The law requires a nexus between a condition imposed on a water right permit and the harm sought to be remedied. (Bank of America v. State Water Resources Control Bd. (1974) 42 Cal.App.3d 198, 213.) There is no nexus between imposing a condition on water rights requiring them to reach a 0.7 dS/m standard and an adopted water quality beneficial use of 1.0 dS/m. Such conditions cannot be not supported by substantial evidence. Despite noting that such permit conditions would adversely impact New Melones project water supply contractors and agriculture, and contrary to substantial evidence, the State Water Board intends to keep the permit conditions at 0.7 dS/m and use dilution to require compliance in the southern Delta. The substantial evidence standard must support imposition of water right conditions proposed by the State Water Board with precise and specific reasons founded on tangible record evidence. (Bank of America v. State Water Resources Control Bd. (1974) 42 Cal.App.3d 198, 213.) To accomplish this, the State Water Board must be able to point to evidence in the record that connects New Melones operations to the need for the 0.7 dS/m flow conditions. The lack of discussion in the Program of Implementation demonstrates that the State Water Board has not and cannot provide an adequate nexus between the 0.7 dS/m permit condition and meeting the 1.0 dS/m water quality objective. The SED does not disclose and address substantial evidence in support of the salinity objective in the New Melones permits. The substantial evidence test requires the State Water Board to disclose "substantial evidence" to support its decision and supply "precise and specific reasons founded on tangible record evidence" to support its conditions. [Bank of America v. State Water Resources Control Board (1974) 42 Cal.App.3d. 198, 213.] Here, there is no substantial evidence to support imposing the salinity objective on the New Melones permits. For this reason, the State Water Board's Program of Implementation fails to meet the legal threshold established in both Bank of America and Racanelli requiring the State Water Board to support permit conditions with tangible record evidence.	Please see Master Response 3.3, Southern Delta Water Quality, for responses to comments regarding why the southern Delta Salinity objectives are being updated and why continuing USBR's responsibility to meet 0.7 dS/m at Vernalis is appropriate. The substantial evidence standard does not apply to quasi-legislative actions such as amendment of the Bay-Delta Plan, as explained in Master Response 1.1, General Comments.
1200	36	Program of Implementation Must be Consistent with Water Quality Objectives. The State Water Board proposes to change the water quality objective for southern Delta salinity in its Plan Amendments, but failing recognize the same change in its Program of Implementation. Requiring a more stringent program of implementation than water quality requirements deemed sufficient to protect beneficial uses clearly violates Article X Section 2 of California's Constitution. Permit conditions that are more stringent (0.7 dS/m) than the water quality objectives themselves (1.0 dS/m) require more water to be released than is actually necessary for reasonable and beneficial uses. Again, California law requires that water use shall be limited to such water as shall be reasonably required for the beneficial use to be	See response to comment 1200-35.

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		served. [Water Code Section 100.]	
1200	37	The Program of Implementation Violates Water Code Section 13242 Water Code Section 13242(a) provides that a program of implementation for achieving water quality objectives shall include "a description of the nature of actions which are necessary to achieve the objectives, including recommendation for appropriate action by any entity, public or private." [Emphasis added.] The Program of Implementation relies solely on flow to meet the salinity objective. However, the Program of Implementation fails to demonstrate how the flow measures and reliance on project water is necessary under Water Code Section 13242. Because the State Water Board is required by law to first implement non- flow measures to reach water quality objectives (23 CCR § 780(b)) by definition the use of flow from New Melones is not necessary. The Recirculated Draft SED's failure to analyze and demonstrate how the use of flow is necessary under Water Code Section 13242, and without adequately analyzing non-flow measures, renders the SED legally deficient. In addition, the imposition of a more stringent standard on the New Melones Permit (0.7 dS/m) than is identified to meet the beneficial use (1.0 dS/m) is not "necessary to achieve the objectives," and cannot be upheld under Water Code Section 13242(a).	See response to comment 1200-35.
1200	38	The State Water Board's proposed plan would undermine the purposes of the New Melones project and work directly against the achievement of several of the project's goals. Any state limitation or condition on the federal management or control of a federally financed water project is valid unless it clashes with express or clearly implied congressional intent or works at cross-purposes with an important federal interest served by the congressional scheme. In United States v. State of California (1986) 694 F.2d 1171, the Ninth Circuit noted potential conflict between the State Water Board and New Melones project operations: "California may have a legitimate interest in many aspects of the project's operation. On the other hand, these five conditions could be exercised inconsistently with congressional intent. The New Melones project is intended to be operated by federal officials in pursuance of certain declared goals. California cannot impose burdensome conditions which were not contemplated by Congress, or which work against the achievement of the project's goals. For example, once the federal government has made binding contracts for delivery of water, California would be more restricted than it was when it originally regulated impoundment and distribution of water. [694 F.2d at 1191.] Here, the Plan Amendment's unimpaired flow criteria analyzed in the Recirculated Draft SED together with its draconian carryover storage requirements, clash with clear congressional intent and work against an important federal interest because it contradicts and ignores the established purposes of the New Melones Project, which was built to serve a multitude of beneficial uses. Congress authorized the New Melones project for many purposes, including the provision of 180,000 acre-feet of water for irrigation and municipal and industrial uses. While Congressional authorization for the project also included water quality and fish and wildlife, Congressional purposes would be contradicted if the State Water Board's Plan was implemented and fish and wildlife purposes became the only beneficiary of the project. Simply stated, an unelected State Water Board cannot convert Congressional action and	The commenter makes the false presumption, without evidence, that the plan amendments would result in fish and wildlife being the only beneficial use to receive water from New Melones reservoir. The unimpaired flow objective would leave a percentage of flow available for other beneficial uses. Please see Master Response 1.2, Water Quality Control Planning Process for information regarding the State Water Board's authorities and regulations governing the process. Note that the assignment of responsibility to meet the flow objectives will occur in separate proceedings during implementation. Master Response 1.2 discuss the possible means of implementation including water right proceedings and the Federal Energy Regulatory Commission process. Additionally, New Melones is operated to meet regulatory commitments and demands for use of the Central Valley Project (CVP), which after passage of the Central Valley Project Improvement Act in 1992, include the protection and restoration of fish and wildlife and associated habitats in the Central Valley and Trinity River basins of California. As such, operation of New Melones to meet the reasonable protection of fish and wildlife beneficial uses does not conflict, but rather agrees with congressional obligations of CVP operations.

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		intentions that New Melones serve multiple water purposes into a single water purpose: a fish and wildlife purpose.	
1200	39	Under the Plan Amendments, the Stanislaus River will be contributing 100,000 acre feet more than the other tributaries and is unfairly and disproportionately impacted. The Stanislaus River is already subject to reasonable and prudent alternatives imposed on the operations of New Melones Reservoir by the Salmon and Steelhead Biological Opinion (Salmon BiOp) imposed under the Endangered Species Act. This Salmon BiOp, imposed in 2009, requires significant increased flows in the river for the same species being protected by this plan. This operational criteria is already meeting the 30-50% flow criteria, and be sufficient for the Stanislaus River's compliance with the plan. However, instead the State Water Board chooses to further burden the river. The proposed plan imposes upon the Stanislaus River the requirements of the 40% unimpaired flow proposal OR the requirements of the Salmon BiOp, whichever is higher. As a result, although the percentage of unimpaired flow for the three tributaries is relatively equal, the Stanislaus River will be contributing over 100,000 acre feet more than the other two tributaries. This frustrates the New Melones project purposes and violates California law.	Please refer to Master Response 1.2, Water Quality Control Planning Process, and Master Response 2.1, Amendments to the Water Quality Control Plan, for information regarding the required flows and the program of implementation. Also refer to Master Response 2.2, Adaptive Implementation, for additional information on implementing the flow objectives. Please note that the LSJR flow objective is specific to the February – June timeframe. It is unclear what timeframe is being discussed in the comment, therefore no further response can be provided.
1200	40	The Recirculated Draft SED is legally deficient for purposes of complying with the requirements of the California Environmental Quality Act. The [Stockton East Water District] District is vitally interested in the State Water Board discharging its public duty to satisfy the requirements of the California Environmental Quality Act ("CEQA"). Generally speaking, the Recirculated Draft SED is legally deficient and does not fulfill its duty as an informational document. The failure of a CEQA document to fulfill its informational duty is prejudicial to the decision makers and public. Rather than certify the Recirculated Draft SED, we request, yet again, that the State Water Board produce a sufficient evaluation of the potential environmental effects and thereafter provide a new public review draft SED and comment period. In this instance, the proposed Project directly affects the District by reducing the amount of surface water available from the Stanislaus River thereby affecting District operations, District landowners, and the Urban Contractors that rely on the provision of wholesale treated surface water, all of whom will be directly and negatively affected by the project's negative environmental consequences. The proposed Project also has direct and secondary effects on the general public. The Legislature declares that environmental quality is a statewide concern and requires public agencies to exercise regulatory authority "so that major consideration is given to preventing environmental damage." Pub.Res.C. §21000(g); Title 14 California Code of Regulation §15002(a)(2)-(3) (hereinafter unidentified reference refer to the CEQA Guidelines). [footnote 1: We acknowledge the citations presented herein involve challenges to EIRs rather than to a SED. Nevertheless, substantial overlapping legal requirements applicable to each type of document make these important citations directly applicable here. Throughout this comment letter we rely on statutory, administrative guidelines and decisional law statements that apply with equal dignity to the legal sufficiency of either an EIR or a SED. Hence, the term "EIR" and the term "SED" may be used interchangeably in this comment.] Ignoring direct and cumulative impacts defeats an overriding policy as articulated by the Supreme Court that CEQA is "to be interpreted ... to afford the fullest possible protection to the environment within the reasonable scope of the statute language." Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 259 (underscoring added). "The EIR requirement is the heart of CEQA." CEQA Guideline	Please see Master Response 1.1, General Comments, regarding the regarding the programmatic analysis in the SED and the difference between programmatic and project-level analyses and for information regarding the impacts evaluated in the SED. The plan amendments are not a development project and are not a project-specific action. They are amendments to an existing water quality control plan. Under its certified regulatory program, the State Water Board is not required to conduct a site-specific project-level analysis, which CEQA may otherwise require of those agencies who are responsible for complying with the plan or policy when they determine the manner in which they will comply (Title 23 Division 3, Chapter 27, Article 1, Section 3777). Furthermore, the degree of specificity in an environmental document corresponds to the degree of specificity involved in the underlying activity which is described in the environmental document (State CEQA Guidelines, Section 15146). As acknowledged by the State CEQA Guidelines, an environmental document disclosing the impacts of a construction project will necessarily be more detailed than those evaluating a plan because the effects of the construction can be predicted with much greater accuracy (State CEQA Guidelines, Section 15146(a)). An environmental document analyzing a plan need not be as detailed as an environmental document on a specific construction project (State CEQA Guidelines, Section 15146(b)). The fact that the analysis is programmatic in the SED does not negate the ability of commenters to provide comments on the analysis or decision makers to make an informed decision. 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 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. The adequacy of an environmental document is determined in terms of what is reasonably 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 (State CEQA Guidelines, Section 15024(a)). Also, please see Master Response 1.1, General Comments, for a discussion of mitigation measures and the substantial evidence standard as it applies to the SED.

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		§15003(a). A legally adequate SED demonstrates "to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its actions" (CEQA Guideline §15003(d)); and "enable[s] the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day." People v. County of Kern (1976) 39 Cal.App.3d 830, 842. The Supreme Court succinctly observes, "The EIR process protects not only the environment but also informed self government." [Laurel Heights Improvement Association v. Regents of the University of California (1988) 47 Cal.3d 376, 392 ("Laurel Heights").] If a SED is adopted without sufficiently discussing and mitigating environmental effects, the agency has not proceeded in a manner required by law. TRIP v. City Council (1988) 200 Cal.App.3d 671, 679. The Fifth District underscores the EIR's information disclosure feature: "A prejudicial abuse of discretion occurs if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process." [Dry Creek Citizens Coalition v. County of Tulare (1999) 70 Cal.App.4th 20, 26 ("Dry Creek"); Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 712 ("Kings County").] Thus, an "adequate EIR must be 'prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences.' (Citation) It 'must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.'" Kings County at 712 citing Laurel Heights at 405. See, also Dry Creek at 26. Omitting relevant information itself "is prejudicial if the failure to include relevant information precludes informed decision making and informed public participation." [San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 722.").] A SED's legal sufficiency is determined by Code of Civil Procedure (C.C.P.) §1094.5 and Pub.Res.C. §21168. An abuse of discretion occurs if an agency does not proceed in a manner required by law or if the decision is not supported by substantial evidence. "Failure to provide enough information to permit informed decision making is fatal." Napa Citizens for Honest Government v. Napa County (2001) 91 Cal.App.4th 342, 361. To put a finer point on it, certifying "an EIR which is legally deficient because it fails to adequately address an issue constitutes a prejudicial abuse of discretion regardless of whether compliance would have resulted in a different outcome." [Citizens to Preserve Ojai v. County of Ventura (1985) 176 Cal.App.3d 421, 428.] The applicable two prong standard presented by C.C.P § 1094.5 compels a trial court to take a hard and demanding evaluation of the evidence and the agency's treatment of this evidence. In sum, a reviewing court ascertains whether a challenged EIR or SED was prepared "with a sufficient degree of analysis" to allow "a decision which intelligently takes account of environmental consequences." [Dry Creek at 26.] This means the SED "must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." [Laurel Heights at 405.] Therefore, "where the failure to comply with the law results in a subversion of the purpose of CEQA by omitting information from the environmental review process, the error is prejudicial." [Rural Landowners v. City Council (1983) 143 Cal.App.3d 1013,	

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		1023.]	
1200	41	The [Stockton East Water District] District's comments pivot on the principle that a SED acts as an informational document identifying potentially significant impacts of a project, as well as alternatives and mitigation measures necessary for informed decision-making (Pub.Res.C. §21002.1), and that substantial evidence must support the SED's findings and conclusions. Laurel Heights 47 Cal.3d 376. An adequate SED "must be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences" and "must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." [Id.] The Recirculated Draft SED does not meet this threshold; accordingly, it is not adequate for certification, and the Plan Amendments cannot be approved until a legally sufficient SED is prepared. Moreover, a public agency must proceed in a manner required by law and failing to proceed in a manner required by law represents an independent and separate prong of abusing discretion as identified in C.C.P. § 1094.5. Omitting relevant data or the failing to conduct environmental studies or analysis based on a legally sufficient project description or baseline amounts to a failure to proceed in a manner required by law. [Rural Landowners v. City Council (1983) 143 Cal.App.3d 1013, 1023.] This is because CEQA is to be expansively interpreted in order to provide maximum evaluation and consideration of potential direct and indirect environmental effects. CEQA Guideline §15003(f); Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 259. Cohering to this expansive statutory mandate the "EIR requirement is the heart of CEQA." [CEQA Guideline §15003(a); County of Inyo v. Yorty (1973) 32 Cal.App.3d 795.] More specifically, a SED must consider both direct and indirect environmental effects (CEQA Guideline §15064(e)). The expansive interpretation of this rule was presented in Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1205- 1206 and illustrates the meaningful relationship between socio-economic direct effects to secondary or indirect environmental effects: Guidelines Section 15131, subdivision (a) provides, "An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project to physical changes in turn caused by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes." Case law already has established that in appropriate circumstances CEQA requires urban decay or deterioration to be considered as an indirect environmental effect of a proposed project. The relevant line of authority begins with Citizens Assn. for Sensible Development of Bishop Area v. County of Inyo (1985) 172 Cal.App.3d 151, 217 Cal.Rptr. 893 (Bishop). There, the appellate court held that adoption of multiple negative declarations for different aspects of the same large regional shopping center violated CEQA. [Id. at p. 167, 217 Cal.Rptr. 893.] The court also agreed with appellant that on remand "the lead agency must consider whether the proposed shopping center will take business away from the downtown shopping area and thereby cause business closures and eventual physical deterioration of downtown Bishop." [Id. at p. 169, 217 Cal.Rptr. 893.] Citing CEQA Guideline	Please refer to response to comment 1200-40. 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) and Master Response 2.5, Baseline and No Project, regarding the baseline. The SED includes an analysis of agricultural operations relying more heavily on groundwater as a potential substitute for reduced surface water in Chapter 9, Groundwater Resources, and other potential groundwater-related actions in Chapter 16, Evaluation of Other Indirect and Additional Actions. The SED includes analyses of the potential for air pollution to be generated with additional groundwater pumping in Chapter 14, Energy and Greenhouse Gases, Chapter 16, Evaluation of Other Indirect and Additional Actions, and Appendix B, State Water Board's Environmental Checklist.

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		Section 15064, the court found that the lead agency had an affirmative duty to consider whether the new shopping center would start an economic chain reaction that would lead to physical deterioration of the downtown area. [Id. at p. 170, 217 Cal.Rptr. 893.] Therefore, "[o]n remand the lead agency should consider physical deterioration of the downtown area to the extent that potential is demonstrated to be an indirect environmental effect of the proposed shopping center." [Id. at p. 171, 217 Cal.Rptr. 893.] Accordingly, in Bakersfield Citizens the socio-economic impact of store closures required the two EIRs to study in depth the potential that this non-environmental effect could start a "chain of events" leading to urban decay, a recognized environmental effect. To the same extent, this Recirculated Draft SED fails to identify and omits significant secondary effects of the proposal. For instance, the proposed Project will induce agricultural operations to rely more heavily on groundwater as a substitute for reduced surface water deliveries. This in turn means that more air pollution will be emitted as agricultural operations increasingly use diesel engines to pump groundwater for application to crops. Against the Bakersfield Citizens standard of legal sufficiency the Recirculated Draft SED is legally deficient and approval of the SED as currently presented amounts to a prejudicial abuse of discretion.	
1200	42	The Recirculated Draft SED's project environmental setting and baseline is legally deficient. Evaluating a project's potential to cause individual and/or cumulative impacts requires identifying an accurate environmental setting/baseline. See CEQA Guideline §15130(b) (1). Indeed, "[t]he purpose of CEQA is not to generate paper, but to compel government at all levels to make decisions with environmental consequences in mind. (Bozung v. LAFCO (1975) 172 Cal.App.3d 151)" (CEQA Guideline §15003(g)), and an analysis relying on a factually inaccurate environmental setting/baseline reflects an exercise in paper pushing rather than good-faith information disclosure. Accordingly, incorrectly including certain features or omitting relevant features of the baseline or environmental setting is inherently prejudicial, for a "[p]roper cumulative impacts analysis is absolutely critical to meaningful environmental review"." [Bakersfield at 1217.] The environmental setting and baseline consists of "the physical environmental conditions in the vicinity of the project" viewed from "local and regional perspective(s)." [CEQA Guideline §15125(a) and (c).] It should be sufficiently comprehensive to allow a project's significant impacts "to be considered in the full environmental context." [CEQA Guideline §15125(c).] It should be sufficiently clear and accurate to allow informed comparisons of the pre-project and post-project conditions. [County of Amador v. El Dorado County Water Agency (1999) 76 Cal.App.4th 931, 955.] A SED's assessment of a project's environmental impacts examines changes to existing physical conditions expected to result from the project. [CEQA Guideline §15126.2(a).] A SED must focus on the project's impacts to the environment, not its impacts on hypothetical situations. [County of Amador v. El Dorado County Water Agency (1999) 76 Cal.App. 4th 931, 952.]	Please see Master Response 2.5, Baseline and No Project, for information regarding the baseline used in the SED.
1200	43	The Recirculated Draft SED's baseline is legally deficient thereby rendering the SED inadequate as a document required to comply with CEQA. The SED contains multiple baseline deficiencies. First and foremost, the baseline assumes implementation of the San Joaquin River Agreement (SJRA) and the Vernalis Adaptive Management Plan (VAMP) flows. The SJRA and VAMP expired in 2011 and those flows are not present in the system. Including the VAMP flow overestimates the amount of water at Vernalis and hence underestimates the amount required from New Melones Reservoir to meet the amount of	Please see Master Response 2.5, Baseline and No Project, for clarification of the SED baseline and No Project alternative, VAMP minimum flow requirements and the NMFS Biological Opinion. Please see Master Response 3.2, Surface Water Analyses and Modeling, for discussion of the modeling approach used in the Recirculated SED.

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		water necessary to meet the February through June objectives. The baseline assumptions include the June 2009 National Marine Fisheries Service's Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project (NMFS BiOp) Reasonable and Prudent Alternative 3.1.3 (June 2009 BiOp Appendix 2-E flow schedule). It is unclear why the baseline conditions include the flows set forth in June 2009 BiOp Appendix 2E flow schedule for the Stanislaus River. First, the Recirculated Draft SED states that CEQA requires a description of the physical environmental conditions in the vicinity of the project as they exist at the time of the Notice of Preparation (NOP) is published (February 3, 2009) [SED pg. 1-6.] As such, why are the June 2009 BiOp Appendix 2-E flows included since they were not in existence as of February 2009, instead they were issued four (4) months following the issuance of the NOP. Moreover, the United States Bureau of Reclamation (Reclamation) has reinitiated formal consultation with NMFS on the BiOp and the continued viability of the Appendix 2E flows will be examined as part of the re-consultation.	
1200	44	Deficiencies in the baseline in the Recirculated Draft SED omission of flows from the San Joaquin River Restoration Program (SJRRP). The SJRRP is the result of a settlement reached in 2006. The settlement addresses restoration of fish habitat and requires flows be provided to re-connect the river upstream of the Friant to Dam to the Upper San Joaquin River at the mouth of the Merced River. The flows provided for pursuant to the settlement agreement existed at the time of NOP and exist today; therefore, they ought to have been included in the environmental setting and the baseline.	Please see Master Response 2.5, Baseline and No Project, for clarification of the baseline used in the SED, discussion of the No Project Alternative and why the No Project assumes full compliance with D1641, and why SJRRP flows were not included. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding the modeling approach used in the Recirculated SED. Chapter 17, Cumulative Impacts, Growth Inducing Effects, and Irreversible Commitment of Resources, includes a qualitative evaluation of flows expected from the Upper San Joaquin River and potential cumulative effects on fisheries and water quality.
1200	45	The baseline improperly assumes Reclamation making ALL the releases to meet the existing February through June flow objectives from New Melones Reservoir assigned to Reclamation as part of D1641. These releases are not being made from New Melones nor will they be made from New Melones in the future. Reclamation has informed the State Water Board that it "has neither the legal authority nor the legal obligation to implement" the D1641 February through June Flow Objectives. Reclamation further asserts that they do "not believe that the Board's post-San Joaquin River Agreement (SJRA) interpretation is of D-1641 is supported by sufficient procedural or substantive due process, and raises serious concerns for viable, sustainable operations of New Melones, and therefore, could also conflict with clear Congressional directives for the CVP." [February 15, 2017 Letter from Reclamation to Tom Howard, Executive Director, regarding Proposal for Meeting San Joaquin River Flow Objectives in Future Years.] As such, it is improper to include them in the baseline. Moreover, inclusion of them in the baseline skews the entire environmental analysis on the Stanislaus River by underestimating the true impact of requiring the 30-60% unimpaired flow. As such, the water supply impacts and the corresponding agricultural resources, groundwater resources, municipal supply analysis is grossly understated. For the reason alone, it is difficult to comment on the Recirculated Draft SED environmental analysis because the baseline is so fundamentally flawed. Including features not reasonably part of the environmental setting/baseline while unreasonably excluding features of the existing environmental setting/baseline is incoherent in the extreme. These materially defective errors results in the Recirculated SED inaccurately analyzing significant impacts from implementing alternatives and grossly underestimate impacts to water diversions. The understated environmental effect also results in inadequate analysis and a failure to consider mitigation measures to minimize this	Please see response to Comment 1200-44.

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		more significant environmental effect. A project's environmental effects must be measured against actual physical conditions on the ground as opposed to hypothetical uses. City of Carmel-by-the-Sea v. Board of Supervisors (1986) 183 Cal.App.3d 180, 186-187. "[T]he environmental baseline is the basis on which the environmental impacts of the project are to be measured normally is the physical condition of the project site at the time the notice of preparation of the EIR is published." Woodward Park Homeowners Assoc., Inc. v. City of Fresno, (2007) 150 Cal.App.4th 683 (citing to CEQA Guideline §15125(a)). There the court determined an EIR for a shopping center that used operation of an authorized but non-existent office building as its baseline was "legally inadequate as an informational document because it failed to analyze consistently and coherently the impacts of the project relative to leaving the land in its existing physical condition." [Id. at 710.] The court ultimately held the EIR was deficient because it "failed to use the existing physical environment as the environmental baseline" and inappropriately compared the project's environmental effects to a hypothetical project and not the existing conditions on the ground. [Id. at 711.]	
1200	46	The wobbly baseline employed by the Recirculated Draft SED does not meet minimum legal requirements. Without explanation it omits relevant aspects of the existing physical environment while contemporaneously adding other features that were not part of this existing physical environment. This converts the environmental setting and baseline from accurately depicting the existing setting to offering a hypothetical environmental setting where some current features were omitted and potential features were included. These serious errors produce an inaccurate baseline that contaminates the Recirculated Draft SED's study of environmental effects. The State Water Board's assertion that the SED's Notice of Preparation sets the baseline is not dispositive and particularly unavailable in this instance since it operates to understate the intensity of significant environmental effects and otherwise distorts the analysis of the Project's impact to the environment. While the Guidelines suggest the NOP date "normally" establishes the baseline date the Supreme Court notes that public agencies have a duty to exercise discretion to determine appropriate "existing conditions" baselines. Neighbors for Smart Rail v. Exposition Metro Line Construction Authority (2013) 57 Cal.4th 439,453. In short the word "normally" in CEQA Guideline Section 15125(a) "necessarily contemplates that physical conditions at other points in time may constitute the appropriate baseline or environmental setting." Cherry Valley Pass Acres & Neighbors v. City of Beaumont (2010) 190 Cal.App.4th 316, 336 (italics in original). Here reliance on an antiquated baseline date, rather than a baseline corresponding to the new SED, substantially distorts the quality and accuracy of the environmental analysis rendering the SED noncompliant with CEQA.	Please see response to Comment 1200-44.
1200	47	The SED lacks an adequate project description. A Project Description is a mandatory element of a legally sufficient SED. CEQA Guideline §15124. At a minimum the SED's Project Description must include four elements: 1) "The precise location and boundaries of the proposed project"; 2) "A statement of the objectives sought by the proposed project"; 3) "A general description of the project's technical, economic and environmental characteristics"; 4) "A statement briefly describing the intended uses of the EIR." [CEQA Guideline §15124(a) through (d).] The SED's Project Description plainly does not meet minimum legal requirements and this	Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments regarding the project description. A “finite project description is indispensable to an informative, legally adequate” environmental document (County of Inyo v. City of Los Angeles (1977) 71 Cal.App.3d 185, 192). Without an accurate project description on which to base the SED’s analysis, the goals of CEQA to further public disclosure and informed decision making are stymied. (See, e.g., San Joaquin Raptor/Wildlife Rescue Ctr. V. County of Stanislaus (1994), 27 Cal.App.4th 713, 730.) Contrary to commenters’ claims, however, the SED provides a clear, accurate and finite project description in order to adequately analyze and disclose environmental impacts in Chapters 3 through 23.

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		deficiency is fatal. This is because a "finite project description is indispensable to an informative, legally adequate EIR." [County of Inyo v. City of Los Angeles (1977) 71 Cal.3d 185,199.] Thus a project description omitting integral components of the project may result in a SED that fails to disclose all relevant impacts of the project. [Santiago County Water District v. County of Orange (1994) 118 Cal.App.3d 818, 829.] Simply stated, "an accurate project description is necessary for an intelligent evaluation of the potential environmental effects of the proposed activity." [San Joaquin Raptors/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 730.] The Supreme Court has concluded that if the description is inadequate because it fails to discuss the complete project, the environmental analysis will probably reflect the same mistake. [Laurel Heights Improvement Association v. Regents (1988) 47 Cal 3d 376.] There is a general mention of the consideration of amendments to the 2006 Bay-Delta Plan to change flow requirements in the San Joaquin River basin and changes to water quality objectives in the Southern Delta, but nowhere in the body of the Recirculated Draft SED is there a clear concise description which sets forth the objectives of the propose Project and measurable benefits that will be achieved by implementation of the proposed Project.	Refer to SED Chapter 1, Introduction, which provides the basic project description and refers to Appendix K, which contains the entirety of the proposed amendments to the Bay-Delta Plan, and Chapter 3, Description of Alternatives, for details of the plan amendments. The Executive Summary also provides a summary of the plan amendments. Quantitatively or qualitatively demonstrating the benefits of a project is not a project description issue under CEQA. The benefits to fish and wildlife from the plan amendments set forth in the SED (see, e.g., Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30) and summarized in the Executive Summary.
1200	48	The project description excludes from the Plan area the Upper San Joaquin River above Merced River. The State Water Board cannot legally exclude the main stem of the San Joaquin River above the Merced River from meeting the San Joaquin River flow objectives as this area contributes nearly 30% of the unimpaired flow of the entire San Joaquin River basin. If one of the stated purposes of the proposed Project is to mimic the natural hydrograph, how can this purpose be accomplished when nearly 30% of the natural flow is excluded?	Refer to Master Response 2.1 for information the plan area and extended plan area. The Upper SJR is not included in the plan amendments because it does not currently support salmon runs and an independent effort, the San Joaquin River Restoration Program (SJRRP), is intended to provide flows needed to restore and maintain fish populations in “good conditions” on the Upper SJR. The upper SJR refers to the portion of the San Joaquin River from the confluence of the Merced River upstream to Friant Dam. The State Water Board will evaluate its progress and may take action as necessary. Please refer to Master Response 1.1, General Comments, SED Chapter 3, and SED Appendix K for additional information about the Upper SJR and SJRRP. The narrative flow objective calls for inflow conditions that more closely mimic the natural hydrographic conditions to which native fish species are adapted. This can be achieved in the Stanislaus, Tuolumne, Merced and Lower San Joaquin Rivers without regard to the Upper San Joaquin River.
1200	49	Appendix K of the Recirculated Draft SED contains the program of implementation which fails to set forth in sufficient detail the suite of actions that will be undertaken to implement the proposed project. Instead, there are many references to actions to be developed by federal and state agencies with participation by stakeholders and delegation of actions to the Executive Director of the State Water Board. The SED fails to describe the proposed Project, improperly excludes mandatory areas and fails to describe the program of implementation in sufficient detail to conduct a legally adequate evaluation of the environmental impacts associated with the proposed project including the program of implementation. This lack of a sufficient project description renders the Recirculated Draft SED fatally flawed. A revised SED must include a clear concise project description and well-articulated program of implementation from which there can be a thorough analysis of the environmental impacts of implementation of the proposed project.	Please refer to response 1200-47. The program of implementation in Appendix K satisfies Water Code section 13242 in that it includes a description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private; a time schedule for actions to be taken; and a description of surveillance to be undertaken to determine compliance with the objectives. (Wat. Code, § 13242, subd. (a)-(c).)
1200	50	The SED failed to identify and consider a reasonable range of alternatives and failed to explain why feasible alternatives were rejected from the reasonable range of alternatives. CEQA requires an EIR or SED to describe a range of reasonable alternatives to a proposed project, or to the location of a proposed project, which feasibly obtain most of the basic objectives of the proposed project, but would avoid or substantially lessen any of the significant effects of the proposed project, and evaluate the comparative merits of the alternatives. [CEQA Guideline §15126.6(a).] "The range of potential alternatives to the	Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for a description of the plan amendments and their purpose and goals. Please refer to Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, regarding the reasonable range of feasible alternatives evaluated in the SED and the Water Board’s discretion, as CEQA lead agency, to establish the purposes and needs for the plan amendments.

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		proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." [CEQA Guideline §15126.6(c).] Indeed, an alternatives analysis is "the core of an EIR." [Citizens for Goleta Valley Board of Supervisors (1990) 52 Cal.3d 553, 564.] A SED must describe a reasonable range of alternatives. It must evaluate the comparative merits of those alternatives. [CEQA Guideline §15126.6(a).] A SED must explain how project alternatives were selected for analysis. It should also identify alternatives rejected as infeasible and explain why they were rejected. [CEQA Guideline §15126.6(c).] At the outset, the Recirculated Draft SED statement of the Project Purposes and Goals is completely ill defined and singularly focused in order to result in the State Water Board's desired outcome, more flow for fish. The eight goals set forth by the State Water Board are solely focused on flow so that the State Water Board may achieve their desired outcome of implementation of a percentage of unimpaired flow. Virtually no other action could achieve the desired goals except more flow. Imposing these very limiting eight goals inherently narrows the scope of environmental review in a manner inconsistent with CEQA's overarching purpose.	
1200	51	The Purposes and Goals section must be modified so that a broad range of alternatives could achieve the desired goals. The goal should be expressed as "establish water quality objectives and a program of implementation for the reasonable protection of fish and wildlife beneficial uses in the LSJR Watershed." Other feasible alternatives exist that do not require the draconian harm inflicted by the percentage of unimpaired flow paradigm. Alternatives do exist that would avoid or substantially lessen potentially significant impacts of the proposed Project. As such the proposed Project must be rejected. For example, the primary goal should be to increase the survival of juvenile outmigrants through the LSJR watershed and Delta. This can be done by implementation of a predator suppression program; creation of greater habitat and gravel augmentation for spawning and rearing in LSJR; and ensuring adequate conditions for emigration including implement ocean harvest practices that maximize returns of adult salmon to the LSJR tributaries. Under certain specified circumstances a public agency may override the conclusion in an EIR in order to reach a desired result; however, this principle does not excuse the public agency from producing a legally sufficient environmental review with an appropriate scope of analysis, even if the analysis conflicts with the agency's predetermined desires.	Refer to Master Response 1.1, for additional information regarding the purposes and goals related to the establishing of new LSJR flow objectives and an associated program of implementation. Please also refer to SED Chapter 3, Alternatives Description, Section 3.2, Purposes and Goals. Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the project description and the choice to recommend flow objectives for the LSJR. The purpose and goals of the plan amendments' focus on flow objectives and measures is in keeping with the State Water Board's authority and responsibility to protect the quality of the waters of the state and the beneficial uses of those waters. (Wat. Code, §§ 13240, 13241, 13000-13002, 13050, subd. (g), (h), (i) and (j).) As a physical attribute related to the quality of water, flow and the functions it provides are critical in protecting fish and wildlife beneficial uses. The State Water Board's exercise of its water quality authority in the Bay-Delta Plan update focuses on the activities and factors that may affect the quality of the waters of the state. (Wat. Code, § 13000.) Water quality objectives address the "water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or prevention of nuisance within a specific area." (Id., § 13050, subd. (h).) Focusing on flow does not constrain alternatives, eliminate alternatives with fewer water supply and economic impacts, or in any way invalidate the SED analysis. The plan amendments focus on flow because increased flows improve river conditions and other instream habitat elements for fish. 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.
1200	52	The alternatives analysis contains multiple errors. To start with, the No Project Alternative oddly includes features that are not part of the current environmental setting or baseline. Therefore, it is not truly a "No-Project" alternative. To put a finer point on it the "No- Project alternative" does not depict no project but rather the current situation with added changed circumstances. Since a no-project alternative is a mandatory element of a legally sufficient	Please refer to Master Response 2.5, Baseline and No Project, regarding the description of the No Project Alternative and the applicability of CEQA requirements. As described in Master Response 2.5, CEQA does not require the baseline and the No Project Alternative to be the same.

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		EIR. [CEQA Guideline Section 15126.6(e)]. For instance, the No Project Alternative places entire burden of meeting the 2006 Bay Delta WCQP requirements on New Melones Reservoir. This effectively means full compliance with D1641 flow objectives during February through June, April 15 - May 15 pulse flows and salinity water quality requirements not only at Vernalis, but also at the three interior stations. There is no basis for the assumption that full implementation of these standards will be exclusively the responsibility of New Melones. Reclamation currently meets the Vernalis salinity requirements from New Melones, it has never met, nor even attempted to meet, the interior standards with New Melones water. In addition, D1641 itself contemplates that within two years of expiration or termination of the Vernalis Adaptive Management Plan, that the State Water Board would assign responsibility for these objectives. As noted above, Reclamation has already informed the State Water Board that it will not be meeting the D1641 February through June flow objectives now or in the future.	
1200	53	It is important to note that both the CVP and the SWP water rights are conditioned upon meeting the three interior Delta stations salinity objectives, and all CVP water rights (not just New Melones) are conditioned upon meeting the Vernalis salinity objective. The three interior Delta stations salinity objectives are consistently exceeded and neither the CVP nor the SWP projects operate to release water to meet these objectives. Therefore for the No Project Alternative to assume these objectives would be met with releases from New Melones Reservoir is completely erroneous.	Please refer to Master Response 2.5, Baseline and No Project, regarding the purpose and description of the No Project Alternative.
1200	54	The No-Project Alternative assumes June 2009 BiOp Appendix 2E flows on Stanislaus River are met. As detailed above, the Appendix 2-E flows are currently the subject of reconsultation with NMFS and will not likely be in place in the future as they are not based on best available science and implementation of them are not sustainable in light of the dramatic impacts on New Melones operations and storage. These features amount to significant changes to the current environmental and regulatory setting and convert the no project alternative into an "action" or change alternative. Contrary to CEQA's minimum legal requirements and procedure, a true "no alternative" is omitted from the SED. [CEQA Guideline §15126(c).]	Please refer to Master Response 2.5, Baseline and No Project, regarding the description of No Project Alternative and the applicability of CEQA requirements.
1200	55	The Recirculated Draft SED, without a sufficiently detailed explanation, omitted feasible alternatives or feasible alternative features to the proposed Project. In the [Stockton East Water] District's opinion, each of these alternative features to the proposal are feasible as that term is defined by CEQA Guideline Section 15364, and would lessen the intensity of the environmental effect anticipated to occur as a result of implementing the proposal. While the District does not have a legal duty to instruct a Lead Agency about how to conduct a legally sufficient CEQA review, we offer the following comments about the truncated alternatives analysis. With respect to LSJR flow objectives, the only alternatives considered were based on dedication of a percentage of unimpaired flow. The purported purpose of the LSJR flow objective is the reasonable protection of fish and wildlife and to support and maintain the natural production of native fish populations. However, there are other feasible alternatives including targeted short duration pulse flows during the time period needed for emigrating juvenile fish. These rejected alternatives are capable of lessening the significance of the environmental effects while substantially meeting the objectives of the Project. These feasible alternatives were rejected without sufficient explanation by the SED or the State	Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for a description of the plan amendments and their purpose and goals. Please refer to Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, regarding the reasonable range of feasible alternatives evaluated in the SED and the Water Board's discretion, as CEQA lead agency, to establish the purposes and goals for the plan amendments. Master Response 2.4 also describes alternative flow regimes, including pulse flows. Please see 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, regarding information about beneficial effects of the plan amendments on salmon, other native fish species, and habitat.

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		Water Board. Choosing an alternative that uses more water than reasonably necessary to meet the purpose of the water quality objective certainly constitutes an unreasonable use of water violating the California Constitution.	
1200	56	There are other feasible non-flow alternatives that will substantially lessen impacts to the fishery to the same extent or greater than the SED, including, but not limited to, improving riparian habitat, gravel enhancement and augmentation, and reduced ocean harvest are present. Most importantly excluded from consideration is a predator suppression program. Extensive information was submitted to the State Water Board regarding the significant effects of predation both in the tributaries and in the Delta. For instance on the Stanislaus River, 95% of the juvenile fish population is lost to predation in the river, that is, fish are caught at an upstream rotary screw trap and then 95% are not captured at the lower trap -- lost to predation. It is vital for the SED to consider non-flow measures such as predator suppression as a means to lessen the environmental effects of implementing only flow based alternatives. A failure to consider such an alternative renders this SED legally deficient and illustrates the omission of information and data that is necessary to evaluate the significant environmental effects and the range of measures designed to lessen the identified impact.	Please see response to Comment 1200-26.
1200	57	With respect to the South Delta salinity objectives, the program of implementation narrows the evaluation process exclusively to conditioning Reclamation water rights to attain the stated objectives. There are additional flow alternatives that are reasonable and must be evaluated in the Recirculated Draft SED. The salinity problem is caused by deliveries from the San Luis Unit of the CVP. The Congressional authorization for the San Luis unit conditioned water deliveries upon completion of a drain. Because deliveries were made without provision for a drain, pollution of the San Joaquin River has resulted. Consequently, one of the alternatives for achieving the Vernalis salinity objective should be imposition of a condition upon the San Luis Unit permits to release water to comply with the Vernalis salinity objective. Several alternatives would be available under this scenario, including releases from San Luis and/or the Delta Mendota Canal with or without recirculation. All of these alternatives must be evaluated.	Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for responses to comments regarding project alternatives. Additionally, Chapter 3 discusses the alternatives related to the salinity objectives as well as those alternatives which were considered but eliminated from further evaluation.
1200	58	The salinity problem is also caused by discharges from wetlands and wildlife refuges; discharges which have increased over the past twenty years after augmentation of refuge water supplies through the Central Valley Project Improvement Act. The Recirculated Draft SED must analyze reducing, eliminating or otherwise diluting at the source of this discharge. One very effective way of mitigating the adverse impact caused by the wetland and wildlife refuge discharge is to require the wetlands and wildlife refuges to reserve a portion of their enhanced water supply for use to dilute the discharge in the spring months.	Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for responses to comments regarding project alternatives. Additionally, Chapter 3 discusses the alternatives related to the salinity objectives as well as those alternatives which were considered but eliminated from further evaluation.
1200	59	The salinity problem is also caused by agricultural drainage and tile drainage entering the San Joaquin River from westside agricultural interests. The Grasslands Bypass and West Side Drainage Projects have successfully reduced a significant amount of salt laden drainage entering the San Joaquin River. The Recirculated Draft SED must evaluate additional drainage reuse and other measures to control these discharges or change the timing of these discharges to occur when there is natural assimilative capacity in the San Joaquin River.	Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for responses to comments regarding project alternatives. Additionally, Chapter 3 discusses the alternatives related to the salinity objectives as well as those alternatives which were considered but eliminated from further evaluation. The program of implementation for the salinity objectives require the Central Valley Regional Water Board to regulate in-Delta discharges of salts by agriculture. Chapter 16, Evaluation of Other Indirect and Additional Actions, evaluates the environmental impacts of real-time management of agricultural return flow.
1200	60	In addition to controlling salinity by providing dilution flows, there are additional salinity control actions that should be analyzed, including subsurface storage of drainage, land	Subsurface storage of drainage, land retirement, and out of valley disposal do not constitute feasible alternatives to the plan amendments because there is no information to support the conclusion that they

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		retirement and out of valley disposal. Adopting salinity objectives for the entire river and implementation through waste discharge permits that would prohibit discharge rather than control its timing should also be evaluated.	would substantially lessen or avoid significant environmental effects or meet the plan amendments' purposes and goals. They do not meet the project's fundamental goals of establishing salinity water quality objectives for the reasonable protection of southern Delta agricultural beneficial uses. They are not feasible alternatives because, among other reasons, they are beyond the scope of what the State Water Board can legally compel. (See, e.g., Wat. Code, § 13360.) Please refer to Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for more detailed responses to comments regarding project alternatives. Additionally, Chapter 3 discusses the alternatives related to the salinity objectives as well as those alternatives which were considered but eliminated from further evaluation.
1200	61	The contemplated program of implementation in the SED violates the California Constitution prohibition on the waste and unreasonable use of water. This renders the program of implementation legally infeasible. [CEQA Guideline Section 15364.] Article X, Section 2 declares, "The right to water or to the use of flow of water in or from any natural stream or water course in this State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversions of water." The "[u]se of upstream water to wash out salts downstream is an unreasonable use of water." [Jordan v. City of Santa Barbara (1996) 46 Cal.App.4th 1245, 1270; see also Antioch v. Williams Irrigation District (1922) 188 Cal. 451, 465.]	Please see response to Comment 1200-23.
1200	62	Maintaining the Vernalis objective at its current levels, in light [of] the increase of the South Delta Objectives, is unnecessary and overprotective of the agricultural beneficial uses at Vernalis. Requiring an artificially low salinity objective and conditioning the Bureau's water right permits to release water to create assimilative capacity to dilute downstream pollution flies directly in contravention of the Constitution and constitutes waste and an unreasonable use of water.	Please see Master Response 3.3, Southern Delta Water Quality, for responses to comments regarding why the southern Delta Salinity objectives are being updated and for discussion of DWR and USBR's responsibilities. As explained in D1641, USBR, through its activities associated with operating the Central Valley Project in the San Joaquin River basin, is responsible for significant deterioration of water quality in the southern Delta. Conditioning permits to meet water quality standards is not an unreasonable use of water. (See U.S. v. State Water Resources Control Board (1986) 182 Cal.App.3d 82, 130 ["Curtailment of project activities through reduced storage and export was eminently reasonable and proper to maintain the required level of water quality in the Delta."])
1200	63	The 2006 Bay Delta Plan acknowledged and discussed the various factors that contribute to elevated salinity in the southern Delta. In its implementation plan, the State Water Board identified various actions that could be used to implement the South Delta salinity objectives. The salinity objectives were to be attained using dilution flows as well as "non-water right actions" which included completion of a drain to remove the salts generated by agricultural drainage and municipal discharges and various other projects aimed at reducing high salinity drainage to the San Joaquin River and improving circulation in the southern Delta. Unfortunately not one of these "non-water right actions" has contributed to meeting the salinity objectives. As a result, dilution flows released by the Bureau of Reclamation from New Melones Reservoir have been the sole means by which the Vernalis objective has been attained. Because of this, New Melones CVP contractors, including the District, have had their water supply reduced and a disproportionate public burden has fallen on private contractors which have not caused the pollution. The State Water Board is now proposing to meet the interior Delta objectives through the assimilative capacity provided by maintaining the salinity objective at Vernalis at its current levels. In seeking to do so the State Water Board is now attempting to place an additional burden of meeting the interior objectives on New Melones and its contractors as well. To place this additional disproportionate burden on New Melones and its contractors is fundamentally unfair. The State Water Board should take action to appropriately apportion	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 causes of salinity problems in the southern Delta, and for discussion of DWR and USBR's responsibilities.

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		this burden among all those contributing to the problem as originally intended.	
1200	64	The proposed program of implementation of maintenance of the existing Vernalis salinity objective to provide assimilative capacity for the dilution of downstream pollution violates the Clean Water Act. Requiring dilution flows directly contradicts 40 CFR 131.10(a) which states "in no case shall a State adopt waste transport or waste assimilation as a designated use for any water of the United States." Effectively conditioning implementation of the existing Vernalis salinity objective is not for the protection of agriculture, but instead to provide dilution flows for downstream, the designated use that the State Water Board is establishing is really "waste assimilation" and expressly prohibited by Federal Law.	The cited regulation prohibits designating waste transport and waste assimilation as designated beneficial uses of water to be protected through the adoption of water quality objectives. It does not apply here since the plan amendments are not making such a designation. Please see Master Response 3.3, Southern Delta Water Quality, for responses to comments regarding why the southern Delta Salinity objectives are being updated to protect agricultural beneficial uses and for discussion of DWR and USBR's responsibilities.
1200	65	The program of implementation requiring continuing the Vernalis salinity objective for the express purpose of providing assimilative capacity completely disregards the Congressional directive contained in H.R. 2828 (Public Law 108-361) to reduce use of New Melones Reservoir to meet existing Bay-Delta water quality objectives. The Congressional directive clearly and expressly directs the Bureau of Reclamation, with the assistance of the State, to initiate and implement actions to achieve the Bay-Delta water quality objectives while reducing the demand on water from New Melones Reservoir for meeting these objectives. Conditioning the Bureau's water rights to make releases violates this important provision of federal law.	H.R. No. 2828 (Public Law 108-361) does not exempt USBR from meeting water quality standards. USBR's current permits are already conditioned to meet salinity requirements at Vernalis and is not in violating H.R. 2828. Please see Master Response 3.3, Southern Delta Water Quality, for responses to comments regarding why the southern Delta Salinity objectives are being updated and for discussion of DWR and USBR's responsibilities.
1200	66	The Recirculated Draft SED fails to accurately disclose environmental effects of implementing the project. The State Water Board created the Water Supply Effects (WSE) model to evaluate the environmental effects of implementation of the proposed Project. In addition to the errors in the baseline, the WSE Model contains a series of operational parameters that are neither reasonable nor legal nor within the State Water Board's authority, including minimum carryover requirements, restriction on storage drawdown, drought reservoir refill requirements, flow shifting to fall, minimum district diversion during dry year conditions. For example, the WSE Model assumes that New Melones Reservoir would have a minimum carryover storage requirement of 700,000 acre feet. However, nowhere in the Project Description of the LSJR Flow Objectives is this requirement included as part of the Project or any of the other operational parameters. While the State Water Board makes reference to the need for minimum reservoir levels in the program of implementation, the reference is only is that mitigation measure to reduce temperature impacts are needed and minimum carryover storage requirements is one such tool. The modeling assumptions that form the basis of the WSE Model and the entire Recirculated Draft SED effects analysis is not reasonable. It is flawed, inaccurate and misrepresents impacts associated with implementing any of the Alternatives on Stanislaus River water users. The unreasonable model results in the omission of relevant data and information about the Project's environmental effects. The WSE Model analysis in Recirculated Draft SED does not identify the impacts from the proposed Project, but rather includes mitigating factors that try to make the analysis work. As a result, for water users on the Stanislaus River, it is impossible to evaluate the environmental effects to groundwater resources, agricultural resources, municipal service providers, as well as all of the other resources.	Please see Master Response 1.1, General Comments, regarding the SED approach to analysis, baseline, and carryover storage. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding the modeling approach used in the Recirculated SED, including reservoir operations parameters, carryover storage, and adaptive implementation. The carryover storage provision in the program of implementation is not a form of mitigation, but part of the plan amendments to achieve its stated goals and objectives.
1200	67	The SED must correctly quantify the reduction in surface water deliveries to the Stanislaus	Please see Master Response 1.1, General Comments, regarding the programmatic nature of the analysis in

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		River water users and then correctly analyze these impacts. The SED purports to show the impacts to water users from the implementation of the LSJR Flow and Salinity Objectives, but these modeled results are neither reliable nor realistic. First, the Recirculated Draft SED minimizes the actual impacts to water right holders by collectively calculating reductions and shortages by tributary, and using annual averages among all year types. This wrongly results in the Recirculated Draft SED concluding that the long-term reduction in surface water supplies for the Project is a mere 14% less than current conditions. That result simply defies reality. While the SED shows an overall 14% reduction in supply, it also states that reductions will take place according to water right priorities. This means that those with junior water rights, like the [Stockton East Water District] District, would bear the brunt of the reductions, while others suffer no impacts. It does not show the ramifications of that anywhere in its graphs or summary of water supply effects and therefore omits relevant information and data. What that means to District is never disclosed. From our review of the modeling in above normal years the District will face a 58% reduction in its supply, in below normal years the District will suffer a 68% reduction in supplies, in dry years and critically dry years, the District will face a 100% reduction in its contractual supply.	the SED, and the general methods and modeling used in the SED. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding the Water Supply Effects (WSE) as an appropriate tool to evaluate water supply effects and potential environmental impacts for the programmatic analyses contained in the SED. Please see Chapter 13, Service Providers, for a qualitative discussion of potential effects on service providers under Impacts SP-1, SP-2a and SP-2b. In Chapter 13 (Impact SP-1) it is acknowledged that the potential impacts due to surface water reductions are considered within the general context of water supply agreements and contracts. It is disclosed that service providers that rely primarily on surface water, like the Stockton East Water District, could experience significant reductions in water supply. Please see Master Response 3.6, Service Providers, for clarifying information regarding service providers and potential effects. Chapter 9, Groundwater Resources, and Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results, describe the methodology used to account for potential increases in groundwater pumping as a result of reductions in surface water supply to various surface water supply users, including SEWD and CSJWD. Table G.2-9, Average Annual Applied Surface Water Deficit Pre-Groundwater Replacement, shows the average reduction in SEWD and CSJWCD water supply. The information in Table G.2-9, and the information in Figure G.2-1c, Partitioning of LSJR Alternative 3 Diversions into End Uses, and Figure G.2-2c, Groundwater and Surface Water Application to Meet Applied Water Demand for the Stanislaus, Tuolumne, and Merced Rivers for LSJR Alternative 3, indicate that in critically dry years SEWD could experience a 100% reduction in surface water supply. The groundwater analysis in Chapter 9, Groundwater Resources, accounts for SEWD and CSJWCD pumping groundwater to fully compensate for any reduction in supply. As such, the State Water Board discloses potential impacts to groundwater resources if SEWD or CSJWD pump groundwater Please see Master Response 1.2, Water Quality Control Planning Process, regarding implementation through water rights proceedings.
1200	68	The most insulting aspect of the impact evaluation is the Staff's suggestion that impact to water users will be minimal because reduction in available surface water will be replaced with groundwater pumping. The SED estimates the proposal could result in an average annual increase in groundwater pumping of 105,000 acre feet. The SED acknowledges that there is already a 45,000 acre feet annual deficit in current groundwater supplies. While noting that groundwater pumping in most of these areas is already unsustainable, the SED fails to evaluate the impact of SGMA on this increased and continued unsustainable use of groundwater. Reductions in pumping that will be imposed by SGMA are not even considered in the SED. The SED asserts that municipal water supplies will not be affected. This is simply not true. The [Stockton East Water District] District has historically provided up to 50,000 acre feet of its Stanislaus River supply for municipal purposes. Implementing the plan as proposed would produce drastic adverse impacts on the District municipal users, completely eliminating their supply in many years and which was never analyzed in the Recirculated Draft SED. In particular, there must be a thorough evaluation of the impacts to the Eastern San Joaquin groundwater basin overdraft problem by the reduction of surface water supplies. The District was specifically formed in 1948, succeeding and continuing the efforts of the Linden Irrigation District to address the declining groundwater basin and obtain supplemental surface water supplies. Due to limited surface water supplies, groundwater is the primary source of supply for water users within the District. Groundwater is pumped by individual farmers to irrigate their crops, and is pumped by the City of Stockton, San Joaquin County,	Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Manager Act, regarding the approach to the groundwater impact analysis and SED consideration of SGMA. The SED and plan amendments do 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 analyzed this reasonably foreseeable action. The SED does not assume that 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. SGMA was passed by the legislature in 2014 to address overdraft issues and associated negative impacts to groundwater basins from over extraction. SGMA requires local public agencies in the plan area form groundwater sustainability agencies (GSAs) by June 30, 2017 and draft groundwater sustainability plans (GSPs) by 2020 for critically overdrafted basins and 2022 for all other basins. 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. 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. SGMA was not included in the baseline or in the alternative analysis, because as noted above, SGMA plans are not yet written and groundwater sustainability could be implemented through projects and programs in

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		and California Water Service Company to deliver to homes and businesses in the greater Stockton metropolitan area. Groundwater overdraft has serious consequences which threaten the economic health of the region. In addition to the continued migration of saline groundwater, the overdraft adversely impacts the quality of the groundwater that remains in the basin generally, in terms of nitrate levels and total dissolved solids. It also reduces the amount of groundwater available for future use and leads to increased pumping costs. Direct and indirect effects of a reduction in the provision of surface water and the corresponding impact to the groundwater basin and agricultural resources must be included in a revised SED.	a number of ways. For example, groundwater sustainability agencies could implement projects to increase recharge in wet years and programs to decrease groundwater extraction through conservation and other means. Therefore, any future-condition baseline "with SGMA" is purely speculative. However, SGMA was properly included in the analyses as an existing legal requirement to prevent further degradation of the groundwater basins and as a potential cumulative limit on future irrigation supplies (Chapter 9, Groundwater Resources, Section 9.4.3, Impacts and Mitigation Measures; Chapter 22, Section 22.4.1, Potential Impacts of LSJR Alternatives). The level of detail in the SED is reasonable and appropriate for a program-level analysis and is not meant to be, nor required to be, a site-specific analysis of, for example, each cone of depression or potential cone of depression in each basin. Therefore, estimating variables like sustainable yield, declines in groundwater levels, direct impacts to site-specific municipal and agricultural groundwater wells, and groundwater-surface water interactions is beyond the scope of the SED, because those variables require site-specific information and groundwater modeling. Chapter 9, Section 9.2.1 San Joaquin Valley Groundwater Basin and Subbasins, recognizes that overdraft can lead to significant impacts such as decreases in groundwater levels, increases in pumping costs, land subsidence, and degradation of groundwater quality. However, it is speculative to assume how pumpers in each area will respond to implementation of the flow objectives, because it will 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. Please see Master Response 3.5, Agricultural Resources, for a discussion on the impacts of the plan amendments on agricultural resources. The SED discloses that service providers who rely heavily on surface water, like the commenter, could experience significant effects on water supply. Please see Master Response 3.6, Service Providers, for discussions regarding groundwater resources, service providers, and municipal water supply. Please see Master Response 1.1, General Comments, and Master Response 1.2, Water Quality Control Planning Process, regarding the scope of the SED and State Water Board consideration of beneficial uses in the context of the water quality control planning process.
1200	69	The [Stockton East Water District] District treats and supplies up to 50,000 acre feet to the City of Stockton, San Joaquin County and the California Water Service company. Due to the provision of treated surface water, groundwater levels within the City of Stockton have improved dramatically. Direct and indirect effects of reducing the provision of treated surface water and the corresponding impact to the municipal services providers must be included and assessed in a revised SED. Presently the SED omits relevant information and data.	Please see response to comment 1200-67. As discussed in n Chapter 9, Groundwater Resources, Section 9.2.2, the Eastern San Joaquin Subbasin (underlying Stockton) is a critically-overdrafted, DWR-ranked high-priority groundwater basin. Historically, pumping from agricultural, urban, and rural, wells oi this subbasin has been greater than the subbasin's safe yield (SSJID 2012). Potential impacts to groundwater supplies and groundwater recharge to groundwater subbasins in the plan area, including the Eastern San Joaquin subbasin, are identified in Chapter 9 under Impact GW-1. Potential subsidence, as a result of groundwater depletion due to implementing the plan amendments is discussed in Impact GW-2. In Chapter 13, Service Providers, potential impacts to Stockton East Water District's (SEWD's) surface water and groundwater supplies as a result of reductions in surface water supply due to implementing the plan amendments for LSJR Alternatives 3 and 4 are described under Impact SP-1. Section 13.3.3, Regional and Local, it is acknowledged that for SEWD, saline intrusion and contamination from agricultural chemicals limit the use of groundwater. 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 related to reduced water supplies. Additionally, the official public review process for the plan amendments provides an opportunity for formal public comment on the plan amendments. Public and agency comments on the 2012 draft SED led to further

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			refinement of the plan amendments, as evidenced in the current document. Please see Master Response 1.1, General Comments, regarding the approach to the SED analysis and the programmatic nature of the analysis.
1200	70	The SED fails to identify and evaluate all feasible mitigation measures. The SED is duty bound to "set forth" (P.R.C. §21100), "identify" and "describe" [CEQA Guideline §15126.4(a)(1)] proposed feasible mitigation measures. "A gloomy forecast of environmental degradation is of little or no value without pragmatic, concrete means to minimize the impacts and restore ecological equilibrium." [Environmental Council of Sacramento v. City of Sacramento (2006) 142 Cal.App.4th 1018, 1039.] Thus a SED must describe feasible mitigation measures that could minimize the preferred project's adverse environmental effects. [CEQA Guideline §15126.4(a)(1).] Omitting feasible mitigation measures undermines the minimum requirements of a SED. This is because "[w]here several measures are available to mitigate an impact, each should be discussed and the basis for selecting a particular measure should be identified." [CEQA Guideline §15126.4(a)(1)(B).] By omitting feasible mitigation measures the SED cannot comply with the requirement to discuss each feasible mitigation measure and provide guidance to decision- makers and the public about the relative merits of selecting one measure over another measure.	Please see Master Response 1.1, General Comments, regarding the mitigation measures proposed in Chapters 5 through 18, where required.
1200	71	The Recirculated SED states: "The LSJR alternatives could require higher river flows in the three eastside tributaries and would potentially result in a change in surface water diversions. The runoff to the eastside tributary reservoirs is determined by rainfall and snowmelt conditions and the reservoir storage capacity is fixed. Accordingly, there is no possibility of increasing the total surface water supply to provide more water for surface water diversions. More water released to the rivers would leave less water available for water supply diversions. The WSE model was used to predict the change in annual surface water diversions expected under each LSJR alternative..." [SED at pg. 5-73 (italics added).] The SED introduces the fatally flawed WSE Model as the evaluative tool for assessing impacts from LSJR Alternatives which completely masks the impacts on water diversion. As described above, the WSE model utilizes an inaccurate baseline and unreasonable and/or unlawful operational assumption. Including these unreasonable and/or unlawful operational assumptions thwarts any ability to develop feasible mitigation measures for the severe impacts to water diversions. The Recirculated Draft SED concludes based on the flawed modeling that a 14% reduction in water diversion is less than significant. Where is the evaluation of the feasible mitigation measures to mitigate the [Stockton East Water District] District 58% reduction in its supply in above normal years, the District's 68% reduction in supplies in below normal years and the District 100% reduction in its contractual supply in dry years and critically dry years? This evaluation is necessary to supply relevant information and data.	Please see Master Response 1.1, General Comments, regarding a general discussion of the overall approach to the analyses contained in the SED and the programmatic nature of the analyses. As set forth therein, the State Water Board's obligations under CEQA are to identify the significant environmental impacts of the plan amendments and mitigate for them through feasible mitigation measures. Its obligations are not to compensate or make whole those agencies, entities, and persons who may be affected by the plan amendments. The reduction of a surface water supply to a water supplier, in and of itself, does not represent a significant impact on the physical environment requiring mitigation. The State Water Board appropriately focused on and disclosed the environmental impacts resulting from actions entities may take to procure alternative water supplies in response to reduced surface water supplies. Please see Master Response 1.2, Water Quality Control Planning Process, for a description of the water quality control planning process and the relationship to the water rights priority system. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding the WSE as an appropriate tool to evaluate water supply effects and potential environmental impacts for the programmatic analyses contained in the SED. The State Water Board properly evaluates actions irrigation districts or others may take (e.g., municipalities) as a result of potential reductions in surface water supplies throughout the entire SED and the potential significant physical environmental impacts that may then result. The SED does not conclude that a 14% reduction in water diversion is less than significant. Specifically, in Chapter 13, Service Providers, the State Water Board determined that under LSJR Alternative 2, with adaptive implementation and under LSJR Alternative 3, with or without adaptive implementation, that service providers (including irrigation districts and municipalities that may have contracts or other relationships with irrigation districts) could experience an annual average surface water supply reduction (shown in Table 13 14) that would potentially result in the need to construct or operate new or expanded water treatment or water supply facilities (Impact SP-1). This impact for LSJR Alternative 2 with adaptive implementation and LSJR Alternative 3, with or without adaptive implementation, was determined to be significant and unavoidable even if proposed mitigation was applied.
1200	72	For each significant impact, the SED must identify specific mitigation measures. Where several potential mitigation measures are available, each should be discussed separately,	Please see Master Response 1.1, General Comments for discussions on the concept of mitigation as defined by CEQA and substantial evidence in the SED. Please see Master Response 3.4, Groundwater and the

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		and the reasons for choosing one over the other should be stated. [Id.] If including a mitigation measure would itself create new significant effects, these too, must be discussed, though in less detail than required for those caused by the project itself. [Sacramento Old City Assn. v. City Council (1991) 229 Cal.App.3d 1011, 1027 ("SOCA"); Mount Shasta, at 439; 23 CCR, § 3777(b)(3); Pub. Resources Code, § 21002.] The SED has not provided the requisite mitigation analysis. Instead of proposing feasible mitigation measures for the impacts to groundwater basins, the Recirculated Draft SED, defers to the yet to be formed Groundwater Sustainability Agencies. This deferral violates CEQA, is not supported by substantial evidence and renders the SED legally deficient.	Sustainable Groundwater, for discussion on SGMA as a mitigation measure. The State Water Board does not defer mitigation measures related to groundwater impacts. The SED identifies mitigation measures and discusses how local governments are vested with the mandatory duty to achieve sustainable groundwater management. The SED therefore states that these entities can and should exercise their full authorities to address substantial groundwater depletions under SGMA and their police powers, which authorities also include implementing the identified mitigation measures.
1200	73	The Recirculated Draft SED does not consider the feasibility of non-flow mitigation measures in any of its analysis thereby rendering the SED legally deficient.	Please see Master Response 2.1, Amendments to the Water Quality Control Plan for a description of the incorporation of non-flow measures. Please see Master Response 5.2, Incorporation of Non-Flow Measures, regarding how non-flow measures are included in the plan amendments as recommendations; how they can support a change in the required percentage of unimpaired flows; and the fact that non-flow measures are not mitigation measures they are part of the plan amendments as described in Master Response 2.1 and summarized above.
1200	74	The SED's treatment of the green house gas environmental impact is legally deficient. Failing to adequately address the global warming issue is a serious deficiency. Such an omission as found here results in the failure to proceed in the manner required by law and an agency must explain in at least minimum detail the "compelling, countervailing considerations." [Citizens to Preserve the Ojai v. County of Ventura (1985) 176 Cal.App.3d 421, 430.] ["The EIR does not explain in even minimum detail the basis for the omission and provides no reasoned analysis clarifying why complete reliance on the AQNP is justified when this major omission exists."] The error is at least three-fold. First, the SED fails to adopt a legally sufficient threshold of significance for purposes of evaluating the significance of the potential environmental impact. Second, the SED omitted clearly understood potential environmental impacts flowing from the preferred project. Third, the SED did not evaluate feasible mitigation measures that could lessen the impact of global warming caused by the preferred project. This failure is exacerbated by the fact the State of California has aggressively promoted a policy requiring government agencies to consider and mitigate cumulative global warming impacts and yet here a state agency sidesteps this obligation. Without referencing or applying any threshold of significance the SED nakedly concludes that an individual project cannot have a direct environmental effect. This conclusion is reached without any analysis or any effort to compare some type of analysis to the applicable threshold of significance. This poses two problems. First, it truncates the analysis required by CEQA and collapses intermediate procedures required by CEQA before a public agency can conclude that a direct impact is not significant. Second, the approach conflicts with various state policies regarding climate change.	Please see Master Response 3.7, Greenhouse Gas Emissions and Analysis, for information regarding the GHG analysis contained in Chapter 14, Energy and Greenhouse Gases, including the scope, approach, thresholds, and criteria used to evaluate impacts. Please refer Master Response 1.1, General Comments, regarding the programmatic nature of the analysis in the SED.
1200	75	The SED is inherently contradictory. Indeed the so-called threshold of significance for climate change is no criteria at all but instead a tautological mixed word salad. According to the SED, "climate change would be significant if the LSJR alternatives result in any of the following conditions. Generate GHG emission, either directly or indirectly, that have a significant impact on the environment." [SED at 14-27.] In other words the definition for a threshold of significance is highly tautological and meaningless; it is "emissions...that may have a significant impact on the environment." The abject defectiveness of this abbreviated	Please see response to comment 1200-74 regarding the GHG analysis.

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		threshold of significance is explained by the CEQA Guideline definition of a threshold of significance: "A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined as less than significant." [CEQA Guideline §15064.7(a) (bolding and underscoring added.] The SED's embryonic threshold of significance lacks "an identifiable quantitative, qualitative or performance level" and therefore is insufficient for CEQA purposes. Public agencies are encouraged to adopt thresholds of significance. [CEQA Guideline §15064.7.] For evaluating individual projects the State of California and regional state agencies offered multiple thresholds of significance for global warming. For instance, the South Coast Air District believes a project emitting three tons of GHG a year is significant. South Coast Air Quality Management District, "Draft Guidance Document--Interim CEQA Greenhouse Gas (GHG) Significance Threshold (October 2008)." AB 32 establishes a state goal of reducing GHG emissions to 1990 levels by 2020 (a reduction of approximately 25 percent from forecast emission levels). Recently the State Air Resources Board concluded that the threshold should either be a zero threshold or, if a non-zero threshold is employed it "must be sufficiently stringent to make substantial contributions to reducing the State's GHG emission peak, to causing that peak to occur sooner or to putting California on the right track to meet its interim (2020) and long term (2050) emissions reduction targets." California Air Resources Board. Preliminary Draft Staff Proposal, Recommended Approaches for Setting Interim Significant Thresholds for Greenhouse Gases under the California Environmental Quality Act (October 24, 2008). In any event, the threshold is either a net no increase in emitting GHG or "stringent" steps to foster attaining the 2020 and 2050 goals.	
1200	76	Since this public agency is acting as an agency of the State of California, it is bound by Executive Order Number 3-05 (June 1, 2005) calling for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions to 1990 levels by 2050. This Executive Order constitutes a mandatory duty to all state agencies and constitutes a threshold of significance whenever a state agency is reviewing a proposal. At least two fatal flaws are embedded in the SED concerning GHG. First, the section lacks a threshold of significance involving "an identifiable quantitative, qualitative or performance level." Instead the threshold of significance has as the threshold "significance." This tautological threshold prevents the reader from determining whether the impact is significant or not. Instead, the section, without any evidentiary support, concludes the emissions of a lone single project will not cause global climate change. Yet the various thresholds of significance discussed earlier, and ignored by the SED, do not focus on this question. Instead, the thresholds of significance focus on whether the proposal helps or hurts efforts to meet the 2020 and 2050 goals. Without a threshold of significance statement the entire analysis lacks an intellectual context and results in omitting relevant information. Indeed, a SED's sketchy treatment of the threshold or method to conclude whether an	Please see response to comment 1200-74 regarding the GHG analysis.

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		environmental effect is significant renders such a SED legal deficient. In Protect the Historic Amador Waterways v. Amador Water Agency (2004) 116 Cal.App.4th 1099, the court discussed the use of thresholds in determining (1) whether to prepare an EIR and (2) whether any of the possible significant environmental effects of the project will, in fact, be significant. [Id. at 1106- 09.] The court held that "the fact that a particular environmental effect meets a particular threshold cannot be used as an automatic determinant that the effect is or is not significant…a threshold of significance cannot be applied in a way that would foreclose the consideration of other substantial evidence tending to show the environmental effect to which the threshold relates might be significant." [Id. at 1109.] In the EIR, the Amador Water Agency set forth various standards of significance, which mirrored Appendix G sample questions. The agency determined the reduced stream flows "are insignificant since the thresholds developed from the standardized Appendix G checklist make it so." [Id. at 1111.] Petitioner asserted the agency abused its discretion by adopting narrow and irrelevant thresholds of significance which did not address the particular physical change the project would have on the seasonal reduction of surface flow in local streams. The court did not even address petitioner's claim because "contrary to CEQA requirements, the EIR fails to explain the reasons why the Agency found the reduction in stream flow would not be significant." [Id. at 1111.] The court held the EIR provided nothing but a "bare conclusion" because it simply explained how construction would affect existing local hydrology by reducing surface flow and then baldly concluded the impact would not be significant. [Id.] Since the EIR lacked a "statement of reasons", the court was unable to determine whether the agency reached its "less than significant" conclusion based on substantial evidence in the record or because it applied standards of significance that did not address reduction in stream flow as a potential environmental effect of the project. [Id.] at 1112.] Either way, the agency abused its discretion by omitting the required statement of reasons. [Id.]	
1200	77	The SED does not provide information about the amount of GHG produced by the Project and whether the amount emitted facilitates meeting the 2020 and 2050 goals. In short, rather than contribute to reducing GHG emissions to 1990 standard this project has the individual characteristic of making the GHG situation substantially worse. This means, according to the Governor's Executive Order, the Project has a direct significant environmental effect to GHG. Accordingly, under any of the proposed and adopted thresholds of significance discussed earlier, the Project's individual impact on GHG is significant. The DEIR omits relevant information and data and reaches the wrong conclusion about whether the impact is significant or not. The SED's confusing statement that no "acceptable" or "directly applicable" established thresholds of significance exists (SED at 14-28 and 14-28 n.6) does not cohere to CEQA. In some respect of varying intensity the Plan will lessen reliance on surface water and increase reliance on groundwater. Added reliance on groundwater necessarily involves increased reliance on agricultural water pumping which in turn increase the use and emission of energy expended in pumping activities. The emissions from increased pumping needs to be quantified and compared against a threshold of significance. Does this change constitute a significant direct or cumulative impact? At the conclusion of the analysis, page 14-37 of the SED, the reader is left to wonder if the increased energy	Please see response to comment 1200-74 regarding the GHG analysis. Chapter 14, Energy and Greenhouse Gases, Table 14-15, Estimated Annual Greenhouse Gas Emissions (MT CO2e/year), indicates annual GHG emissions associated with other power generation facilities to offset the lost hydropower generation associated with the LSJR alternatives as well as an increase in electricity consumption for pumping. Therefore, the SED does provide an estimate of the GHG emissions associated with the LSJR alternatives. With regards to the comment about the "SED's confusing statement that no 'acceptable' or 'directly applicable' established thresholds of significance exists (SED at 14-28 and 14-28 n.6) does not cohere to CEQA." The language found in footnote 6, and the text it footnotes provides context that addresses the issue raised by the comment. The text associated with footnote 6 reads: "Local air pollution control districts have not adopted GHG thresholds directly relevant to the alternatives to evaluate climate change impacts." Further, footnote 6 reads: "While the SJVPACD has established thresholds of significance for climate change impacts, there are no BPS that are directly applicable to the alternatives and the SJVAPCD's 29 percent reduction in GHG emissions is not directly applicable to the alternatives, as the alternatives would not have any direct control over GHG generating activities." Consequently, the text in question is included to indicate why the 10,000 MT threshold is used in the SED due to the lack of applicable nor relevant local GHG thresholds. Table 14-12, Increase in Electricity Consumption for Groundwater Pumping, and Table 14-15 provide

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		consumption is significant or not.	electricity consumption data and associated GHG emissions, respectively, from groundwater pumping activities. Impacts associated with groundwater pumping are identified in Chapter 14, Impact EG-2: Result in inefficient, wasteful, and unnecessary energy consumption (less than significant for LSJR Alternatives 2, 3, and 4), while GHG impacts associated with groundwater pumping (as well as loss of hydropower production) are identified in Impact EG-3: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (less than significant for LSJR Alternative 2 and significant and unavoidable for LSJR Alternatives 3 and 4). Therefore, emissions and energy from increased pumping activities are quantified and a significance determination is made.
1200	78	Besides presenting a flawed analysis due to the lack of a legally sufficient threshold to evaluate the potential impact, the SED also fails to address at least one potentially significant environmental effect. The proposed Project will induce agricultural operations to rely more on groundwater to make up for the loss of surface water lost as surface water is diverted to environmental purposes. This means agriculture will rely more heavily on gas diesel pumps to obtain the groundwater that is being substituted for surface water. The SED fails to make any effort to quantify the significance of this material change in agricultural practices induced by the proposed Project. Certainly the amount of additional pumping could be quantified and the amount of additional gas diesel emitted as a result of this new policy could be quantified and evaluated against existing air pollution standards. In addition, the SED could correlate the increased emission of diesel pollution to increase incidents of health ailments. Failing to correlate the Project's adverse air quality impacts to increased incidents of health ailments constitutes a prejudicial abuse of discretion. Health problems caused by a project must be addressed in an EIR, including health effects caused by increases in air pollution. [Bakersfield at 1220.] Specifically, CEQA requires an EIR to discuss "health and safety problems caused by the physical changes" by the proposal. [CEQA Guideline §15126.2 (a).] In order to meet CEQA's disclosure requirement, an EIR must "correlate the identified adverse air quality impacts to resultant adverse health effects." [Bakersfield at 1219 (italics added).] "Correlate" is defined as: "to bring (a thing) into mutual relation (with another thing); calculate or show the reciprocal relation between; specif., to bring (one or two related or interdependent quantities, sets of statistics, etc.) into contrast (with the other)." [Webster's New World Dictionary 319 (2d College ed. 1985) (italics in original; bold added).] Thus, the court in Bakersfield used "correlate" to mean a SED must disclose the proportional relationship between increased tonnages in air pollution and increased incidents of health ailments. This SED fails to comply with this necessary informational disclosure requirement. Indeed, Bakersfield teaches us a truncated analysis involving a bare statement that increased air pollution tonnages means more people get ill fails to satisfy CEQA's information disclosure requirement. In Bakersfield, the two EIRs at issue calculated the approximate increased tonnage of air pollution and then baldly concluded that more air pollution means more health and respiratory ailments. [Id. at 1220.] According to Bakersfield, this embryonic level of detail is insufficient and resulted in the Appellate Court rejecting the air quality analyses for failing to quantify or correlate the relationship between increased health ailments and increased air pollution. [Id. at 1220-1221.] Accordingly, it is not enough for a SED to simplistically conclude air pollution will increase and then supply a laundry list of pollutants and related health effects. Rather, CEQA is satisfied only when a SED discloses and quantifies anticipated increases of health ailment events resulting from a project's increases in air pollution tonnages.	Please see response to comment 1200-74 regarding the GHG analysis. The State Water Board identifies and analyzes potential air quality impacts in a number of locations in the SED with respect to the plan amendments. These discussions expressly consider the issue of diesel-related air quality impacts. Air quality impacts are analyzed in Appendix B, State Water Board's Environmental Checklist, and impacts on air quality were determined to be less than significant. In addition, the State Water Board identifies and analyzes air quality impacts in Chapter 16, Evaluation of Other Indirect and Additional Actions, with respect to the following: the construction and operation of seven indirect actions that could occur under the flow requirements, including groundwater wells; the construction and operation of 10 non-flow measures that could occur under the flow requirements; and the construction and operation of six methods of compliance that could occur under the salinity requirements. Impacts disclosed in Chapter 16 range from no impact to significant and unavoidable impacts depending on the action evaluated and the potential mitigation measures that third parties could implement. Mitigation measures related to air quality are in Chapter 16 in Tables 16-38 and 16-39 and are referenced in Chapter 13, Service Providers, Impact SP-1 if an action resulted in construction or operation of a water supply or wastewater treatment project. Finally, air quality is included in the cumulative impact analysis in Chapter 16 with respect to the evaluation of other indirect and additional actions and in Chapter 17, Cumulative Impacts, Growth Inducing Effects, and Irreversible Commitment of Resources. Diesel pumping is specifically addressed in Appendix B, which indicated that, although it is unknown what proportion of groundwater pumping would use electric- or diesel-powered pumps, the compliance with air district rules and requirements would help to reduce the possibility of significant air quality and health risk impacts. Similarly, the SED indicates on page 14-34 of Chapter 14, Energy and Greenhouse Gases, that it "is currently unknown what proportion of ground water pumping at deep wells would use electric- or diesel-powered pumps because it is unknown exactly which existing wells would pump more under the LSJR alternatives." See also Chapter 16 (Section 16.2.2, Substitution of Surface Water with Groundwater and Table 16-7, Potential Environmental Effects Associated with Substituting Surface Water with Groundwater). Sufficient detail (e.g., precise locations of diesel pumps and sensitive receptors, types of and amount of diesel pumps, activities and emissions associated with diesel pumps, etc., is not available at this programmatic-level of analysis to allow for the characterization of emissions and associated health risks from increased diesel pump activities associated with the plan amendments. This is because health risk assessments from exposure to emissions from these types or sources is typically only conducted when these project-specific information is available to accurately and adequately evaluate the localized effects associated with diesel emission sources. As noted by the U.S. Department of Agriculture, most deep water wells throughout California are powered by electric pumps (USDA 2014). Nonetheless, the State Water Board does not have direct control over pump activities and it is not obligated, nor required, to speculate on the number of diesel groundwater wells that may increase their pumping or their location adjacent to potentially sensitive receptors within the plan area or the number of new groundwater wells that may be constructed within the plan area as a result of actions taken by others. It should be noted, however, that it is anticipated that any potential emissions associated with increases in diesel agricultural pump activities could be somewhat offset as older, more heavily polluting engines are replaced by new, less-polluting diesel (or

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		As Bakersfield holds, brief references to, or the listing of, potential respiratory illnesses do not satisfy CEQA. [Bakersfield at 1220.] It is only when correct and feasible scientific analysis is conducted and the SED calculates the significance of the impact in terms of increased events of disease and suffering, are the public and decision makers notified of a project's true impacts. This correlation information is scientifically possible and legally required [Bakersfield at 1220], and the omission amounts to a prejudicial failure to proceed in the manner required by law. For instance the SED suggests that cumulative air quality impacts are not significant because some types of air pollution will increase while other types of air pollution will decline in significance. [SED at 17-65.] This gross conclusion lacks any scientific or technical support; indeed, it lacks any math whatsoever to prove that the competing increases and decreases perfectly offset one another. But from a health risk assessment, different air pollutants are responsible for different health ailments. This SED makes no effort to ascertain the change in potential health ailments due to the change in the mixture of air pollutants. Moreover, the SED fails to discuss the feasibility of multiple mitigation measures that could be imposed to reduce this significant effect. CEQA requires all feasible mitigation measures to be incorporated into a project, even if the environmental effect remains significant. The State of California, Office of the Governor, Office of Planning and Research, has identified thirty three feasible mitigation measures to reduce GHG and attain the 2020 and 2050 goals. See State of California, Office of Planning & Research. "CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review (June 19, 2008). Each mitigation measure is feasible for the proposal and the SED has a duty to identify and discuss each proposed measure. Failing to perform this task results in an omission of information and failure to proceed in a manner required by law.	even electric) pumps through normal equipment turnover. In addition, programs, such as the San Joaquin Valley Air Pollution Control District's Voluntary Emission Reduction Agreement and Indirect Source Review Rule and ARB's Carl Moyer program, incentivize the replacement of these types of diesel engines through the use of grants and subsidies.
1200	79	The SED offers a sparse analysis of energy impacts that fails to supply relevant data and information. [SED at 14-27 through 14-34] CEQA Guideline Appendix F offers a comprehensive design for a legally sufficient analysis of a project's impact to energy. A comparison between the SED analysis and the topics identified in Section II of Appendix F underscores the under inclusiveness of the SED energy analysis. The SED concedes that the energy analysis is subject to Appendix F, see page 14-27. In two separate paragraphs the SED relies on Appendix F as authority for assessing energy impacts. While the SED analysis provides simple mathematical calculations no serious effort is made to link the change in energy use to environmental effects, both direct and indirect. In short the analysis presents some mathematical calculations but fully dispenses with explain the meaningfulness of the changes caused by implementing the proposal. This failure to conduct a sufficient assessment of energy impacts applies with equal dignity to Chapter 14's consideration of Greenhouse Gases.	Please see response to comment 1200-74 regarding the GHG analysis. The State CEQA guidelines provide that: "'Energy conservation measures, as well as other appropriate mitigation measures, shall be discussed when relevant. Examples of energy conservation measures are provided in Appendix F." (State CEQA Guidelines, § 15126.4, subd. (a)(1)(C).) Appendix F of the State CEQA guidelines states: "Potentially significant energy implications of a project should be considered in an EIR to the extent relevant and applicable to the project. The following list of energy impact possibilities and potential conservation measures is designed to assist in the preparation of an EIR. In many instances specific items may not apply or additional items may be needed." In list form, Appendix F discusses how energy consumption and conservation may be analyzed in the EIR. The SED evaluates energy impacts as recommended by Appendix F; however, as the appendix acknowledges, not all of its impact consideration apply to the plan amendments. Chapter 14, Energy and Greenhouse Gases, focuses on and evaluates the energy impacts associated with the plan amendments, and, concludes that Alternatives 2, 3 and 4 would result in less than significant impacts with or without adaptive implementation.
1200	80	This Recirculated Draft SED is fatally flawed and must be redone again. The SED modeling must utilize a model and assumptions that accurately represents baseline and water supply operations.	Please see Master Response 1.1, General Comments, regarding recirculation. Please see Master Response 2.5, Baseline and No Project, regarding characterizing the baseline. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding model assumptions and the use of the model to represent baseline.
1200	81	ATT1: ATTACHMENT A: STOCKTON EAST WATER DISTRICT (SEWD) -- ERRATA COMMENTS	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.
1200	82	FROM ATT1: (SED) Chapter 2 -- Water Resources	The SED has been updated to show that SEWD is a Surface Water User for Surface Water Diverted from the

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		Pg. 2-7: Table 2-3 needs to be revised to show that SEWD is a "Surface Water User" of Stanislaus River water.	Stanislaus River by SEWD.
1200	83	FROM ATT1: (SED) Chapter 2 -- Water Resources Pg. 2-25: Section 2.5.1: Strike "municipal" as SEWD is governed by its Special Legislation and then otherwise governed as a Water Conservation District pursuant to Water Code Section 74000.	The SED has been updated to show that SEWD is a water conservation district.
1200	84	FROM ATT1: (SED) Chapter 2 -- Water Resources Pg. 2-30: Section 2.5.3: It should be noted that D-1641 expressly states that Reclamation's obligation to meet the Vernalis flow objectives (February through June) was on "an interim basis" until the Board adopts a decision assigning permanent responsibility. Moreover, D-1641 provides following the expiration or termination of the San Joaquin River Agreement, Reclamation obligation to meet the April-May pulse flow was equally temporary until the State Water Board establishes alternative implementation, which it has failed to do for the past 6 years.	The text is not intended to state all of D-1641's findings and requirements. No change has been made.
1200	85	FROM ATT1: (SED) Chapter 2 -- Water Resources Pg. 2-32-34: Section 2.5.4: The analysis in this section should be expanded as the June 2009 NMFS BiOp has been in place since 2009 and Appendix 2E flows have been made since that time which are different than the flows contained in this Section.	SED Chapter 2, Water Resources, section 2.2 through 2.6 discusses surface water resources by tributary, including the operation of rim dams for hydropower and water storage, existing water diversions, current flow requirements for fish protection, and hydrology (unimpaired and historical flow). The NMFS BiOp is discussed in section 2.5.3 and again in section 2.6.3. The flow figures in sections 2.2 through 2.6 show unimpaired and historical flows February through June in water years 2000 – 2009 as illustrative of unimpaired and observed conditions. It is not necessary to add additional years to the charts as suggested by the commenter to capture the NMFS BiOp flows on the Stanislaus. Sections 2.2 through 2.6 achieve the goal of generally describing water resources in the tributary watersheds. The NMFS BiOp flows are described and included in section 2.5.3 even though the flows are not included in the flow figure for the Stanislaus River.
1200	86	FROM ATT1: (SED) Chapter 2 -- Water Resources Pg. 2-45: Section 2.8.1: The reason why the cone of depression is not as severe as it once was in the direct result of SEWD receiving surface water deliveries from the Stanislaus River.	Chapter 9, Groundwater Resources, Section 9.2.2, Subbasin Groundwater Use, identifies and discloses this information.
1200	87	FROM ATT1: Chapter 5 -- Surface Hydrology and Water Quality Chapter 5: The entire chapter needs to be redone as it fails to evaluate the significant effects on the reduction of surface water supplies resulting from implementation of LSJR Flow Objectives. Expressly excluded SEWD delivery of up to 50,000 acre feet to M&I water users.	Please see Master Response 1.1, General Comments, regarding a general discussion of the overall approach to the analyses contained in the SED and the programmatic nature of the analyses. The State Water Board properly evaluates actions irrigation districts or others may take (e.g., municipalities) as a results of potential reductions in surface water supplies and the potential significant physical environmental impacts that may then result. However, the effect of reductions in surface water supply on municipalities is considered primarily in Chapter 13, Service Providers, not Chapter 5. In Chapter 13, Service Providers, the State Water Board determined that under LSJR Alternative 2 with adaptive implementation and under LSJR Alternatives 3 and 4, with or without adaptive implementation, that service providers (including municipalities that may have contracts or other relationships with irrigation districts) could experience water supply reductions that would potentially result in the need to construct or operate new or expanded water treatment or water supply facilities (Impact SP-1). Other chapters that evaluate potential effects associated with reduction in surface water supply for municipalities include Chapter 16, Evaluation of Other Indirect and Additional Actions, and Chapter 20, Economic Analyses.
1200	88	FROM ATT1: Chapter 5 -- Surface Hydrology and Water Quality	Yes, but only for the period since 1996, when D-1641 was established.

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		Pg. 5-47: Table 5-15a: Do these measured releases include water released from New Melones to meeting the Vernalis salinity objective?	
1200	89	FROM ATT1: Chapter 5 -- Surface Hydrology and Water Quality Pg. 5-67: Figure 5-7: This graph demonstrates New Melones cannot be sustainably managed to achieve all of the D1641 requirements.	Sustainable achievement of D-1641 and flow requirements of the plan amendments can be achieved through reservoir operations to maintain storage and reductions in diversions, which are described in the SED. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding carryover storage. Also, please note that full achievement of all the D-1641 requirements is only modeled for the no project alternative, LSJR Alternative 1, which is described in Chapter 15, No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1).
1200	90	FROM ATT1: Chapter 5 -- Surface Hydrology and Water Quality Pg. 5-70: Third bullet: How are releases from New Melones Reservoir represented, documented or accounted for?	Methods for calculating New Melones Reservoir releases are described in Appendix F.1, Section F.1.2, Water Supply Effects Modeling-Methods. Most of the WSE flow results presented in the SED are for locations near the downstream ends of the three Eastside tributaries (i.e., Ripon on the Stanislaus River). Flows calculated for the Stanislaus River at Ripon are presented in sections F.1.3 and F.1.4.3 and summarized in Table 5-17c. Table D-3 in Appendix D, Evaluation of the No Project Alternative (LSJR Alternative 1 and SDWQ Alternative 1), contains the estimated annual New Melones Reservoir releases for Vernalis flow and EC objectives for baseline and the no project alternative. Additional information can be found in the WSE model and WSE results file, which are available online at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/index.shtml
1200	91	FROM ATT1: Chapter 5 -- Surface Hydrology and Water Quality Pg. 5-84: "The modeling incorporated additional release from New Melones Reservoir in some months to satisfy the baseline" -- Where is this documented?	Please see response to comment 1200-90.
1200	92	FROM ATT1: Chapter 5 -- Surface Hydrology and Water Quality Pg. 5-90 and 5-93: "with adjusted Stanislaus River flows to meet the Vernalis EC Objective" -- How much water is required? Where is this information depicted? Wouldn't less water be needed with increased flows on the Tuolumne and Merced rivers?	Please refer to SED Chapter 5, Surface Hydrology and Water Quality. WSE modeling for the LSJR alternatives included the requirement that USBR continue to meet the existing Vernalis EC objectives by releasing water from the New Melones Reservoir. SED Chapter 5 (Tables 5-17a through 5-17b) shows that river flows generally increase in each of the eastside tributaries and the LSJR at Vernalis under LSJR Alternatives 3 and 4 relative to baseline. SED Chapter 5 also shows that LSJR Alternatives 2, 3, and 4 results in 0 months that exceed EC objective at Vernalis. This is expected as the WSE modeling includes the requirement to meet the EC objective at Vernalis. SED Appendix F.1, Attachment 1, Tables 1–15 show the releases from diversion dams on each tributary to meet several requirements, including the Vernalis EC requirement. The only tributary with required releases is the Stanislaus, between 0 and 5 thousand acre-feet, are released to meet the EC objective per water year. Increased flows that result from the LSJR alternatives would generally reduce the need for dam releases to meet the southern Delta EC objectives. However, SED Appendix K requires USBR to continue to meet the 0.7 mmhos/cm requirement from April through August and 1.0 mmhos/cm from September through March (units of mmhos/cm are equal to units of dS/m) as part of implementing the salinity water quality objective for the interior southern Delta. This means that New Melones would continue to be relied upon to meet the Vernalis EC objective.
1200	93	FROM ATT1: Chapter 6 -- Flooding, Sediment, and Erosion Pg. 6-13: "Current USFWS results indicate that floodplain inundation began at 1,250 cfs in both Ripon to Jacob Meyers and the Orange Blossom Bridge to Knight's Ferry reaches." This	The usage follows U.S. Fish and Wildlife Service (2010) where 'floodplain inundation' refers to inundation or flooding of the area immediately adjacent to the low flow channel such as point bars, gravel mined reaches or restored areas in the gravel mined reaches. These areas are within the levees or incised portions of the channels and the use does not indicate outside of levee floodplain inundation.

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		is not a correct statement.	
1200	94	FROM ATT1: Chapter 6 -- Flooding, Sediment, and Erosion Pg. 6-27: Table 6-13 -- The text needs to evaluate the significant environmental impact on the orchards on the Stanislaus River when flows will be higher than 1,500 cfs at Ripon by 13%, 28% 56%, 65% and 24% in February through June respectively. The analysis is woefully inadequate.	Brantley (2016) documents additional information that supports the SED conclusion that the seepage impacts with respect to agricultural lands within the Stanislaus River floodway are less than significant. (Brantley, P. 2016. New Melones Project lower Stanislaus River easement program and river flow investigation. California Department of Fish and Wildlife. December 2016. 46p). Brantley (2016) assembled USACE information demonstrating that the USACE has implemented a lower Stanislaus River Easement Program (i.e. below Goodwin Dam to the junction with the San Joaquin River). The USACE has purchased easements encompassing the majority of the 8,000 cfs Stanislaus River floodway. The USACE has some fee title owned parcels as well as easements. The easement types are: flowage overflow easements (outside the primary floodway); flowage and channel maintenance easements (inside the primary floodway); and flowage and channel maintenance easements (inside the primary floodway) and Fish and Wildlife Habitat Protection and Propagation (includes the primary floodway and the vegetation bordering it). These easements along the entire lower Stanislaus river below the Goodwin Dam further limit any agricultural impacts that might occur from the LSJR alternatives and support the less than significant impact conclusion. Additionally, the LSJR alternatives analysis evaluated a very conservative 1,500 cfs flow with respective to seepage when the majority of the agricultural lands along the Stanislaus River can have their surfaces completely inundated by flows up to 8,000 cfs within the floodway per their USACE easements.
1200	95	FROM ATT1: Chapter 9 -- Groundwater Resources Chapter 9: Entire chapter needs to be redone as it fails to evaluate the significant increase in groundwater pumping that will result from implementation of LSJR Flow Objectives. It is also silent on the impacts to the groundwater basin underlying the City of Stockton. Reduction in surface water supplies on the Stanislaus river will have significant impacts to groundwater levels and water quality, including the further intrusion of saline brine, this must be addressed in this Chapter.	Please see response to Comment 1200-68.
1200	96	FROM ATT1: Chapter 9 -- Groundwater Resources Page 9-10 -- Eastern San Joaquin groundwater basin declared in a state of critical overdraft in 1980.	The overdraft status of the Eastern San Joaquin Subbasin is discussed in several other places in Chapter 9, Groundwater Resources, Section 9.2, Environmental Setting.
1200	97	FROM ATT1: Chapter 9 -- Groundwater Resources Table 9-6 -- SEWD has 95,400 irrigated acres.	The amount of irrigated land for SEWD in Table 9-6 is from the “Final Stockton East Water District Water Management Plan” published by SEWD on January 20, 2014; this was the best source of information available to the State Water Board before the Recirculated SED was released in September 2016. The minor difference between the number used in the SED (99,000 acres of irrigated lands) and the number identified in the comment (95,400 acres of irrigated lands) is less than five percent and does not change impact determinations in the SED.
1200	98	FROM ATT1: Chapter 9 -- Groundwater Resources Page 9-25 -- Description of SEWD: "The volume delivered to each retailer is based on the percentage of total groundwater and surface water used in each retailer's area during the previous year, which is updated every year." This is absolutely incorrect. The volume of water is dependent upon how much surface water is available to SEWD. The retailers are required to make every effort to use all the treated surface water made available by SEWD. In times of shortage, the retailers decide among themselves what the percentage will be.	The sentence referenced in the comment was deleted from Chapter 9, because it makes no material difference to impact determinations in the SED.
1200	99	FROM ATT1: Chapter 9 -- Groundwater Resources	Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results, Section G.2, Total Applied Water for Agricultural Production, and Section G.3,

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		Page 9-44: Bullet: SEWD recognized M&I demands should be represented and accounted for. Failure to include the 50,000 acre feet M&I demand grossly underestimates the environmental effects on groundwater and the groundwater basin.	Estimation of Groundwater Balance, provide a detailed description of the SEWD and CSJWCD Stanislaus River diversions. The analysis correctly identifies that SEWD and CSJWCD only receive water after SSID and OID water rights have been met and there is a greater probability that SEWD and CSJWCD might increase groundwater pumping to offset a reduction in 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; therefore, the SED was required to analyze this reasonably foreseeable action and its impacts on the groundwater basin from this local response. As a result, the accounting method assumes that any reduction in the 155 TAF contracted diversions for SEWD and CSJWCD could be replaced by increased groundwater pumping. The combined M&I and agricultural demands associated with SEWD's 75 TAF/Yr of Stanislaus River water are accounted for in the irrigation-district groundwater balance assessment.
1200	100	FROM ATT1: Chapter 9 -- Groundwater Resources Page 9-45: Description of SEWD using Calaveras River water as a municipal water supply is patently unrealistic when the Calaveras River is already fully utilized.	The "Final Stockton East Water District Water Management Plan" published by SEWD on January 20, 2014 states that SEWD receives surface water from both the Stanislaus and Calaveras Rivers.
1200	101	Chapters 11, 13 and 20 -- Entire chapter needs to be redone as it fails to evaluate the significant effects of the reduction of surface water supplies resulting from implementation of LSJR Flow Objectives within SEWD and the corresponding increase in groundwater pumping.	Please see Master Response 1.1, General Comments, regarding a discussion of the general approach to the programmatic analyses contained in the SED. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding the modeling assumptions and surface water balance assumptions and groundwater demand in the model. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding groundwater pumping estimates related to SWAP and economic considerations related to agriculture. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding the approach to the groundwater impact analysis. Please see Master Response 3.5, Agricultural Resources, regarding the approach to the agricultural resource impact analysis. Please see Master Response 8.0, Economic Analyses Framework and Assessment Tools, for a discussion of the approach to considering economics in Chapter 20, Economic Analyses. The potential effects of a reduction in Stanislaus surface water supplies for SEWD are adequately analyzed in the SED. It is assumed in the analysis that SEWD will fully replace surface water shortages from the Stanislaus with groundwater to maintain their agricultural production. This assumption is valid because prior to New Melones deliveries the district was relying on groundwater to meet these demands. This assumption is also supported by SEWD's 2015 Agricultural Water Management Plan (AWMP), which states on page 24, "The balance of the agricultural water demands not met by available surface water each year is satisfied with customer pumped groundwater." Furthermore, as shown in Table 7 of SEWD's 2015 AWMP, SEWD received very little water from New Melones from 2013 to 2015. However, over the same period, Table 11 shows that irrigated area increased by 3,258 acres. Table 8 reveals how this was possible, showing that between the district and its customers they were able to pump 146,340 acre-feet of groundwater in 2015 to meet their crop demands. Please see Appendix F.1 Attachment 1 for annual estimates of surface water diversion for the CVP contractors and how they change in response to implementation of the LSJR alternatives (or plan amendments). For more detailed information on the surface water diversion and groundwater use of SEWD and CSJWCD please see the SED modeling spreadsheets posted on the SWRCB website.
1200	102	Chapters 11, 13 and 20 -- Entire chapter needs to be redone as it fails to evaluate the significant effects of the reduction of surface water supplies resulting from implementation of LSJR Flow Objectives within SEWD and the corresponding increase in groundwater pumping.	Please see response 1200-101.

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1200	103	Chapters 11, 13 and 20 -- Entire chapter needs to be redone as it fails to evaluate the significant effects of the reduction of surface water supplies resulting from implementation of LSJR Flow Objectives within SEWD and the corresponding increase in groundwater pumping.	Please see response 1200-101.
1200	104	ATT2: Attachment B. Review of Presentation on Salmon Lifehistory Portfolios in a Regulated River at November 29, 2017 Bay Delta Plan Phase I Hearing	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. 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.
1200	105	ATT2: ATT1: [Fig. 1] Juvenile Chinook Salmon abundance by lifestage at Oakdale.	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. 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.
1200	106	ATT2: ATT2: Figure 2. Total annual volume of Stanislaus River at Goodwin Dam during February to June.	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. 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.
1200	107	ATT2: ATT3: Figure 3. Juvenile Chinook salmon catch by lifestage at Caswell. Note: 2006 excluded due to incomplete sampling.	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. 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.
1200	108	[From ATT2:] Page 19-3 of the SWRCB's SED states that "Analyses of historical abundance indicate that late winter and spring flows (Feb-Jun) in the tributaries and mainstem SJR have had a strong influence on survival and abundance of SJR Basin salmon since records began in the 1940s or 1950s." One of the references cited in support of this statement is Sturrock et al 2015. However, the cited study actually made the following conclusions which do not support the statement in the SED: - "Generally, outmigrant survival downstream of the Stanislaus was slightly higher in the drier year (2003) than the wetter year (2000), but significant differences were not detected." - "Although lower flows and warmer temperatures in the Stanislaus may have contributed to the lower outmigrant production observed in 2003, our results suggest that after exiting the natal river, there was no significant difference in juvenile survival. Survival rates were, if anything, marginally higher in 2003, contradicting many tagging studies which find reduced salmon survival through the freshwater delta during low flow conditions." While salmon abundance has typically declined in response to drought conditions, it is	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. Sturrock et al. 2015 is used as one source of support for the conclusion that late winter and spring flows in February through June in the tributaries and mainstem SJR have had a strong influence on survival and abundance of SJR Basin salmon since records began. Overwhelming scientific evidence shows that increased and more natural, variable flows are needed to protect fish and wildlife beneficial uses. The scientific evidence for these assertions is described in Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Standards, and Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30. Please also refer to Master Response 3.1, Fish Protection, for more information regarding current fish decline and the need for increased flow. The content provided by the commenter does not contradict the information contained in Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, and would not affect the benefits analyses.

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		unusual to see the recent surge in abundance on the Stanislaus River. Most salmon return to the Central Valley at 2, 3, and 4 years of age so escapement during 2015 and 2016 would correspond to juvenile outmigration during 2012, 2013, 2014, and 2015 spanning nearly the entire drought period. While juvenile production in the Stanislaus River during 2013 was the highest on record at the Oakdale rotary screw trap, there is no indication that salmon escaping to the Stanislaus River were produced in the Stanislaus River.	
1200	109	[From ATT2: Hatchery Influence. With all lifehistory strategies expressed in all years under existing conditions and all lifehistory strategies viable under existing conditions, what other factors pose a threat to protecting genetic diversity? Both the presentation and the SED are silent to the fact that escapement to the Stanislaus River is dominated by hatchery fish, yet there is no hatchery on the Stanislaus River. Since the Constant Fractional Marking (CFM) Program, which was initiated in 2007 to provide more reliable estimates of natural production of Central Valley salmon, estimates of hatchery and natural production have been released for three years. With 2010 representing partial implementation as 4 year old fish were not subject to CFM, it was estimated that 50% of the escapement to the Stanislaus was of hatchery origin (Kormos et al 2012). During 2011 and 2012, the first two years in which all returns would have been subject to CFM, the estimates increased to 83% in both years (Palmer-Zwahlen and Kormos 2013, Palmer-Zwahlen and Kormos 2015). During the most recent years that data is available, the majority of coded wire tags recovered in the Stanislaus River were from the Mokelumne Hatchery. While estimates from the CFM program are not yet available for more recent years, simple math suggests that escapement to these streams has continued to be dominated by hatchery fish. Of the 12,708 adult salmon counted at the Stanislaus River weir during 2015 and 14,396 counted in 2016, in each year, 26% were adipose fin clipped (ad-clip) indicating hatchery origin (Table 1). Approximately 25% of hatchery production is marked through the CFM Program, so only 1 out of 4 hatchery fish released is identifiable by an adipose fin clip. As the proportions of tagged fish observed at the Stanislaus weir is also roughly 25%, this indicates that adult abundance continues to be dominated by hatchery fish. There is not a hatchery on the Stanislaus so these are fish straying from other streams to spawn. In reviewing recent hatchery records, recent changes in hatchery production and release locations may potentially explain the large numbers of Chinook salmon in the Stanislaus River during a drought. Release data from all five Central Valley hatcheries were obtained and reviewed from brood years 2006 through 2014 (i.e., juveniles released in 2007 through 2015). Most CV Chinook salmon return at three years of age, which would correspond to returns beginning in 2010, but it is also common for some fish to return at two and four years of age. Total hatchery production of fall-run Chinook salmon has ranged from approximately 25 million to 35 million during brood years 2007 through 2015, with the exception of brood year 2011 when more than 45 million juvenile salmon were produced (Figure 4). Coleman National Fish Hatchery is the most productive, releasing 37% to 54% of all hatchery salmon during 2007-2015. Production from Nimbus Hatchery (American River) and from the Mokelumne River Hatchery since 2010 has been relatively consistent, while production from Feather River Hatchery has declined. Production from the Merced River Hatchery increased	The commenter provides this attachment for reference purposes in support of their comments. The attachment is a review of comments made by UC Davis, and NOAA during the first day of the 2016 public hearing. Please refer to Chapter 7, Aquatic Biological Resources, Section 7.2.2, Reservoirs, Tributaries, and LSJR for a description of the environmental setting on the Stanislaus River, which includes recognition of the dominance of hatchery fish straying from other tributaries. The California Hatchery Scientific Review Group has recommended specific standards and guidelines to reduce the influence of hatchery practices on natural-origin salmonid populations by altering marking\tagging strategies to identify hatchery fish, and release practices to reduce straying. Please refer to Master Response 3.1, Fish Protection, for more information regarding the role of hatcheries and recommendations from the California Hatchery Scientific Review Group. Additionally, for a summary of Stanislaus River fish monitoring data, please review the Stanislaus Operations Group's annual reports, which can be found at http://www.westcoast.fisheries.noaa.gov/central_valley/water_operations/sog.html. The content provided by the commenter does not contradict the information contained in Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, and would not affect the benefits analyses.

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		substantially during brood years 2012 and 2013 from less than 400,000 to approximately 1.5 million. The increase in production from Merced River Hatchery corresponds with adult salmon returning at two and three years of age during 2015 and three and four years of age in 2016, and is one factor likely contributing to the high salmon abundance observed in the Stanislaus River during 2015 and 2016. Another factor likely contributing to the increased abundance of adult salmon in the Stanislaus River during 2015 and 2016 is a shift in hatchery fish release locations. While it has been common for hatcheries on the Mokelumne, Feather, and American rivers to release most of their production off-site at locations in the Bay and Delta, the majority of production from the Merced River and Coleman National Fish hatcheries has, until recently, been released at or near the hatcheries (Figure 4). At the same time that production from Merced River Hatchery more than tripled, there was a concurrent shift to releasing these fish far downstream at Jersey Point. Similarly, releases from Coleman Hatchery shifted from 0% to 12% off-site to 62% in brood year 2013 and 100% in 2014. These changes in release location are believed to be another factor likely contributing to the high salmon abundance observed in the Stanislaus River during 2015 and 2016.	
1200	110	ATT2: ATT4: Table 1. Adult salmon counts at the Stanislaus River weir and proportion ad-clipped indicating known hatchery origin.	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. 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.
1200	111	ATT2: ATT5: Figure 4. Fall-run Chinook salmon production from Central Valley hatcheries during brood years 2006 through 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. 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.
1201	1	The [Central San Joaquin Water Conservation] District opposes any modification to the operation of New Melones Dam resulting in additional releases from New Melones reservoir as set forth in the Substitute Environmental Document. Significant releases have been, and are currently in place, for in river flows. Increase of such releases will result in less or no surface water available to be diverted from the Stanislaus to the District. Satisfaction of the District's water supply contract will be jeopardized if not completely unsatisfied by modification to surface water flows. The District's conveyance system may go completely unused with no water or little water supply. Financial investment undertaken by the District will be seriously impacted, if not completely lost, as a result of the proposed modifications. The District's past efforts and attempts to address over-draft conditions will be squandered. What will remain is the District debt service which will continue to require the establishment and collection of groundwater charges on area farmers while having no surface water to deliver to them.	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 amendment
1201	2	As required by law, the [Central San Joaquin Water Conservation] District is moving forward with formation of a Groundwater Sustainability Agency and Plan. As there is no other surface water available to the District, surface water from the Stanislaus is the center-piece of any Groundwater Sustainability Plan to address the District's over-drafted groundwater	The State Board Water appreciates the efforts that the District has made to comply with SGMA. The need to address the negative consequences from long-term overdraft is why the legislature passed SGMA in 2014. However, 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 acknowledges that it will

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		aquifer. Should the modifications of the SED be accepted and implemented the District will have no surface water to implement a sustainability plan and will be in a position of requiring groundwater pumps to be shut off thereby fallowing many acres of District farmland.	be challenging, but SGMA compliance cannot occur at the expense of reasonably protecting surface water beneficial uses. The plan amendments do not limit the District's ability to comply with SGMA; comprehensively addressing both surface water and groundwater resources allows for true integrated planning of scarce water resources that does not trade impacts between surface and groundwater. 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. For further discussion on these issues, please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act. Please see Master Response 3.5, Agricultural Resources, for response to comments regarding the impact of the plan amendments on agricultural resources.
1201	3	The State of California has designated a portion of the [Central San Joaquin Water Conservation] District as a Disadvantaged Community. Loss of surface water pursuant to the SED will negatively impact the already disadvantaged community. Available jobs and income will be reduced due to the impact on the District's agricultural economy. The District's only available source of supplemental surface water is that diverted from the Stanislaus River. Although the SED proposed modifications will have serious effects on other agencies, it will devastate the District. The recommendations of the SED will be disproportionately placed upon the back of the District and its farming community.	Please see Master Response 2.7, Disadvantaged Communities, regarding the plan amendments as they relate to disadvantaged communities (DACs), consideration of DACs in the SED, and the State Water Board's technical and financial assistance programs for DACs. Please see Master Response 8.2, Regional Agricultural Economic Effects, regarding regional agricultural economic effects of the plan amendments, including potential effects on employment.
1201	4	Central San Joaquin Water Conservation District cannot accept and therefore opposes the proposed modifications and any increase in releases. The District joins in the comments and statements of the South San Joaquin Irrigation District, the County of San Joaquin, and the Stockton East Water District.	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. 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.
1203	1	Analysis suggests that implementation of the State Board alternatives, as proposed, is likely to affect operations of the San Francisco Public Utilities Commission more so than the operations of the Turlock and Modesto Irrigation Districts – at least on a proportional basis. This is the result of San Francisco having developed its water delivery system dependent on junior water rights on the Tuolumne River, and exacerbated by its "fourth agreement" with the Districts wherein it has committed to providing 51.7% of any increase in downstream flow requirements.	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.
1203	2	San Francisco and its wholesale customers have relied principally on the Tuolumne River for the bulk of their supply - a dependence more singular than most urban water systems. Other urban water agencies, however, have managed to accommodate reductions in imported water supply to lessen impacts on the environment through a variety of means - including development of local surface and/or groundwater storage, investment in groundwater banking in remote regions, recycling, desalination and, of course, conservation. To date, the City has shown only modest interest in such alternatives and has instead claimed that implementation of State Board alternatives would result in severe economic impacts due to water shortages.	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.
1203	3	The State Board and the Governor are right to encourage cooperation among the agencies which rely on the too-often dewatered tributaries to the lower San Joaquin River. Leaving more water instream will no doubt cause hardships among the water agencies affected, but those hardships will be much lessened if the water agencies work together.	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**
1203	4	[ATT 1: Chart 1: Tuolumne River Water Rights Distribution (values in acre-feet)]	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.
1203	4	[ATT 4: Table 2: Percentage minimum flow increase and water supply reduction under State Board alternatives - Average of all years]	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.
1203	5	[ATT 2: Chart 2: Tuolumne River Principal Surface Storage (values in acre-feet)]	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.
1203	6	Effect of State Board Proposal on Diversions of San Francisco and the Turlock and Modesto Irrigation Districts As proposed, the effect of the State Board's flow proposal on San Francisco's diversions would be significant - even more so than most or all water agencies depending on the Stanislaus, Tuolumne and Merced Rivers. San Francisco already has diminished flow available in dry years - a condition that is exacerbated under the State Board's proposal. Tables 1 and 2 [see ATT 3 and ATT 4], and charts 3a-3d [see ATT 5 thru ATT 8] (below) provide a summary of the proposed increase in minimum flow to the lower Tuolumne, along with the reduced availability of water for diversion by San Francisco and the Districts. "Water supply availability", for this purpose, is calculated as the difference between water rights and obligation for meeting instream flows below Don Pedro and La Grange. The charts and tables illustrate that San Francisco may owe more water to downstream flows that it derives from its water rights on an annual basis under some conditions. In other words, San Francisco's usable supply from the Tuolumne River would sometimes be negative. The charts and tables also illustrate the potential disproportionate impact on San Francisco. For example, under the 40% scenario, San Francisco would lose 87% of its usable water during a repeat of the 1987-1992 drought, while the Districts would lose only 18% of their 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.
1203	7	[ATT 3: Table 1: Available water supply under State Board alternatives. Average of all years.]	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.
1203	9	[ATT 5: Chart 3a: Tuolumne River Minimum Instream Flow and Water Supply Available for Consumptive Use under State Board Alternatives. Average of all Years (values in acre-feet)]	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.
1203	10	[ATT 6: Chart 3b: Tuolumne River Minimum Instream Flow and Water Supply Available for Consumptive Use under State Board Alternatives. Average of Dry Years (values in acre-feet)]	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.
1203	11	[ATT 7: Chart 3c: Tuolumne River Minimum Instream Flow and Water Supply Available for Consumptive Use under State Board Alternatives. Average of Critical Years (values in acre-feet)]	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.
1203	12	[ATT 8: Chart 3d: Tuolumne River Minimum Instream Flow and Water Supply Available for Consumptive Use under State Board Alternatives. Average for 1987-1992 Historic Drought (values in acre-feet)]	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.
1203	13	[ATT 9: Letter from Restore Hetch Hetchy to State Board Felicia Marcus, dated May 22, 2013 on the Diversification of San Francisco's Water Supply Portfolio]	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.

Table 4-1. Responses to Comments			
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1204	1	As we near the public comment deadline, it is imperative to me that my distress over your proposal is included in the official record on the Draft Revised Substitute Environmental Document (SED). Therefore I urge you once more to heed the requests of the numerous cities, school districts, and concerned residents who have voiced their opposition to the Bay-Delta Plan. In an area that is largely dependent on agriculture, a proposal that increases the unimpaired flows of the Merced, Stanislaus, and Tuolumne Rivers by 40% would devastate the economy of a region that has only just now begun to heal from five years of drought.	Please see Master Response 1.1, General Comments, acknowledging the concerns of elected officials and community members and for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments.
1204	2	The public hearings held in Merced and Modesto this past December provided ample evidence that local stakeholders have been left out of a process that will severely impact every aspect of their lives. Safe and reliable access to drinking water, our economic vitality, and our very way of life would all be jeopardized by the proposed plan. The engineers and scientists of the Merced Irrigation District (MID) has proposed an alternative to the Bay-Delta 40% runoff increase that addresses the concerns of fishermen and environmentalists while reducing the negative impact on agriculture. Given the serious implications of the proposal, there should have been a credible effort to involve us throughout the development phase, but this simply didn't happen. By allowing stakeholders to comment on the plan only after it was released, you have excluded our region from providing valuable local knowledge that could have been used by your scientists and technical experts to create a plan that appropriately balances the competing priorities under your consideration. This can be partially corrected by thoroughly reviewing the MID plan alternative with your staff and the staff of MID. Meaningful changes to the Bay-Delta Plan based on such discussions will improve the process and outcome of your efforts.	Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, Merced Irrigation District S.A.F.E. Plan, for responses to comments regarding alternatives to the plan amendments. Additionally, please see Master Response 1.1, General Comments, regarding the public outreach process and voluntary agreements.
1204	3	To us, "significant, but unavoidable" is more than a term of art--it is a tangible threat and a clear statement of disregard for our safety, sustainability, and livelihoods. By failing to include our [Merced] region in the development process, you have marginalized a community that already suffers from economic challenges and is home to many minority and disadvantage communities. Simply put: we deserve better. I urge you to give consideration to the voices of our community and revise the current plan to reflect the needs of all the parties involved.	As described in Master Response 2.7, Disadvantaged Communities, the concerns of disadvantaged communities (DACs) and environmental justice issues are important to the State Water Board. The plan amendments in no way discriminate against people on the basis of race, culture, or income. Consideration of DACs in the context of public health is provided in Chapter 22, Integrated Discussion of Potential Municipal and Domestic Water Supply Management Options. Please see Master Response 2.7 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 small public water systems serving DACs. The State Water Board values the voices of the communities in the plan area and had a series of public outreach events to hear the public's concerns and comments on the plan amendment process and the SED. Please see Master Response 1.1, General Comments, for a discussion regarding the adequacy of the public outreach conducted by the State Water Board.
1205	1	I am writing this letter to first and foremost express my support of the Merced Irrigation District's S.A.F.E. Plan and express my extreme adverse position to the Board's SED plan.	Please refer to Master Response 1.1, General Comments, regarding comments related to opposition to the plan amendments. Please see Master Response 2.4, Alternatives to the Water Quality Control Plan, regarding information about the S.A.F.E plan.
1205	2	While I feel that there are numerous reasons why the SED plan is destined for failure, constitutes nothing other than a political ploy to grab water for coastal communities and back fill for Gov. Jerry Brown's twin tunnel concept and is based on tainted and incomplete research, I will not elaborate on these, at least at this point and in this writing.	Please see Master Response 1.1, General Comments, for information related to the California WaterFix.

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1205	3	The panel focused predominantly on water temperature as the reason for desiring more flow down the Merced River, insinuating that only more flow will drop the temperature to a point where the salmon will certainly thrive. The panel is convinced that this alone will increase the salmon numbers, albeit as we all know, by such an insignificant count that it is ludicrous to spend additional resources on such a nonsensical project. However, in order to, for a moment, humor the panel by focusing on its “benchmark" discovery about water temperatures, I would like to point out something that the panel of "experts” may have overlooked. I own land on both sides of the Merced River at its widest and slowest moving point within the area from the "spawning grounds" to at least 15-20 miles downstream, and likely a lot further. My property is approximately 12 miles as a crow flies downstream from Merced Falls, immediately west of Highway 59. Decades ago this area of the river was dredged into a lake-like section of approximately 25 surface acres and at the time it was somewhat deep in water depth. I have been told that the water depth was in the 10-20 feet deep range, although I do not purport to know for certain. What I do know for certain is that this section of the river is now wrought with an aquatic sub-surface weed that resembles "coon-tail moss". Virtually the entire 25 acres has this plant growing from the bottom to within an average of about 12"-18" of the surface. It is dark green, if not black in color, and, as any scientist will tell you, that absorbs an enormous amount of sunlight, and heat energy at that shallow depth (12"-18" below the surface). As a result of the weeds and resulting organic matter, the water is substantially more turbid than the inflowing clear water, and that too causes the water to absorb more sunlight and heat energy. All this points to the highly probable conclusion that the overgrowth of these aquatic sub-surface weeds (not the water hyacinth which is an entirely different subject and something that should be also considered separately) is contributing heavily to the increase in water temperatures on the river downstream from this pond/lake. Unlike many of the upstream ponds adjacent to the river which may or may not experience a minimal amount of water exchange with the river, my area receives the river flow directly, and is in fact, the actual river. Control of these weeds is simple, inexpensive, and is a FAR more logical and reasonable first step in trying to improve the habitat of the salmon and reduce the habitat of the predatory bass, and is a seemingly massive oversight by the "experts”. Clear open water is not nearly as conducive to largemouth thriving as vegetative, semi-turbid waters. It simply seems like a no- brainer to invest the minimal dollars in weed control to increase the effective water depth and clarity, and thereby lower the water temperature, in order to make steps in the direction of assisting the salmon. To be sure however, we all know that they may not respond at all to the changing temperatures, and, to restate the obvious, most certainly will not respond in numbers sufficient to ever warrant reducing the water available to the farming community in the volumes proposed. I am again merely humoring the “experts” on their water temperature concept. Water can hold large amounts of heat with a relatively small change in temperature. This heat capacity has far reaching implications. It permits a body of water to act as a buffer against wide fluctuations in temperature. The larger the body of water, the slower the rate of temperature change. Furthermore, aquatic organisms take on the temperature of their environment and cannot tolerate rapid changes in temperature. [Footnote 1: A Fish Fanner's Guide to Understanding Water Quality, https:/ /www.extension.purdue.edu/extmedia/as/as-503.html] It is again highly probable that in	This comment does not make a general comment regarding the plan amendments or raise significant environmental issues.

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		the late summer and early fall months when air temperatures are extremely high, that if and when salmon fry move down the cool river and empty into my 25 acre lake section that is infested with weeds which are shallow to the surface, and which is certainly significantly warmer than it would be if the weeds were controlled and the full water depth achieved, they could experience a shock that could be fatal. A simple aquacide application test could answer a lot of questions, yet the SED plan gives no consideration to such a simple "assist", if not a "fix". The MID S.A.F.E. plan can easily and inexpensively incorporate this simple procedure that just may prove to be a huge success, but in any event can ONLY provide positive benefits regardless of the magnitude. There is no downside risk as long as the proper safe aquacides are used.	
1205	4	[ATT 1: Photo of aquatic week that resembles coon-tail moss]	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.
1205	5	Notwithstanding that I personally feel that the commercial, economic and natural benefits of a limited increase in king salmon (it is only called a chinook if you are in Canada by the way…otherwise it is referred to as a king salmon) do not even register in comparison to the local, regional, statewide and national benefits of the farming production that will be lost under the SED plan, I think the Board has failed to consider far too many other factors in its attempt to "save the salmon", however few that may be. I use the term "few" as opposed to "many" since regardless of whether the Board stands by the models used which conclude only a 1,100 salmon increase, the fact is that it is not a commercially significant number under any circumstances. In fact this river system never was significant, relative to the salmon's overall species habitat. The far northwest is salmon fishing grounds for a reason, that being that it is far more conducive to salmon life cycles. Granted the king salmon migrate up the Merced River, but this river is the documented southern-most river in the United States up which they migrate, and the fact that it lies on these fringes of acceptable salmon territory alone indicates that it is not prime habitat. Farming feeds people, Merced River salmon do not. Farming is proven, the SED plan is not. The S.A.F.E. plan is as viable an option as is logical for the salmon.	Please refer to Master Response 1.1, General Comments, regarding comments related to opposition to the plan amendments. Please refer to Master Response 3.1, Fish Protection, regarding the scientific basis and expected benefits to fish in response to implementation of the plan amendments and the limitations of SALSIM. Please see Master Response 2.4, Alternatives to the Water Quality Control Plan, regarding information about the S.A.F.E plan
1205	6	The SED plan is a political ploy disguised as a salmon concern. Federal authorities finally stepped in and realized that the Delta smelt issue was completely absurd, they should do the same here. The king salmon is not facing extinction and it is absurd when that inaccuracy is thrown around by those arguing in favor of the SED plan. The salmon have chosen to go elsewhere to thrive, and you are cheating yourselves if you think you are more qualified to make that decision than the salmon themselves. I could go on for hours about failed attempts by government and environmentalists to interfere in nature's path, and the resources wasted in the process, but that is unnecessary. Please be logical, and ask yourself, "if this was MY MONEY, would I be willing to spend it all on the SED plan for a chance at increasing salmon numbers by a mere few"? The answer is likely no, so please do not spend any more of the taxpayers' money on an ill-fated science project the likes of which all seem to fail. You will be held accountable.	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.
1206	1	We agree with the Draft SED's statement that "[t]he Bay-Delta is in ecological crisis" (Draft SED ES-8)--an impending catastrophe caused by excessive diversions from the Delta and its tributaries--but the Plan Amendment fails to remedy this crisis. Instead, it jeopardizes the survival of the very imperiled species that it purports to protect because it fails to restore the flows essential to their recovery. In doing so, it rewards improvident investors who have chosen to plant highly water-intensive crops in an arid region with over-appropriated water	Please see Master Response 1.1, General Comments, Master Response 1.2, Water Quality Control Planning Process, and Master Response 2.1, Amendments to the Water Quality Control Plan, for information regarding the State Water Boards' consideration of beneficial uses. Please also see Master Response 3.1, Fish Protection, for information regarding the ecological benefits of

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		resources. Accordingly, we ask the Board to adopt the long-overdue water quality reforms that are needed to restore these rivers' ecological integrity and historically abundant fish and wildlife.	February-June flow objectives.
1206	2	The recommended alternative will not provide sufficient flows; LSJR Alternative 4 is preferable. The recommended flow alternative, Lower San Joaquin River ("LSJR") Alternative 3, sets the baseline flow at 40% of unimpaired flow but allows flows to dip as low as 30% (and rise only to 50%) of unimpaired flows with so-called "adaptive management" adjustments. The LSJR Alternative 3 Plan Amendment, as presented in Draft SED Appendix K, does not allow for adjustments above 50% of unimpaired flow. Id. at 30. Thus, despite its claimed flexibility in response to evolving scientific data, and the needs of fish populations in the impacted rivers, the Plan Amendment would not allow additional unimpaired flows to protect fish even if data show that increased flows are necessary to maintain a viable fishery. Id. Further, all members of the Stanislaus, Tuolumne and Merced Working Group ("STM Working Group") would have to agree before the Executive Director may adjust the unimpaired flow percentage for a year. Id. The STM Working Group includes water users whose interests do not include fish protection. Id. at 32. While other flow adjustments may occur without full STM Working Group approval [Footnote 1: For example, LSJR Alternative 3 would allow flows to drop below the unimpaired flow range between February and June in order to increase flows later in the year, provided the unimpaired flow is over 30%. Draft SED Appendix K-30. The Executive Director may order this change "on an annual basis if the change is recommended by one or more members of the STM Working Group." Id. at 31.], no adaptive management changes can occur without at least one member's recommendation. Id. at 30-31. For this reason, the protective qualities ascribed to LSJR Alternative 3's potential for increased flows above 40% of unimpaired flow may not in fact prevent harm to fish. See also Draft SED 20-73 (adaptive management could alter available benefits to fish and fishery dependent economies).	Please see Master Response 1.1, General Comments, for responses to comments that generally support or oppose the plan amendments, a specific percent of unimpaired flow, or an LSJR alternative. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments regarding science and policy support for adopting the plan amendments, the comparative merits of LSJR Alternative 3, and for additional description of the role, structure, and composition of the Stanislaus, Tuolumne, and Merced Working Group and Executive Director authority. Please see Master Response 2.2, Adaptive Implementation, for information about adaptive implementation (including adaptive implementation within the unimpaired flow range) and operations plans. The flow shifting component of adaptive implementation recognizes that there can be no perfect foresight about specific future needs and that tightly constrained requirements could lead to undesirable outcomes. The LSJR numeric flow objectives must be implemented in a manner that achieves the narrative objective. Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for information about the LSJR alternatives, including how the State Water Board evaluated the different alternatives.
1206	3	When examining the potential water temperature benefits of various flow regimes, the Draft SED indicates that benefits to salmonid smoltification on the Stanislaus and Merced Rivers can only occur with flows at 50% of unimpaired flow and higher, during April and May. Draft SED 19-20. And most of the temperature benefits in the Lower San Joaquin River occur when March flows are at least 60% of unimpaired flow. Id. Further, the National Marine Fisheries Service ("NMFS") has testified that requiring at least 60% of unimpaired flow "appears to provide the best biological and measurable benefits for fish and increase the chances of success and survival." NMFS Presentation (Jan 3, 2017), Slide 3. For these reasons among others, both the Draft SED's analysis of flow impacts on fish and NMFS's January 3, 2017, testimony to this Board ("Board") show that LSJR Alternative 3 will not be sufficient to achieve fishery recovery because it fails to provide adequate flows to protect the fish that rely on the Delta for survival.	For the full context of the comments that are quoted and a complete response to those remarks, please refer to the index of commenters in Volume 3 to locate the materials from the January 2017 hearing, which will be identified by the person's name and is assigned a letter number. Please refer to Master Response 3.1, Fish Protection, regarding the temperature modeling performed, the results of the modeling as it relates to the expected benefits of the plan amendments, and the adequacy of the modeling to support the analysis. Please also refer to Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for information about the LSJR alternatives, including how the State Water Board evaluated the different alternatives.
1206	4	While the proposed Plan Amendment states generally that "[t]he salmonid biological goals for this program of implementation will be specific to the LSJR and its tributaries and will contribute to meeting the overall goals for each population, including the salmon doubling objective established in state and federal law," it fails to set appropriate standards and	Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for a description of the plan amendments and for information regarding the salmon doubling objective and its relationship to the plan amendments. The plan amendments do not modify the salmon protection objective and its related program of implementation. The salmonid biological goals in the plan amendments, however, will

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		compliance deadlines for attaining the salmon doubling standard. Draft SED Appendix K-33, see also Appendix K-17 ("Water quality conditions shall be maintained, together with other measures in the watershed, sufficient to achieve a doubling of natural production of Chinook salmon from the average production of 1967-1991, consistent with the provisions of state and federal law"). Instead, the Draft SED looked to the "USFWS/USBR flow recommendations . . . for salmon population doubling and increasing salmon population by 53 percent." Draft SED 3-28. The Draft SED compared the flow recommendations extracted from the CVPIA's 2005 Anadromous Fish Restoration Program with the flows modeled at Vernalis for LSJR Alternatives. Draft SED 3-28 to 3-30. On the basis of those fixed monthly flows alone, the Draft SED dismissed any other alternative that sought to achieve the fish doubling standard. Id. But this refusal to consider more protective options based on unstudied assumptions is directly contrary to CEQ A's mandate. "CEQA does not permit a lead agency to omit any discussion, analysis or even mention of any alternatives that feasibly might reduce the environmental impact of a project on the unanalyzed theory that such an alternative might not prove to be environmentally superior to the project." Habitat and Watershed Caretakers v. City of Santa Cruz (2013) 213 Cal.App.4th 1277, 1305. LSJR Alternative 3's failure to establish a clear attainment deadline and implementation path to achieve fish doubling falls far short of the Plan's salmon doubling standard. Only LSJR Alternative 4 has flows sufficient to protect fish and, if augmented with clear attainment deadlines, the potential to attain the fish doubling objective.	contribute to meeting the overall goals for salmonid populations, including the salmon doubling objective. As explained in Master Response 2.1, the narrative and numeric LSJR flow objectives will benefit early life stages of fish populations and lead toward progress in achieving natural production targets for the tributaries. Please refer to Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for the consideration of the purposes and goals of the plan amendments in connection with the alternative development process. Chapter 3, Alternatives Description, the Planning, Monitoring, and Reporting subsection under Section 3.3.8, Common Elements of the LSJR Alternatives, describes the program of implementation to be carried out by the STM Working Group or State Water Board. Master Response 2.1 and Master Response 2.2, Adaptive Implementation, also provide more details regarding adaptive implementation and the development of biological goals and objectives in response to implementation of the plan amendments. The plan amendments allow implementation of a range of 30 to 50 percent of unimpaired flow and this range would be more likely to both meet most of the purposes and goals of the plan amendments while potentially having fewer impacts on the environment, as described in Chapter 18, Summary of Impacts and Comparisons of Alternatives, Master Response 2.1, and Master Response 2.4.
1206	5	While the higher flows of LSJR Alternative 4 are more likely to provide the temperature benefits necessary for fish (see e.g., Draft SED 19-20), the Draft SED does not consider this a sufficient reason to make it the recommended alternative, on the theory that LSJR Alternative 3 has less impacts. Yet LSJR Alternative 3 has significant and unavoidable impacts in the same resource areas as those of LSJR Alternative 4: groundwater, recreational resources and aesthetics, agricultural resources, service providers, and energy and greenhouse gases. Draft SED 18-5.	Please refer to Master Response 1.1, General Comments, regarding the alternatives and their development, including response to comments suggesting the need for higher flow requirements. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments regarding the science and policy justification of the plan amendments. The plan amendments allow implementation of a range of 30 to 50 percent of unimpaired flow and this range would be more likely to both meet most of the purposes and goals of the plan amendments while potentially having fewer impacts on the environment, as described in Chapter 18, Summary of Impacts and Comparisons of Alternatives, Master Response 2.1, and Master Response 2.4.
1206	6	The Draft SED's discussion of agricultural resource impacts declines to tease out how many of those impacts could be further mitigated through changes in farming techniques. Draft SED 11-50, 11-55. The Draft SED discloses that it left that issue unaddressed because the Board does not believe it has authority to order such mitigation as part of the plan amendment. Draft SED 11-50. That excuse doesn't hold water. Whether or not the Board has that authority, CEQA requires analysis of these unexamined mitigation measures. It is settled law that the environmental document must identify feasible mitigation measures regardless of whether such mitigation falls within the Board's--or some other agency's--authority. City of Marina v. Board of Trustees (2006) 39 Cal. 4th 355, 366; Habitat and Watershed Caretakers, supra, 213 Cal.App.4th at 1304-1305. The Draft SED's failure to address ways in which impacts to agriculture may be reduced through improved irrigation practices allows the document to overstate the potential harms to agriculture, and improperly skews the analysis in favor of LSJR Alternative 3's needlessly less-protective flow regime. CEQA forbids this omission of potentially feasible mitigation measures. Id.	Please see Master Response 1.1, General Comments, regarding the mitigation measures proposed throughout the SED, including Chapter 11, Agricultural Resources, 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.

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1206	7	Ill-conceived adaptive management fails fish and the industries that depend upon them. "Adaptive management," as practiced in the Delta, has been a disaster for fish. It is little more than a euphemism for water to be diverted for agricultural interests at the expense of fish. Between repeated temporary "urgency" change petitions, fuzzy annual water forecasting, and other "adaptive decision-making," the protective measures that should be enforced to prevent the collapse of fish species are repeatedly and routinely weakened or ignored altogether. The Plan Amendment goal of "allow[ing] adaptive implementation of flows that will afford maximum flexibility in establishing beneficial habitat conditions for native fishes, addressing scientific uncertainty and changing conditions, developing scientific information that will inform future management of flows, and meeting biological goals, while still reasonably protecting the fish and wildlife beneficial uses" continues this troubling trend of substituting nice-sounding verbiage for actual protection. The amorphous and abuse-inviting adaptive implementation component of the Plan Amendment does not provide sufficiently specific and enforceable parameters to prevent decisions that will undermine the health of the Delta. Absent firm standards and stringent enforcement, adaptive management will continue to operate as the elephant-under-the-rug exception that swallows the protections of any plan amendment the Board adopts. LSJR Alternative 3's adaptive management component relies heavily upon the STM Working Group to "do the right thing" for fish. As conceived, the STM Working Group includes water users and resource agency representatives. Draft SED Appendix K-32. While the STM Working Group ostensibly includes the Department of Fish and Wildlife, NMFS and the U.S. Fish and Wildlife Service ("USFWS"), two of these agencies may be unable to participate. NMFS has informed the Board that it lacks the resources needed to do so. NMFS Presentation, Slide 8. Likewise, USFWS has hinted that it is not sure how much time it can devote to participating. Testimony of Mr. Ratcliff (Jan 3. 2017), 121:20-22. If the federal resource agencies tasked with protecting and managing the fisheries most impacted by changes in flow cannot participate in the adaptive management process, the risks of ill-considered adaptive decision-making become even higher. The Draft SED clearly establishes both that LSJR Alternative 4, and not LSJR Alternative 3, should be adopted by the Board, and that the adaptive implementation approach addressed in the Draft SED must be substantially revised to prevent mischief.	Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, and Master Response 2.2, Adaptive Implementation, for responses to comments and information regarding the plan amendments, the STM working group and its ability to implement adaptive measures even with limited participation, biological goals, adaptive implementation, and the difference between adaptive implementation and adaptive management. In the absence of any adaptive implementation, the starting flow is much higher than baseline flows. Adaptive implementation allows for maximum flexibility so that even greater benefits can be achieved with the same quantity of water. Conditions will also be better than baseline if the Board approves a recommendation to reduce February through June flows to the low end of the required flow range (30 percent of unimpaired flow). This provides a firm flow objective that reasonably protects the fish and wildlife beneficial use. Master Response 2.2, Adaptive Implementation, provides additional description and examples of adaptive implementation and the bounds under which it may proceed.
1206	8	The Draft SED indicates that any salinity objective more stringent than the 2006 Delta Plan's 0.7 deciSiemens per meter ("dS/m") [Footnote 2: The existing objective can also be expressed as 0. 7 millimhos per centimeter ("mmhos/cm").] objective for measuring salinity (via electrical conductivity) from April l to August 30 is infeasible. Draft SED 3-38. The recommended alternative--South Delta Water Quality ("SDWQ") Alternative 3--for salinity would relax this standard to 1.0 dS/m year round, and the other alternative studied in the Draft SED (SDWQ Alternative 4) would eviscerate this standard even further. [Footnote 3: The Draft SED states that these alternatives would not remove Revised Decision 1641's conditions on USBR's water rights that require electrical conductivity levels of0.7 mmhos/cm from April to August at Vernalis. Draft SED ES-50, 18-2; Draft SED Appendix K-42.]	This comment describes the SDWQ alternatives, but does not raise a significant environmental issue. 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. See also Master Response 2.1, Water Quality Control Plan Amendments, for information regarding the salinity objectives and modifications to the related program of implementation in Appendix K, Revised Water Quality Control Plan.
1206	9	Despite the plan to relax [SDWQ] standards, the Draft SED claims that the proposed changes "will not result in a lowering of the water quality in the Stanislaus, Tuolumne, and Merced Rivers, the [Lower San Joaquin River], and the southern Delta." Draft SED 23-7. Why?	Please see Master Response 3.3, Southern Delta Water Quality, for responses to comments regarding why the southern Delta Salinity objectives are being updated and discussion of why the update will not cause

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		Because despite the existing standard's adoption in 1978, the Board has continually kicked the compliance deadline down the road. See Draft SED 23-5 through 23-6. Now, nearly 40 years later, the Draft SED claims that relaxing the standard does not violate state and federal antidegradation policies because the current standard is so often exceeded that relaxing it will not alter the water quality! This repeated, shameless relaxation of the existing standard strikes at the heart of the anti-degradation requirements, which exist to restore and maintain water quality, not allow its repeated degradation. [Footnote 4: The Clean Water Act's anti-degradation standard is codified in 40 C.F.R. § 131.12 (48 Fed. Reg. 51405 (Nov. 8, 1983) as amended 80 Fed. Reg. 51047 (Aug. 31, 2015)). Pursuant to the Porter-Cologne Act's mandate that state water quality standards be no less stringent than the Clean Water Act's (Water Code § 13377), this Board adopted California's Anti-Degradation Policy in Resolution No. 68-16. Association de Gente Unida par el Agua v. Central Valley Regional Water Quality Control Board (2012) 210 Cal.App. 1255, 1278-1286 (citing Res. No. 68-16 and this Board's Guidance Memorandum (Feb. 16, 1995) at 4-6).]	degradation of water quality.
1206	10	The Draft SED examines its proposed relaxation of salinity standards only through the lens of its impacts to agricultural users, ignoring all other beneficial users of water. The Draft SED does not seriously consider whether less protective salinity standards would impact other water dependent resources. Indeed, while the Draft SED indicates that recreationally important species exist in the southern Delta, it assumes that the change in salinity standards would have no impact on them. But there is no factual basis for this assumption. To the contrary, previous scientific reviews have concluded that greater salinity levels harm fish. For example, prodded by a federal court order secured by a broad coalition of environmental organizations, in 1995 the Environmental Protection Agency adopted a salinity standard of 0.44 dS/m at Vernalis. See 60 F.R. 4664, at 4696 (Jan. 24, 1995); see also 40 C.P.R. 131.37. This federal standard was established primarily to protect recreational beneficial uses including the sport fishery, and remains in place today. Yet the Draft SED does not even acknowledge this existing standard, let alone the science behind it. Nor does the Draft SED address whether other special status or recreational species would benefit from this more stringent salinity requirement. Instead, the Draft SED assumes that any change in the salinity standard "would not affect aquatic biological resources," because the existing environment is already so degraded. Draft SED 7-1. That logic turns water quality protection on its head.	Please refer to Master 3.3, Southern Delta Water Quality, for information regarding the proposed update to the southern Delta salinity objective and water quality in the southern Delta. Agricultural beneficial use is the most sensitive use requiring protection for the range of salinity conditions encountered in the southern Delta. The southern Delta salinity objectives were adopted to protect agricultural beneficial uses. The SED's conclusion that aquatic biological resources will not be impacted by the change in the salinity objective is supported by the analysis. As stated in Chapter 7, Aquatic Biological Resources, fish species identified in Table 7-2 "are able to tolerate salinity changes within the range of 0.2 dS/m and 1.2 dS/m, as these salinity levels are within the general historical salinity conditions of the southern Delta." Under the updated salinity objectives it is not expected that salinity conditions in the southern Delta would exceed this range because the USBR will be required 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, to provide assimilative capacity downstream of Vernalis. Please see Chapter 7, Aquatic Biological Resources, Section 7.4.2 Methods and Approach, for a discussion of why the SDWQ alternatives will not impact aquatic biological resources. See Master Response 3.3 for information why water quality in the southern Delta will not be degraded. Finally, please see Master Response 3.1, Fish Protection, for discussion of the 1994 USEPA water quality standards.
1206	11	The Draft SED does not provide a detailed analysis of how ongoing operations of the Central Valley Project and State Water Project--ostensibly part of the baseline condition--impact salinity in the southern Delta, including its assimilative capacity. Draft SED ES-50, 23-7; Draft SED Appendix K-42-Appendix K-46. Instead, this essential analysis is impermissibly deferred until after the Plan Amendment is implemented. Rather than address these impacts before amending the plan, SDWQ Alternatives 2 and 3 merely propose that a "Comprehensive Operations Plan" someday be prepared for these water projects. Id. Included in this plan-to-adopt-a-plan is a requirement that "DWR and USBR" must "recommend specific alternative compliance locations in, and monitoring protocols for, the three river segments" that are identified in the Draft SED as the compliance locations for the Plan Amendment. Draft SED ES- 50; Draft SED Appendix K-43. For all we know, the future studies required by the Plan Amendment will show that the relaxed standard increases salinity and harms fish in	The SED appropriately describes existing conditions in the southern Delta to inform the assessment of physical environmental and other impacts. Please see Master Response 2.5, Baseline and No Project, for information regarding baseline conditions. The basis for the southern Delta water quality plan amendments is well documented in the SED and does not rely on future studies for support. The plan amendments require the development of additional information through the Comprehensive Operations Plan (COP), monitoring, special studies, and reporting to address the impacts of Central Valley Project and State Water Project operations on southern Delta salinity levels and to implement and determine compliance with the plan amendments. Please see Master Response 2.1, Water Quality Control Plan Amendments, for information about the southern Delta water quality plan amendments. Master Response 3.3, Southern Delta Water Quality, provides information about the scientific basis for the plan amendments, the responsibilities of DWR and USBR under the plan amendments, the COP,

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		southern Delta reaches. This Board's approve first, study second approach precludes informed decision-making regarding the appropriateness of the Plan Amendment. Worse, it ignores the indisputable need for addressing now the degraded salinity conditions throughout the waters that the Plan Amendment would govern.	and monitoring requirements.
1206	12	The Board's Plan Amendment must be returned to the drawing board. It lacks the specific, protective and enforceable standards needed to restore the Delta's beleaguered fisheries. The dewatered proposal that has been put forward must accordingly be withdrawn.	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. Additionally, as described in the Executive Summary, and various locations throughout the SED, the plan amendments will significantly increase flows during the February–June salmon outmigration period, compared to the current condition. Please refer to Master Response 3.1, Fish Protection, for information regarding the adequacy of the plan amendments for protecting fish.
1207	1	Stanislaus River Water Rights and CCWD [Calaveras County Water District] Resource Management Objectives CCWD is a county water district whose boundaries encompass approximately 650,000 acres of land ranging from the valley floor of the San Joaquin Valley to the Sierra Nevada Mountains. CCWD holds significant water rights, including, but not limited to, water rights on the Calaveras and Stanislaus Rivers. Among other rights, CCWD holds the oldest pre-1914 water rights on the Stanislaus River as well as significant post-1914 consumptive permitted rights for both storage and direct diversion. Within the Plan Area as defined in the SED, CCWD holds re-diversion rights at Lake Tulloch. This service area includes year-round and seasonal residential populations as well as significant recreational use and commercial use. The unimpaired flow regime proposed in the SED may result in impacts far upstream of the "rim dam" on the Stanislaus: New Melones. CCWD has a long-term objective of maintaining safe, affordable and reliable access to water for our residents, communities, and upstream-ecosystem. This includes management of headwaters, watersheds and forests, and restoration of upstream ecosystems. District efforts include its Urban Water Management Plan, Capital Improvement Plan, participation in two Integrated Regional Water Management Plans (Mokelumne, Amador, Calaveras and the Tuolumne-Stanislaus) and a Groundwater Sustainability Agency in the Eastern San Joaquin Groundwater Subbasin. In short, CCWD carries out ongoing planning efforts to optimize the beneficial utilization and responsible stewardship of its natural resources. While CCWD strives to achieve its goals, it is appreciative of the Board's attempts to resolve the challenges of a sound, sustainable, water quality control plan for the Delta. As the Board conducts its analysis, CCWD requests that its Stanislaus River consumptive water rights be considered in full.	Please see Master Response 1.1, General Comments, for responses to comments regarding water rights, program-level document, and program-level analysis. Please see Master Response 1.2, Water Quality Control Planning Process, for responses to comments regarding the phased approach to the planning process, the distinction between the program of implementation and implementation of objectives in the Bay-Delta Plan through water rights proceedings, and general information regarding the water rights and the program of implementation in the Bay-Delta Plan.
1207	2	Groundwater Management CCWD [Calaveras County Water District] overlies the critically over-drafted Eastern San Joaquin Groundwater Sub- basin, and has a long history of proactive management of groundwater resources in the region. Prior activities have included CCWD's groundwater management plans of 2001 and 2007. CCWD's role in managing groundwater resources within the Stanislaus River watershed and the sub-basin will continue under the Sustainable Groundwater Management Act (SGMA). Specifically, CCWD is currently forming a Groundwater Sustainability Agency in conjunction with other local agencies in Calaveras and	The State Water Board appreciates the efforts of CCWD to manage groundwater resources and comply with SGMA. The level of detail in the SED is reasonable and appropriate for a program-level analysis and is not meant to be, nor required to be, a site-specific analysis. The State Water Board strived to use the best available science throughout the groundwater impacts analysis, consistent with State CEQA Guidelines. Please see Master Response 1.1, General Comments, for discussions of the programmatic scope of the SED and CEQA requirements for program-level analysis. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for

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		Stanislaus Counties and will continue to responsibly manage groundwater resources. Given its significant surface water resources and its responsibilities under SGMA, CCWD intends to put its resources to use for the benefit of the region and assist in bringing the over-drafted groundwater sub-basin into a sustainable condition. The District requests that its role and efforts be incorporated into the Board's analysis. CCWD is concerned that the SED has not adequately identified or analyzed impacts to CCWD's interests - including but not limited to water supplies and sustainable groundwater management - and must be revised to include such analysis and disclosure. The very purpose of CEQA is, among others, to disclose to the public the significant environmental effects of a proposed discretionary project and to fully disclose to the public the agency's decision-making process [Footnote 1: Ca. Pub. Res. Code. §21000 et seq.]. In its current form the SED does neither.	discussions of the approach to the groundwater impact analysis and compliance with SGMA in the context of the plan amendments.
1207	3	Integrated, Comprehensive Solution for the Delta A healthy functioning Delta ecosystem as proposed in the Delta Plan [Footnote 2: CWC §85059] will not result from the application of an unimpaired flow regime for San Joaquin River tributaries or even additional (Phase II) Sacramento River main-stem and tributary flows. The need is for a more comprehensive, long-term, sustainable, ecosystem-based management program that addresses the co-equal goals [Footnote 3: CWC §85020, §85021 and §85054] of Delta Policy. This will require a focus on the multitude of species dependent on the Delta and its tributaries, including their requisite habitat and life cycle requirements. By definition this will include non-flow actions such as the management of predator species, the creation of suitable habitat, a coordinated water export/net Delta outflow operation, as well as pollution control, floodplain management, stream channel restoration and effective groundwater management and recharge. Integrated resources management will be essential to achieving the protection of beneficial uses of water as well as sustaining the Delta ecosystem.	The State Water Board agrees that an integrated, comprehensive approach to protect the Delta ecosystem is needed. The State Water Board also recognizes the importance of implementing non-flow measures for fisheries recovery. Please refer to Master Response 5.2, Incorporation of Non-Flow Measures regarding the role of non-flow measures in the plan amendments. The State Water Board recommends, but does not require, that non-flow measures be included as part of a comprehensive effort to address Delta aquatic ecosystem needs, as set forth in Appendix K, Revised Water Quality Control Plan. For further discussion regarding the State Water Board's authority related to non-flow measures, and consideration of non-flow measures in the plan amendments, please see Master Response 5.2, Incorporation of Non-Flow Measures. Please see Master Response 1.1, General Comments, regarding the Delta Reform Act and the co-equal goals of water supply reliability and ecosystem restoration.
1207	4	A rigorous science program coupled with real-time adaptive management, so as to better inform Delta managers and the Board consistent with the restoration objectives, must support these efforts. The SED's proposed unimpaired flow application to tributaries is not linked to any clear ecosystem objective. Indeed, the Delta Independent Science Board has called for the use of a more natural flow regime created to meet specific aquatic ecosystem needs based on location, duration , quantity, and temperature. An unimpaired flow "solution" will fail absent the use of other integrated resource actions.	Refer to Master Response 2.2, Adaptive Implementation, and Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments regarding the program of implementation, adaptive methods, biological goals, the San Joaquin River Monitoring and Evaluation Program. Specifically refer to biological goals in each Master Response.
1207	5	A comprehensive approach can best be achieved through collaborative, voluntary solutions created and supported by local water government agencies, NGO's, the California Natural Resources Agency and other state and federal agencies. The utility of negotiated agreements are a proven approach to resolving complex resource management challenges. Resource managers as well as local, state, and federal agencies have supported these sorts of voluntary agreements that in turn produced successful outcomes. We urge the Board to allow the time, following the end of the SED comment period, for the development of such voluntary agreements, as encouraged by the Governor's office. In summary, as the Board moves towards implementing its requirements under the Bay-Delta Plan, CCWD [Calaveras County Water District] stands ready to be a willing partner to assist in meeting both the Board objectives as well as improving regional conditions. CCWD	Please see Master Response 1.1, General Comments, and Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments by the State Water Board supporting voluntary agreements. Although the public comment period has ended, this does not preclude the continuation of the settlement process, nor would adoption of the plan amendments preclude voluntary agreements. The State Water Board oversees and regulates water right and water quality and, as such, holds the authority to approve voluntary agreements to implement the Bay-Delta Plan. The State Water Board thanks the Calaveras County Water District for their support and interest in participating in the voluntary agreements.

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		believes the Governor's September 19, 2016 call to work towards voluntary agreements achieves these ends, and welcomes the opportunity to cooperatively work on the solution. We therefore request that CCWD be included in any "settlement" discussions related to the Stanislaus River and its tributaries.	
1208	1	The Cities of Escalon, Lathrop, Manteca, Ripon and Tracy, along with South San Joaquin Irrigation District (SSJID), are united in voicing our strong opposition to the Water Quality Control Plan Phase 1 Substitute Environmental Document. This proposal, requiring 30-50% of unimpaired flows from the Merced, Tuolumne and Stanislaus Rivers, signals a significant water supply threat to the nearly 200,000 residents, thousands of businesses and tens of thousands of acres of irrigated agricultural fields who rely on the Stanislaus River for our current and future water demands. We oppose your plan for many valid reasons. Not only will it significantly harm agriculture, which is so vital to our economy--but it will also result in dramatic loss of supply for urban use, and drive local water users to rely on groundwater basins that are already identified by the Water Board as experiencing critical overdraft.	Please see Master Response 1.1, General Comments, acknowledging the concerns of elected officials and community members and for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments.
1208	2	In 1995, the Cities collaborated with SSJID to develop the South County Water Supply Project to deliver reliable, Stanislaus River water supplies to our Cities (with Ripon expressing a desire to join at a later date when funding becomes available). The Cities pursued this program, understanding that quality and quantity concerns for groundwater sources could only increase over time and that future water demands would require a more diverse and secure water supply portfolio for the health and welfare of our residents. This program culminated in the design and construction of the Nick C. DeGroot Water Treatment Plant and 40 miles of delivery pipelines in 2005. Through SSJID's operation of the Water Treatment Plant and associated distribution facilities, our Cities receive quality drinking water that meets and exceeds the state's water quality standards. This facility, capable of treating and delivering approximately 42 million gallons per day, provides up to 70 percent of the water demand for our Cities annually and is a critical resource for meeting our current and future water supply needs. This investment for our current and future needs came at a significant cost to our Cities and the ratepayers who paid for these facilities. The Cities collectively have invested over $127,000,000 in the construction and operation of the water treatment plant and pipelines to deliver the treated water to four cities. The plant and delivery pipelines were also designed to accommodate future expansion in a manner that is economically feasible for our Cities to meet future projected growth. Under the Water Supply Development and Operating Agreement between the Cities and SSJID, our regional urban and agricultural water supplies are treated equally. The agreement states: "Any shortage or interruption in the supply of water available to the District shall be allocated by the District between agricultural users and the Project Participants such that any percentage reduction in the delivery of water to the City is approximately equal to the percentage reduction in the delivery of water to the District's agricultural customers." The most recent drought period caused SSJID to trigger water supply reductions for the Cities and District agricultural customers by 20 percent and 16 percent in 2015 and 2016, respectively. With implementation of the SED as proposed, these reductions will occur	The South County Water Supply Project (SCWSP) began deliveries in 2005. Between 2005 and 2015, SCWSP's combined yearly deliveries to Lathrop, Manteca, and Tracy (LM&T) ranged from a low of 6,493 af in 2005 to a high of 20,361 af in 2013, or less than half the capacity stated in the comment. Escalon did not utilize water from SSJID via the SCWSP because it did not have the infrastructure to do so (Lathrop 2017, Manteca 2016, Tracy 2016, SSJID 2015). As stated by commenters, Ripon does not receive water supplies from the SCWSP. In addition, according to the urban water management plans of LM&T as well as SSJID, there are no immediate plans to implement the Sacramento Bay-Delta watershed update expansion of the SCWSP. It is speculative to assume what actions LM&T would take in response to reduced surface water supplies from SSJID because LM&T have diversified water supply portfolios and are not wholly dependent on the SCWSP for their water supplies. For example, since 2011, Lathrop reduced its use of SCWSP supplies from 28% of its portfolio (1,053 af) to 7% of its portfolio in 2016 (252 af) citing cost (Lathrop 2017). Moreover, as required by state law, all three agencies are actively engaged in water supply planning, including conservation, recycling, and drought contingencies. SSJID's maximum contractual entitlement for surface water is 300,000 af. During the height of the drought, in 2015, SSJID received approximately 225,000 af of its contractual entitlement. According to SSJID's 2015 UWMP it delivered 16,009 acre-feet (af) of surface water supply to LM&T from the SCWSP (SSJID 2015). That 16,009 af represented about 7% of SSJID's supplies with the other 93% destined for agricultural use. As stated by the commenters, the 16,009 af was a 20% reduction to the requested supply; therefore, the base amount is approximately 20,000 af. For illustrative purposes, assume a 60% reduction to a base amount of 20,000 af were imposed equally upon agricultural and urban users. A 60% reduction would be 8,000 af. This means that the difference between the 20% reduction that occurred in 2015 and a 60% reduction is also about 8,000 af. The 8,000 af that would be denied to LM&T only represents an increase of approximately 3.6% to agricultural irrigation supplies. Furthermore, 8,000 af is well within the capacity that can be replaced by available groundwater from standby wells. There is no support for Commenters' inferences that human health and safety will be impacted by the plan amendments. The Water Efficiency Act of 2009 identified 55 gallons per capita per day (55 gpcd) as a provisional conservation standard for indoor water use (Water Code 10608.20(b)(2)(A)). This was not a "health and safety" level, it was a conservation target. For example, a 2012 study by the London School of Economics chastised the British for "using too much" water at an average daily rate of approximately 40 gpcd (150 liters) as compared to Germany's rate of approximately 32 gpcd (122 liters) and Lithuanian's

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		regularly, and will cause the Cities to strand infrastructure investment in the water treatment plant by as much as $63,000,000. The plan also seeks to extend and worsen drought conditions like the most recent drought period, significantly reducing the availability of critical water supply needs for health and human safety. These losses serve as a two pronged attack on our cities and our ratepayers, by both reducing the water supply, and by burdening our ratepayers with continued payment of encumbered debt for the surface water project without fully realizing future water quality and supply benefit of this significant investment.	"sustainable" rate of 23 gpcd (85 liters) (LSE 2012). The primary water use in LM&T is single family residential. Approximately 50% of all single family residential water use is outdoor landscaping (PPIC 2016). Lathrop currently has a water conservation goal of 188 gpcd by 2020 but reached 148 gpcd in 2015. Similarly, Manteca and Tracy have goals of 179 gpcd and 181 gpcd by 2020, respectively, but reached 139 gpcd and 146 gpcd, respectively, in 2015. (Lathrop 2017, Manteca 2016, Tracy 2016). England is a wet country; thus, it can be assumed minimal water use is needed for outdoor landscaping. Nevertheless, at the height of the California drought, the best conservation rate achieved among LM&T (139 gpcd) was still almost 250% more than the average current use in England. This gap between the cities' efficiency potentials and current usage also shows that that assertion that residential growth will require ever increasing regional water supplies is likewise unsupported. In fact, in California's largest metropolitan areas, water use has fallen despite population growth. This is because per capita water use has been decreasing, from an average of 232 gpcd in 1995 to 178 gpcd in 2010. In 2015, this reached 130 gpcd due to drought-related conservation. In addition, agricultural water use is decreasing even as the economic value of farm production is growing. (PPIC 2016). Moreover, cities such as Manteca have identified that where urban growth is occurring on irrigated agricultural land, the raw agricultural water supply of the annexed lands could either be treated for potable municipal use or used to offset potable water for irrigation (2016 Manteca). SSJID disputes that the city will necessarily be entitled to this water. But what this illustrates is that the trend for meeting water for urban growth is a portfolio approach that includes serving more uses with the same amount of water through increased efficiencies, reusing water multiple times by recycling, moving water from one use to another, and other strategies. In summary, Escalon and Ripon do not currently receive water from the SCWSP and the water supply portfolios of LM&T are diverse and not limited to the SCWSP. In addition, the current water use of LM&T leaves significant room for conservation and improvements. Moreover, SSJID's deliveries for domestic use comprise a small proportion of its overall demand and domestic use is established by the state to be the highest use of water (Wat. Code § 106). For all of these reasons, the conclusion that commenters would be affected by a reduction in water to SSJID in the way that is described is speculative and based on an unsupported assumption that the cities could not negotiate, purchase, or otherwise develop additional water supplies, including through conservation and recycling. In addition, please see Master Response 8.0, Economic Analyses Framework and Assessment Tools, for a description of how economics are considered in the SED and the analytical framework and the tools used. Please see Master Response, 8.4, Non-Agricultural Economic Considerations, regarding water supply uncertainty on infrastructure planning and potential municipal economic considerations. In addition please see Chapter 20, Economic Analyses, Section 20.3.3, Effects on Municipal and Industrial Water Supplies and Affected Regional Economies, Affected Water Districts, for a discussion of infrastructure and potential ratepayer effects, specifically related to SSJID.
1208	3	Undoubtedly, you are aware that the SED will not only devastate our reliable surface water supplies, but will also have an immediate impact on the ground water supply in the region. To account for lost surface water, urban and agricultural users will be forced to increase ground water pumping, further over drafting the water table in a basin that is already critically over rafted. Furthermore, with the backdrop of the Sustainable Groundwater Management Act, this proposal will take away critical water supplies legally necessary to balance and protect against undesirable effects to our local groundwater basins for future generations.	Please see response to comment 1208-2. Please also see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding the groundwater impact analysis, the potential for increased groundwater pumping, and SED consideration of SGMA.
1208	4	We support a comprehensive approach to finding solutions for water reliability while maintaining healthy ecosystems, but not by sacrificing the local economy of our region for a	Please see Master Response 1.1, General Comments, and Master Response 2.1, Amendments to the Water Quality Control Plan, regarding voluntary agreements and how such agreements could include both flow and

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		plan that provides nominal fishery benefits. We feel that the multi-pronged approach that many of the regional irrigation and water districts have proposed to you--not strictly water flow, but a suite of functional flows, non-flow measures, and predation suppression--will result in a more workable long-term solution versus your proposal to commandeer surface water that has already been contractually committed to other uses.	non-flow measures. Please see Master Response 2.2, Adaptive Implementation, for a description of the adaptive adjustments included in the program of implementation that allow unimpaired flows to be shaped or shifted between February and June to provide more optimal flow patterns and more functionally useful flows to increase benefits to fish and wildlife. Please see Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, for a discussion as to why suggested plans and proposals submitted as alternatives to the LSJR flow objectives are infeasible. Please see Master Response 3.1, Fish Protection, regarding the scientific justification for the use of unimpaired flow and unimpaired flow as functional flow. Please see Master Response 5.2, Incorporation of Non-Flow Measures, for a description of how non-flow measures complement but do not supplant the need for increased instream flow. Please see Master Response 8.0, Economic Analyses Framework and Assessment Tools, and Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for information regarding effects on the local economy.
1208	5	We implore the SWRCB to meet with the urban and agricultural surface water users who would face catastrophic losses from your proposal, and work out a compromise through settlement that balances regional fishery and urban/agricultural water supply needs.	Please see the Executive Summary, Master Response 1.1, General Comments, and Master Response 1.2, Water Quality Control Planning Process, for information regarding the State Water Boards' outreach and consultation efforts in developing the plan amendments, and for further discussion regarding the consideration of beneficial uses. Please also see Master Response 1.1 and Master Response 2.1, Amendments to the Water Quality Control Plan, regarding State Water Board support for voluntary agreements.
1209	1	I am writing to express my opposition to the suggested flow requirements stated in the State Water Resources Control Board's Bay-Delta Plan, Phase I Revised Draft Substitute Environmental Document (SED). The proposed actions outlined in the plan would cause irreversible harm to my constituents in the 5th Assembly District and fails to achieve a balanced approach of meeting the coequal goals of California's water policy. It is my position that any State Water Board proposal to increase unimpaired flows must be balanced and collaborative so that it meets the commitment of improving California's water supply reliability and ecosystem health. More than once during the state's six year prolonged drought, the State Water Board has taken actions that do not reflect this commitment, and has proposed regulatory edicts that have only served to increase conflict between California's water users. The Revised SED unfortunately is no exception.	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.
1209	2	The Draft flow objectives released by the State Water Board will unequivocally create significant impacts to those within the San Joaquin River watershed and others, and ignores the millions of dollars already invested by local agencies for ecosystem improvements. Recently, the Modesto and Turlock Irrigation Districts released data indicating that had the SED's unimpaired flows been in effect in 2015, the economic impacts would have included $1.6 billion in output loss, $167 million in farm products, $330 million in wages, and 6,576 jobs lost within the serviceable regions. An additional economic analysis conducted by the San Francisco Public Utilities Commission indicated a result of 140,000 to 180,000 jobs lost in the Bay Area, with $37 billion to $49 billion in economic losses. These numbers are unacceptable, and further questions the reliability of the State Water Board 's own initial economic impact analysis resulting in a mere $64 million loss as a result of the unimpaired flow requirements. Fu1iher, MID and TID have invested $25 million to develop science-based solutions for the Tuolumne River to address the same concerns that the State Water Board is hoping to solve through the SEO. These efforts utilize non-flow solutions, such as habitat improvements, river restoration, and predation suppression, and have provided measurable and quantifiable benefits.	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.
1209	3	The State Water Board's SED further imperils many San Joaquin valley communities struggling with drinking water quality and quantity difficulties. The proposal also upsets	Please see Master Response 1.1, General Comments for responses to comments that either make a general

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		nearly two years of work by local agencies to achieve state-mandated goals as outlined in the Sustainable Groundwater Management Act (SGMA). The State Water Board's own analysis encourages exacerbating current groundwater overdraft by 105,000 acre-feet per year (TAF/yr). Further, given that there is an existing 45 TAF/yr deficit in current ground water supplies, the unmet agricultural water demand has the potential to increase by 137 TAF/yr to 182TAF/yr i n the plan area. In fact, the State Water Board identifies seven subbasins underlying the plan area, four of which are identified as critically overdrafted and on an expedited timetable for SGMA implementation. Impacts from flow increases, as described in the SEO, will make it nearly impossible for local agencies to provide adequate groundwater recharge, increase conjunctive use and manage groundwater sustainably. We should allow our local agencies to continue their efforts towards greater groundwater sustainability, as is required by SGMA, instead of changing the conditions and making it more difficult to achieve success. The SED ties the hands of local water managers and makes it more difficult to find comprehensive solutions to their groundwater problems.	comment on the plan amendments or do not raise significant environmental issues.
1209	4	California's communities and industry need reliable water supplies, and simply reallocating hundreds of thousands of acre-feet of water for unestablished environmental goals to the detriment of all other water users is unacceptable. The SEO purports to be an adaptive management plan; however the crux of adaptive management is to learn from early stream studies and make changes, accordingly, as more information is amassed. A decade of simply increased water flows for temperature control, salinity mediation and other reasons has done little to improve the environmental conditions of our fish species. I will support efforts that are part of a comprehensive plan that would include components like predator suppression, managing our water in ways that mimic natural flow variability, and effectively managing or changing the timing of water releases from our reservoirs. A multi-pronged effort is needed, one that meets the co-equal goals established by the Legislature, includes clear and established goals for ecosystem improvement or restoration, has been vetted via stakeholder involvement and discussion with the State Water Board, and has public support with the plan 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.
1210	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 the City of Foster City/Estero Municipal Improvement District 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.
1210	2	The City of Foster City/Estero Municipal Improvement District has made significant strides in water conservation in the past 10 years. Residential per capita water use has decreased 32.6%, from 95 gallons per capita per day (gpcd) to 65 gpcd.	The State Water Board acknowledges the City of Foster City/Estero Municipal Improvement District's water conservation efforts and ongoing commitment to demand management of its water supply. This comment does not raise significant environmental issues or make a general comment regarding the plan amendments.
1210	3	Based on the City of Foster City/Estero Municipal Improvement District's 2015 Urban Water Management Plan, this significant cut to water supply would force the City of Foster City/Estero Municipal Improvement District to take a number of significant actions,	Please see response to comment 1210-1. 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

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		including further water restrictions to water consumption such as reducing water budgets for landscape irrigation, as well as measures identified by the City in the City's Municipal Code and to minimize nonessential uses of water so that water is available for human consumption, sanitation, and fire protection.	environmental issues.
1210	4	The City of Foster City/Estero Municipal Improvement District serves water to 37,518 residential customers, over 1,000 businesses, and approximately 15,000 non-residential employees working in Foster City. 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 City of Foster City/Estero Municipal Improvement District service area. Since outdoor use represents a relatively small proportion of the City of Foster City/Estero Municipal Improvement District'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.	Please see response to comment 1210-1. 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, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System, regarding economic considerations, growth effects, and demand management.
1210	5	The City of Foster City/Estero Municipal Improvement 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 comment 1210-1 and 1210-4. 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.
1210	6	The Governor has indicated his strong support for negotiated voluntary agreements to resolve these issues. The City of Foster City/Estero Municipal Improvement District requests that the SWRCB provide adequate time for voluntary agreements 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. The City of Foster City/Estero Municipal Improvement District shares BAWSCA's 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.
1211	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 the Westborough Water District under the SED proposal could be reduced 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.
1211	2	Westborough Water District has made significant strides in water conservation in the past 10 years. Residential per capita water use decreased 21.4% from 84 gallons per capita per day (gpcd) to 66 gpcd.	The State Water Board acknowledges the Westborough Water District water conservation efforts and ongoing commitment to demand management of its water supply. This comment does not raise significant environmental issues or make a general comment regarding the plan amendments. Please see response to comment 1211-1.

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1211	3	Based on Westborough Water District 2015 Urban Water Management Plan, this significant cut to water supply would force the Westborough Water District to take a number of significant actions including, but not limited to, prohibit use of potable water for construction and dust control, prohibit potable water service provided to landscape accounts, prohibit all landscape irrigation, establish moratorium on new connections and new landscape accounts, and minimize nonessential uses of water so that water is available for human consumption, sanitation, and fire protection.	Please see response to comment 1211-1.
1211	4	Westborough Water District serves water to 4,510 residential customers and over 45 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 Westborough Water District service area. Since outdoor use represents a relatively small proportion of the Westborough Water District'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.	Please see responses to comments 1211-1. 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, Assessment of Potential Effects on the San Francisco Bay Area Regional Water System, regarding economic considerations, growth effects, and demand management.
1211	5	In the light of these impacts articulated in the BAWSCA and SFPUC comment letters incorporated here by reference, the Westborough 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 responses to comments 1211-1 and 1211-4. 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.
1211	6	The Governor has indicated his strong support for negotiated voluntary agreements to resolve these issues. The Westborough Water District requests that the SWRCB provide adequate time for a voluntary agreements 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. The Westborough Water District shares BAWSCA 's 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.
1212	1	The unimpaired flow (UF) approach improves hydrological conditions for native fish species such as salmon. By more closely mimicking the natural variability in hydrology of the rivers, the unimpaired flow approach offers greater protection to native fish and wildlife and the river ecosystem than the existing fixed monthly flow. As the Delta Independent Science Board noted in its 2012 review of this approach, "unimpaired flow comes closer to approximating natural flow, and it does so more transparently" (Delta Independent Science Board 2012). This approach has been widely studied and provides significant ecological benefits for native species (Fleenor et al. 2010, Poff et al. 2009, Poff et al. 1997, Richter et al. 2011). The Draft SED proposes an adaptively managed range of 30-50% of unimpaired flow for February-June, with a recommended starting point of 40% UF, which will increase flows on the Merced, Tuolumne, and lower San Joaquin rivers. The State Board has proposed using an adaptively managed minimum 7-day running average to achieve these percent UF targets, which would, if implemented, increase the variability of flows during the February-June window.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.

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		Increased quantity and variability of flow are both essential to restoring fish and wildlife populations on these rivers.	
1212	2	The inclusion of non-flow measures as a component of voluntary agreements acknowledges the significance of non-flow factors in recovery of threatened and endangered populations of fish and wildlife, while remaining within the State Board's regulatory authority over flows. The SED's recommendation of non-flow actions to assist with recovery of threatened and endangered fish and wildlife is both appropriate and welcome, although it should be noted that non-flow measures do not take the place of flow objectives and, in many cases, depend on sufficient flow for successful implementation. Non-flow measures such as habitat restoration, gravel augmentation, water temperature management, and fish passage improvements can provide benefits to salmonids if flow is sufficient. In some cases, non-flow measures have been proposed to take the place of the proposed flow objectives in the Draft SED; however, this strategy is unlikely to be effective at either current or marginally increased flow levels in the lower San Joaquin River and its tributaries (Rosenfield 2016). Furthermore, flows provide ecological functions, such as providing olfactory cues to migrating salmon, transport of sediment, and recharge of local aquifers, which cannot be replicated with non-flow measures. Some non-flow measures in particular rely on sufficient flows for successful implementation; for instance, habitat restoration through reconnecting historical or stranded floodplains requires enough river flow to inundate the restored floodplain and provide habitat benefits. An "all-of-the-above" approach that includes both flow and connected non-flow measures can ensure more robust outcomes of all recovery efforts on these river systems.	Please see Master Response 2.1, Amendments to the Water Quality Control Plan and Master Response 5.2, Incorporation of Non-Flow Measures, regarding the incorporation of non-flow measures into the plan amendments.
1212	3	Adaptive management is a necessary component to provide the flexibility for standards to reflect changing conditions and understanding of the complexities of the rivers and the Bay-Delta system. Monitoring results and changing management have always been a practice of science. As Fleenor et al. note in their 2010 analysis of flow prescriptions to sustain fish populations in the Delta (Fleenor et al. 2010), the establishment of any flow prescription will necessitate certain working hypotheses regarding flow function and benefits. Climate change is expected to affect the timing and variability of runoff over the next few decades, with unknown impacts to fish, wildlife, river ecosystems, and water supply. Critically dry water years may create conflicts between the various beneficial uses of water, or even conflicts within a particular use of water, as recent temperature management failures on the Sacramento River have demonstrated. Scientific studies of the San Joaquin river system may produce knowledge of previously underappreciated or overlooked functions that demand changes to the management of flows. Adaptive management will be necessary to keep pace with changing conditions and knowledge, and if successful, may result in fewer updates to the Water Quality Control Plan. However, safeguards are needed to ensure that adaptive management is not used to avoid leaving sufficient water in the system to protect and sustain fish populations and ecological functions.	Please see Master Response 2.2, Adaptive Implementation, for responses to comments regarding how adaptive management will work and provide safeguards. The lower end of the 30 to 50 percent range provides safeguards to ensure that flows under adaptive implementation will be better than baseline conditions, and reasonably protect fish and wildlife. Please refer to Master Response 3.1, Fish Protection, for a description of fish benefits resulting from the LSJR flow objectives.
1212	4	The recommended unimpaired flow range and starting point (LSJR Alternative 3) falls short of the flow recommendations of federal and state fish and wildlife agencies for recovery of native fish populations, and may limit efficacy of non-flow measures. The preferred alternative in the Draft SED, Lower San Joaquin River Alternative 3 (LSJR Alternative 3) recommends an adaptively managed range of 30-50% UF with a starting point	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. Please see Master Response 1.1, General Comments, regarding the State Water Board's authorities and consideration of beneficial uses. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding a description of

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		of 40% UF. Depending on the adaptive management approach used, LSJR Alternative 3 will result in modest improvements to flows on the tributaries and the lower San Joaquin River. This range does not reflect the level of flow recommended by federal and state fish and wildlife agencies for recovery of native fish populations, and as will be discussed further below, could be managed in a way that negates the benefits of an unimpaired flow approach. The United States Environmental Protection Agency (EPA), National Marine Fisheries Service (NMFS), United States Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and the State Board itself have indicated that significant flow augmentation and improvements to timing are needed to recover Central Valley salmon populations. Minimum recommendations by these agencies are all higher than the 40% recommended starting point proposed in the LSJR Alternative 3. NMFS, in its comment letter on the original draft SED issued in 2012, stated, "The preferred alternative (35 percent of unimpaired flow)* is not well justified in the SED and is not adequate to achieve a viable salmonid population in the San Joaquin River system. We recommend the Board begin at 45 percent of unimpaired flow'' (NMFS 2013). United States Department of the Interior (USDOI) noted in its comment letter on the original draft SED that the preferred alternative of 35% of unimpaired flow would never provide a total volume of water sufficient to achieve mandated salmon doubling targets under any water year type (USDOl 2013). CDFW stated that "substantial evidence demonstrates that approximately 50%-60% unimpaired flow is the minimum necessary to reestablish and sustain fish and wildlife beneficial uses'' in its comment letter on the original draft SED, citing the NMFS 2009 Biological Opinion that "unimpaired flows must be more than 40% to achieve the limited biological purpose of avoiding species jeopardy" on the Stanislaus River (CDFW 2013). This indicates that LSJR Alternative 3 will not achieve the minimum standard of avoiding species jeopardy on the Stanislaus River, and in fact, the State Board's obligations to protect the public trust extend beyond avoiding species jeopardy. Finally, in its comment letter on the current Draft SED, EPA makes a case for a higher range of unimpaired flow, stating, "Higher percent UF alternatives such as 40-60% result in better rearing temperature conditions and floodplain inundation benefits. The SED shows that lethal temperatures would be reached for salmon in September on the Stanislaus, Tuolumne, and Merced Rivers, and in August, September and October in the lower San Joaquin River in an average year under the 40% UF alternative. Despite forecasted improvements at the 40% UF target, multiple scientific studies indicate flows higher than 40% of UF may be needed to meet the Salmon Protection Objective and protect the beneficial use. The proposed 40% UF does not achieve CDFW flow recommendations to protect fall-run Chinook salmon or the FWS recommended flow targets necessary to meet the Salmon Protection Objective" (EPA 2016). A slow decline toward extinction still ends with extinction. All fish and wildlife agencies, including the State Board's own 2010 report determining the flow criteria for public trust resources, have agreed that higher flows-beyond the 40% UF recommended in LSJR Alternative 3-are necessary to the recovery of declining salmon populations in the San Joaquin River system. The State Board appears to anticipate that the preferred alternative will improve conditions incrementally on the three tributaries, but the current status quo conditions correspond to extremely poor levels of Chinook salmon survival on these tributaries in all but the wettest years. Since continued decline of one or more populations	the plan amendments, the justification to reasonably protect the beneficial use of fish and wildlife using the plan amendments, and the relationship of the recovery of native fish populations and the plan amendments. Please see Master Response 3.1, Fish Protection, regarding the scientific basis of the plan amendments and the use of unimpaired flow for biological purposes. Please see Master Response 1.1, 1.2, Water Quality Control Planning Process, and 3.1, regarding the preparation of the Delta Flow Criteria Report outside of the water quality control planning process. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding how unimpaired flow percentages are calculated.

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		of Central Valley salmon does not constitute an adequate balancing of beneficial uses, the State Board must revisit the recommended alternative and adjust the starting range of unimpaired flow accordingly, or select LSJR Alternative 4 (range of 50-60% unimpaired flow with a starting point of 60%) as the preferred alternative.	
1212	5	The Draft SED imposes artificial seasonal and geographic restrictions that reduce the benefits provided by improved flows in the lower San Joaquin River, the three tributaries, and the south Delta. In restricting recommended flow objectives to the February-June period, the State Board puts certain stages of fall-run Chinook salmon, spring-run Chinook salmon, and steell1ead at risk for further declines. As the EPA has noted twice, first in its 20 13 comment letter and more recently in its 2016 comment letter, native migratory fish are present in the San Joaquin River in most months of the year, not just February -June (EPA 2013, EPA 2016). In fact, the State Board's analysis for 40% UF shows that under the recommended LSJR Alternative 3, all three tributaries would experience lethal temperatures for salmonids in September, while the lower San Joaquin River would experience lethal temperatures in August, September, and October in an average year. Although the adaptive management program includes the flexibility of a 'block of water' that can help meet biological objectives during other times of the year such as the fall, it is difficult to understand how, in dry or critically dry years, the recommended LSJR Alternative 3 can possibly provide sufficiently protective flows during the February-June period and also a surplus block of water that can be used to protect native coldwater species during the fall period. A higher range, such as LSJR Alternative 4, bas greater potential to provide the improvements in flow amount and variability during the critical February-June period while also preserving a block of water that can shape the hydrograph and provide temperature control during other times of the year. The elimination in the Draft SED of the upper San Joaquin River, from Friant Dam to the confluence with the Merced River, is another artificial restriction that serves to reduce the benefits of improved freshwater flows to the south Delta and Bay-Delta water quality. As Contra Costa County notes in its 2016 comment letter on the Draft SED (Contra Costa County 2016), the upper San Joaquin watershed from Friant Dam to the Merced River contributes approximately 30% of the total unimpaired flow to the lower San Joaquin River. The Draft SED justifies exclusion of this segment of the San Joaquin River with the explanation, made in the Executive Summary, that the San Joaquin River upstream of the confluence with the Merced River is not currently a salmon-bearing stream. However, this current state is due to the delayed full implementation of the San Joaquin River Restoration Program, which will produce restoration flows, among other restoration efforts. The State Board's assumption, as stated in Appendix K, is that the San Joaquin River Restoration Program will «restore and maintain fish in good condition" on this segment of the San Joaquin River, under the San Joaquin River settlement agreement, and therefore does not need to be considered as part of the Draft SED at this time. Excluding the Friant to Merced segment of the San Joaquin River from the Draft SED does not comport with the watershed approach espoused by the State Board. More importantly, excluding this segment of the San Joaquin River impacts the estimate of flow conditions at Vernalis and therefore the south Delta, as noted by the EPA in its 2013 comment letter: "The State Board's approach results in less than 35% VF at the downstream point of Vemalis because no flow requirements are proposed for the upper San Joaquin River, which	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. Please see Master Response 3.1, Fish Protection, for a discussion of water temperature, including reductions in harmful and lethal temperatures, and in-depth analysis of the temperature improvements expected in June with implementation of the plan amendments. See Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, Section 19.2.3, Results of Temperature Evaluation, for comparisons of modeled water temperature results under baseline and 40 percent unimpaired flow during the August through October timeframe as they relate to adult migration, reproduction, and late summer rearing. See Tables 19-4, 19-5, 19-7, 19-8, 19-10, 19-11, 19-13, and 19-14 for modeled changes in average daily 7-DADM water temperature and 90th percentile 7-DADM water temperature under baseline and 40 percent unimpaired flow. In general, water temperatures are expected to remain the same or decrease during August through October under the 40 percent unimpaired flow compared to baseline conditions in the Stanislaus, Tuolumne, Merced, and San Joaquin Rivers; exceptions to this include: the Tuolumne River at the Below La Grange location [RM53.5.] where water temperatures are already very low under baseline conditions; the Merced River during August where average daily 7-DADM temperatures increase slightly (although the 90th percentile 7-DADM temperature is expected to decrease); and, the San Joaquin River above the Tuolumne confluence (RM81.401) where average daily 7-DADM temperatures may increase slightly in August. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding a discussion of year-round flows and changes made to the plan amendments. Please see Master Response 3.1 regarding a discussion of year-round flows from a biological perspective and the benefits expected from the plan amendments. Please see Master Response 2.1, and Master Response 2.4, Alternatives to the Water Quality Control Plan Amendments, regarding the Upper San Joaquin River and the unimpaired flow contribution of different parts of the San Joaquin River watershed.

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		contributes a significant amount of the unimpaired flow but Jess of the actual observed flow"(EPA 2013). The recommended 40% UF starting point for the tributaries and lower San Joaquin River translates into less than 40% UF at Vernalis when the upper San Joaquin River is excluded. This is problematic in terms of assuring that outflows at Vernalis are sufficient to provide the migratory corridor needed by salmonids. Despite the assurance of the San Joaquin River Restoration Program agreement, the State Board should include the Friant to Merced segment of the San Joaquin River in the Draft SED.	
1212	6	In an effort to achieve greater management flexibility, adaptive management of flows must not negate the ecological and biological benefits of the percent-unimpaired flow approach in te1ms of volume and variability. The adaptive management program should provide reliable safeguards to ensure that program goals are met, particularly in the decision-making procedures of the STM Working Group. Block of Water In the course of the five public meetings on the Draft SED held between November 29, 2016 and January 3, 2017, extensive discussion took place on the management of a "block of water," within the unimpaired flow range, which could be allocated throughout the year as needed to meet fish and wildlife and other beneficial uses. This "block of water'' as described in Appendix K is intended to enable greater management t1exibility and help shape flows to meet certain biological objectives. However, this approach could have the unintended effect of trading flexibility for reduced benefits of higher flows and the greater hydrologic variability offered by the approach in which river flow rates reflect a percentage of UF based on a 7-day running average. This concern is particularly relevant at the low range of recommended LSJR Alternative 3. For example, for LSJR Alternative 3, if 40% UF is allocated to a tributary in a given year, the actual flow in the river during February-June may be as low as 30% UF, in order for the additional I 0% to be shifted to serve a specific function, such as fall temperature management or pulse flows. However, that leaves only 30% UF in the rivers during the February-June regulatory window, which is far below the amount that fish and wildlife agencies recommend, as stated above. As noted by Drs. Johnson and Sturrock at the State Board's public meeting on November 29, San Joaquin River system salmon are uniquely adapted to high flow variability, and their studies show that both increased flow magnitude and variability improve juvenile salmon abundance and resilience (Johnson and Sturrock 2016). Because the recommended LSJR Alternative 3 offers such a modest improvement in flow magnitude (and potentially no improvement for the Stanislaus River), the use of the ''block of water'' concept has limited benefit, and is likely to produce as many conflicts in meeting biological goals as it is intended to resolve. The "block of water" approach, in fact, offers yet another argument for increasing the recommended range beyond 30-50%, or selecting LSJR Alternative 4 as the recommended alternative. 7-day Running Average The management measures described in the Draft SED also specifically counteract the benefit of hydrologic variability offered by the unimpaired flow approach, as they drop the 7-day running average approach to generating daily flow rates. Chapter 3 of the Draft SED states, "Without adaptive implementation, flow must be managed such that it tracks the daily unimpaired flow percentage based on a running average of no more than 7 days'' (emphasis added; Chapter 3 p. 3-11). But the Draft SED proposes that adaptive	Please see Master Response 2.1, Amendments to the Water Quality Control Plan, and Master Response 2.2, Adaptive Implementation, for responses to comments regarding the program of implementation for the LSJR flow objectives, the natural hydrograph versus block of water in the description of adaptive implementation, averaging periods in the calculated unimpaired flow section, and the STM Working Group in STM Working Group Structure and Governance. The SED analysis shows that the proposed plan amendments will provide reasonable protection of fish and wildlife while moderating impacts to water supply for agriculture, drinking water and other uses. Please refer to Master Response 3.1, Fish Protection, for additional information about fish benefits estimated to occur with the plan amendments. Please refer to Master Response 1.2, Water Quality Control Planning Process, for information regarding consideration of beneficial uses.

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		implementation methods require maintenance of the recommended percent unimpaired flow based on a minimum 7-day running average. As Donald Ratcliff of the United States Fish and Wildlife Service (USFWS) demonstrated to the State Board on January 3, 2017, even the shift from a 3-day running average to a 7-day running average has a significant effect on the hydrograph by smoothing out flow variability (Ratcliff 2017). Lt appears from the adaptive implementation described in Chapter 3 that the running average could be calculated at a 30-day interval or even longer. These longer intervals completely negate the natural variability - so important to Chinook salmon and other resources - embedded in the use of the 7-day running average as a maximum. The 7-day running average should be preserved as a maximum to provide a safeguard to adaptive implementation; at a minimum, the State Board should provide clear guidance regarding bow, when, and to what ends the 7-day running average approach may be supplanted by an engineered or "shaped'' hydrograph. Connection from San Joaquin River to Pacific Ocean One of the most important functions of the higher flow range recommended in the Draft SED is to provide olfactory and physical cues for migrating salmonids. However, the EPA has expressed concern in both its 2013 and 2016 comment letters that without a sufficiently protective range, outflows will not connect to the Delta, San Francisco Bay, and the ocean to provide a migratory signal and corridor for salmon (EPA 2013, EPA 2016). This includes providing sufficient attraction flows in the fall as well as spring. Again, a higher range like that analyzed in LSJR Alternative 4 could ensure the flexibility to provide attraction flows for both fall-run and spring-run Chinook salmon. Stanislaus, Tuolumne, and Merced (STM) Working Group Effective adaptive implementation necessitates the formation of a working group to make timely decisions. The STM Working Group should include members of environmental interest groups in equal proportion to the representation of other interest groups (e.g., water districts). In addition, adaptive implementation methods 2 and 3 require only one member of the STM Working Group to recommend a change, which then would be approved by the Executive Director of the State Board. This decision-making process leaves too much discretion in the hands of individual working group members. All adaptive implementation methods should require the approval of more than one member, such as a member of the water user groups, a member of the environmental interest groups, and a member from the fish and wildlife agencies. Improved Safeguards for Achieving Recovery of Listed Species The five public meetings convened by the State Board included many suggestions for ways to bolster the current adaptive implementation program, in addition to those offered above. Specific biological objectives or defined quantitative targets, such as the salmon doubling objective of the existing Water Quality Control Plan, already exist and could provide the accountability needed to make the Draft SED achieve recovery of listed salmonids. These targets must be combined with clear timeline for attainment. A comprehensive monitoring and assessment framework, linked to adaptive implementation and biological outcomes, will also close the feedback loop by providing timely data on the effectiveness of the Draft SED.	

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		Recent Failures of Real-Time Drought Management The Draft SED should offer a path forward in managing the San Joaquin River basin that learns from the challenges of the recent drought. Real-time drought management in the past few years highlighted some of the shortcomings of the current Water Quality Control Plan. The Draft SED should offer enough safeguards to ensure that adaptive management doesn't result in relaxation of intended environmental protections in dry and critically dry years, provided that human health and safety is not an issue and that the impact of necessary responses to severe drought conditions is shared by all beneficial uses.	
1212	7	Restoring the ecosystems of the San Joaquin River system is both feasible and essential to an extensive part of California and the west coast. Recovering Chinook salmon runs on the San Joaquin River and its tributaries, as intended by state and federal Law, would help revive the struggling ocean fisheries of California, Oregon, and Washington, revitalizing the commercial and recreational fishing industry throughout Central and Northern California and beyond. Improved river and estuarine functions can provide benefits beyond the commercial and recreational fishing industries, such as reducing the frequency of toxic algal blooms, which threaten water-contact recreation and public health. For millions in California and beyond, the health of these rivers, the Bay-Delta Estuary, and fish and wildlife have a value that can be given an economic estimate in the form of non-use or passive use values, as noted in Chapter 20 of the Draft SED: "Oftentimes, estimates of non-use values can total in the hundreds of millions of dollars or more" (Chapter 20 p. 20-70). The protection of endangered native species from extinction, however, may not be quantifiable in economic terms when it comes to keystone species or species with significant iconic or symbolic status like the Chinook salmon.	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. Please also refer to Master Response 8.4, Non-Agricultural Economic Considerations, for additional discussion on ecosystem services and potential benefits associated with ecosystem services.
1212	8	Innovations in urban and agricultural water supply and use are emerging daily, and can provide effective means of extending the limited water available in California for human uses. For our declining native fish and wildlife, however, solutions are limited to those that foster greater ecosystem health. Improvements in the timing and quantity of freshwater flows are a known driver in riverine and estuarine health, and therefore must be prioritized in planning for the future. The Draft SED offers an opportunity for significant benefits to the ecosystems of the lower San Joaquin River, its three major tributaries, and the San Francisco Bay-Delta Estuary. It also sets the stage for the level s of protection in subsequent phases of the Water Quality Control Plan. We urge you to address the deficiencies in the proposed plan and work with all parties to implement a program that will enable a real recovery of these great rivers in a reasonable timeframe. Such a task is feasible, essential, and urgent.	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.
1213	1	The State Water Resources Control Board (SWRCB) is developing regulations that will deprive northern Californians of our water supplies. The SWRCB's proposed plan guarantees that Sierra water be dedicated to flow unimpaired to the Sacramento-San Joaquin Delta. This flawed approach will drain Sierra Nevada headwaters and reservoirs while dedicating that water to fill a bathtub with a hole in it--the Delta.	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.
1213	2	Unimpaired flow, as interpreted by the SWRCB, "is the rate and volume of water flow that would be produced by the rain and snow accumulating in a watershed absent any diversion, storage, or use of water". Using this regime makes no sense. The Sierra Nevada watershed is a highly-altered system with reservoirs, canals, diversions, and power generation facilities as	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. Please also see Master Response 2.1, Amendments to the Water Quality Control Plan, and Master Response

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		is the Sacramento-San Joaquin Delta waterway highly altered by a maze of sloughs, miles of riprap, and deep and wide channels. Rather than trying to distort reality, the Mountain Counties Water Resources Association strongly encourages the SWRCB abandon their unimpaired flow concept.	3.2, Surface Water Analyses and Modeling, for additional information regarding unimpaired flow.
1213	3	What is missing from the discussion is the science developed by the Delta Independent Science Board (Delta ISB). In August 2015, a review by the Delta ISB reported that "flow is but one factor affecting fishes and its effects are confounded by other drivers of fish production in the ecosystem". The report went on to say "that five major drivers are considered as agents of change in any given ecosystem. These are habitat alteration and loss, resource use and exploitation, invasive species, pollution, and climate. All of these drivers have played a role in the Delta and affected fishes." The Delta ISB is a standing board of nationally and internationally prominent scientists with appropriate expertise to evaluate the broad range of scientific programs that support adaptive management of the Sacramento-San Joaquin Delta. Created by the Delta Reform Act of 2009 and appointed by the Delta Stewardship Council, the Delta ISB provides oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta through periodic reviews. The report reads, "It is almost impossible to assess how flows affected fishes historically in the Delta because the ecosystem has undergone and is still experiencing dramatic alterations in habitat, species composition and interactions, channel morphology, and water quality." As noted in the report, much research in the Delta has been understandably focused on endangered or threatened species and some non-natives such as the Striped bass. The non-native species dominate fish biomass in much of the Delta and have disrupted historic food webs. Ecologically important species of fish are those that dominate the ecosystem and/or play key roles in the food web. As called out in the report, "Little is known about the impact of flows on many of these species and they likely have important food-web relationships to threatened or endangered species." The State should concentrate on and fix the other multiple "drivers" in the Delta. Only then should it consider the amount and timing of flow necessary to create a robust fishery in the Delta. Until the drivers have been fixed in the Delta to provide food and cover for the endangered fish and water quality issues fixed upstream, more flow should be deemed a waste and unreasonable use of water, particularly when the science is not there.	The commenter is referencing a report prepared by the Delta Independent Science Board. Please see Master Response 1.1, General Comments, s for responses to comments that do not raise significant environmental issues associated with the analysis contained within the SED or request a modification to the plan amendments.
1213	4	The "unimpaired flow" regime is a "take" from the drought-stressed northern California tributaries to help the endangered species in the Delta with little or no regard to the impacts to the Sierra region's ecosystem, its endangered aquatic plant and animal species, including endemic and migrating species that are already stressed by forest fires and drought.	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. Please see Master Response 1.2, Water Quality Control Planning, for information regarding the distinction between objectives and the program of implementation in the Bay-Delta Plan and water rights proceedings.
1213	5	We recognize that the SWRCB members are faced with tough and complex decisions in this diverse state. The mountain counties region stands ready to work collaboratively with the SWRCB to develop a comprehensive plan that will enhance and protect natural resources in the Delta and in the Sierra while balancing other beneficial uses of water.	Please see Master Response 1.1, General Comments, for information regarding voluntary agreements and the public outreach process.
1214	1	This letter is to express our concerns with the State Water Board's proposal to increase the unimpaired flows from the Merced, Tuolumne, and Stanislaus Rivers by 40%. This plan puts the 70,000 pre-K-12 students in Merced County at grave risk and exacerbates the economic	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.

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		and educational challenges that our students already face. On Monday, March 20th the Merced County Board of Education will adopt Resolution No. 2017-08 Recognition of Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary whereas the proposed significant increases to river flow will eliminate the use of this stored water for irrigation purposes and therefore the recharging of groundwater basins as it has done for over 100 years of agricultural use in Merced County. The Merced County Board of Education opposes the illegitimate taking of water from Merced County that is necessary for the health and welfare of its citizens and wants it known that the current proposal for the increase of flows of the Merced, Tuolumne, and Stanislaus Rivers is unacceptable and will be fought through every legal means necessary.	
1214	2	Resolution No. 2017-08 RECOGNITION OF WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY/SACRAMENTO-SAN JOAQUIN DELTA ESTUARY Whereas, the Merced County Board of Education has been made aware that the State Water Resources Control Board (SWRCB) is considering amendments to the 2006 Water Quality Control Plan that call for significant increases to unimpaired flows from the Merced, Stanislaus and Tuolumne Rivers, and Whereas, the Merced County Board of Education along with the Merced County Superintendent of Schools are responsible for the oversight of the school systems within the County of Merced, and Whereas, all School Districts rely on a healthy groundwater basin and many of the Districts in the County are responsible for maintaining these groundwater wells, and the health and safety of the children in the County rely on the water produced by these wells, and Whereas, the proposed significant increases to river flows will eliminate the use of this stored water for irrigation purposes and therefore the recharging of groundwater basins as it has done for over 100 years of agricultural use in Merced County, and Whereas, the lack of consideration by the SWRCB for the people, schools, farms and businesses in proposing a policy revision that impacts the ability of local communities to recharge these critical water basins, forces agricultural practices to rely more heavily on the pumping of ground water for sustaining crop production, thereby forcing communities to choose between maintaining a sound economic base or providing water for residents, and Whereas, your policy change makes no provision for recognizing that local taxpayers built and maintained these water resources for the communities in which they exist, and Whereas, substantial areas of developed California (Bay Area) benefit from a watershed that they wouldn't naturally have access to, but still receive water benefits from because of man-made infrastructure (Hetch Hetchy Dam and Reservoir) are not being economically impacted by the water flow recommendations, thus putting a premium on the lives, the	Please see Master Response 1.1 acknowledging the concerns of elected representatives and other community members.

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		health, and lifestyles of bay area residents and harming those that live in the legitimate watershed areas of the Merced, Stanislaus, and Tuolumne Rivers, Now Therefore Be It Resolved, that the Merced County Board of Education resolves to reject the illegitimate taking of water from our County that is necessary for the health and welfare of its' citizens and wants it known that the current proposal for the increase of flows of the Merced, Stanislaus and Tuolumne Rivers is unacceptable and will be fought through every legal means necessary. Passed and Adopted this 20th day of March year of 2017.	
1215	1	As environmental and fishing advocacy organizations with members throughout California, we are deeply interested in and supportive of the State Water Resources Control Board's efforts to adopt new water quality standards for the great San Francisco Bay-Delta estuary. The health and productivity of our rivers and the Bay-Delta estuary is vitally important to California residents, who depend on them for jobs, sustenance, recreation and an unrivalled quality of life. We commend the Board's efforts, in preparing to adopt the first of these new standards (which would set minimum requirements for the amount of inflow from the rivers of the San Joaquin basin), to seek a better balance between the many competing uses of the public's water resources. Only a third or less of the natural runoff from these rivers now reaches the estuary, with catastrophic results for fisheries and water quality. The once great salmon runs of the San Joaquin River system have been destroyed or severely impacted, contributing to historic closures of the Pacific Coast salmon fishery. This has had devastating impacts to thousands of men and women whose livelihood directly depends on that fishery and has harmed many more in the seafood industry and those who consume its products. The drastic reduction in inflow also means that downstream water quality in the estuary continues to deteriorate, resulting in more frequent toxic algal blooms and higher pollutant concentrations, increasing the risk of exposure to contaminants for those who rely on the estuary for subsistence fishing and recreation.	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.
1215	2	The Board's final decision should be based on the best available science, ensure that enough water reaches the estuary to reverse these trends, protect the beneficial uses of water as required by state and federal law, and provide adequate protection for our Bay Area and coastal fishing communities, recreation, water quality, and the wildlife of our state's aquatic ecosystems. We are very concerned, however, that the best available information provided by scientists from fish and wildlife agencies, academia, conservation groups, and the Board itself, strongly indicates that the Board's current proposal will not adequately protect fish and wildlife, water quality, and recreational benefits in the estuary, lower San Joaquin River, and San Joaquin tributaries. The best available science shows clearly that more water from the San Joaquin River system is needed to reach the estuary throughout the year, and especially in the winter and spring. We are concerned that failing to listen to this science will lead to all of the work done to develop this plan to be for naught, as species will not fully recover to sustainable levels. We are united in urging you to revise your proposed water quality standards for San Joaquin flows to the estuary in order to fully protect our fisheries and water quality, and look forward to the Board's timely adoption of additional standards that ensure sufficient flow to San Francisco Bay over the next two years.	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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1216	1	The State Board staff proposal, which bases new water quality objectives for the San Joaquin River and its tributaries on a "percentage of unimpaired flows," could lead to widespread fallowing of agricultural land and negatively affect water reliability for much of the state's population. It also would undercut the state's groundwater sustainability goals and cripple implementation of the Brown Administration's California Water Action Plan. These impacts are not in the public's interest and are inconsistent with the Brown Administration's water policy objectives. OMWD respectfully requests that the State Board set aside the unimpaired flows approach and heed Governor Brown's call for negotiated settlements, which have proven successful in achieving positive ecologically sensitive outcomes while maintaining water supply reliability. We urge the State Board to embrace this approach and allow adequate time for it to yield results, recognizing that the best outcome can be achieved through comprehensive, collaborative approaches that include "functional flows" as well as non-flow solutions that contribute real benefits.	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.
1216	2	The State Board's "unimpaired flows" approach for the San Joaquin River and its tributaries is not the path to achieve the desired ecological outcomes. It is inconsistent with established state policies, such as the California Water Action Plan, the coequal goals defined in the Delta Reform Act of 2009, the Sustainable Groundwater Management Act of 2014, and the Human Right to Water Act.	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.
1216	3	This proposal would undermine investments in storage, adversely impact the drinking water quality of disadvantaged communities, increase groundwater overdraft in a part of the state where groundwater basins are already out of balance, and put large acreages of agricultural land out of production. Any strategy that would result in vast amounts of agricultural land going out of the production and ultimately reduce water supply reliability for the majority of Californians is irreconcilable with the policy of coequal goals and the State Board's statutory obligation to protect all beneficial uses of water when establishing water quality objectives.	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.
1216	4	The State Board should embrace a collaborative process to develop water quality objectives that incorporates the best available science, utilizes comprehensive solutions that address multiple variables, aligns with established state policies, considers economic impacts, and ensures that Bay-Delta Plan decisions enable rather than obstruct implementation of the California Water Action 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.
1217	1	All of us at Johnson Farms are extremely concerned with your Draft Revised Substitute Environmental Document (SED) and its proposed unimpaired flow requirements for the Merced, Tuolumne and Stanislaus Rivers. As you know, California produces 50% of the U.S.'s fruits, nuts and vegetables, much of which come from the Central Valley. Your board's proposal, will not only severely impact our local region and its communities, it will have far reaching impacts on families across the Country. In the U.S. less than 10% of a family's income is spent on food, compared to some developing countries where 75% of a family's income is spent on food. This plan, as proposed will shift food production to other regions of the world, greatly reducing job opportunities in our area, collapse our communities, pose greater challenges to our schools, particularly those serving economically disadvantaged children, and increase food prices in the U.S.	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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1217	2	Equally concerning is, the SED doesn't account for the damaging effects it will have on groundwater quality and sustainability. Our local water agencies and farming communities are diligently working to achieve groundwater sustainability goals outlined in the Sustainable Groundwater Management Act (SGMA). If implemented, the SED will be the direct cause of groundwater reduction in our region, making it nearly impossible to achieve the State Mandated Groundwater Sustainability Act, further impacting our communities negatively. We are deeply troubled that the SED lacks any proposal to address what you label as "significant, but unavoidable impacts" to our region. This approach by your board, is simply inexcusable and inequitable to our communities.	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.
1217	3	Currently we farm 3,000 acres, and in our sheller we process approximately 21 million pounds of almonds. We employ 18 full time employees and during harvest we employ 40 additional people, many of whom return year after year. We believe in supporting our community to which has been so supportive to us. We provide financial support to scholarship funds, FFA and 4H programs, and youth organizations targeting disadvantaged children. We are stewards of the land, and we believe in a strong viable and balanced ecosystem. We are incredibly resourceful and are continuously innovating new ways to conserve our resources. However, if the SED is to be implemented as currently proposed, we estimate a minimum 25% of our land will need to be fallowed. We are not alone in this, all of our growers will have to do the same. In our network of customers alone, nearly 2,200 acres of almond orchards will have to be fallowed. We will be forced to lay off long time employees, who we consider family. Future generations of the Johnson Family will not be able to continue the heritage of farming and supporting its community as the family has done for so many years.	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.
1217	4	We urge you and your board to abandon the proposed SED and begin meaningful dialogue, with the mindset of reaching balanced solutions to preserve the vital resources our communities are dependent upon. We urge the board to seriously consider and pursue alternative options to flow and carry over controls, such as continued restoration of habitats and controlling non-native predation, to which peer reviewed science tells us will accomplish positive results for the salmon populations.	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.
1218	1	Flows described in the SED will create "significant and unavoidable" lasting impacts that will harm the socioeconomic welfare of those within Stanislaus, San Joaquin and Merced Counties.	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.
1218	2	Water supply impacts of flows described in the SED include the loss of hundreds of thousands of acre-feet of surface water that is used to keep agriculture - the region's economic engine -- stable. This loss of water would result in the fallowing of some of the most prime farmland in California.	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.
1218	3	Groundwater impacts of flows described in the SED include increased groundwater pumping at a time when California is working to implement the landmark Sustainable Groundwater Management Act. Impacts from the loss of surface water flow described in the SED severely hampers the ability to conjunctively use surface water on farms and to adequately recharge groundwater.	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.
1218	4	Power impacts of flows described in the SED include public power agencies being resigned to generating more hydropower at a time of low demand, meaning less water is available to	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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		generate hydropower in summer when power demand is at its peak. This has economic impacts to public power agencies, and such impacts bear a direct relation to customer electric rates.	
1218	5	There is reasonable and significant doubt that the flows described in the SED will benefit native fish populations or promote ecosystem restoration. The SED focuses narrowly on flows as a solution to environmental concerns while ignoring non-flow alternatives such as predator suppression and fish habitat restoration. Such non-flow management measures are often less costly and more effective and preserve our water assets for productive 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.
1218	6	The State Water Resources Control Board should pursue a comprehensive solution which takes into account, rather than dismisses, the impacts on agricultural, economic, groundwater, and hydro-electric resources. This solution must prioritize non-flow measures to protect native fish species, such as predation reduction programs, before requiring flow increases that would threaten the economic vitality of our region's counties, cities and small family farms.	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.
1219	1	I believe that the proposed Plan Amendment to increase the amount of water (unimpaired flows) to be released to help the fish will be too costly for the amount of benefit and will be devastating to our communities. Our focus should be on new infrastructure as none has been built for decades while our population has increased tremendously. We need to meet the needs of our cities, industries and food production instead of increased flows which haven't proven to help the fish situation. We must develop better fish habitat, and improve spawning beds. Fish hatcheries are a great way to increase fish (salmon) populations and are used in many areas. We need to remove and I or reduce the amount of predator fish which is a huge factor in declining salmon populations.	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.
1219	2	Increased flows will result in fallowed land and a decreased job market making depressed communities even more disadvantaged with unemployment at its highest and businesses that depend on this income will greatly suffer.	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.
1219	3	The whole process would cause farmers, cities, industries, schools, water districts, counties, and more to rely heavier on groundwater with more pumping and drilling causing a serious overdraft of groundwater which would be at odds with what SGMA wishes to accomplish.	The SED does not require or encourage increases in groundwater pumping as a response to reductions in surface water. Rather, the SED reflects the historical response of water users to increase groundwater pumping when surface water availability is reduced. 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. The State Water Board acknowledges it will be challenging, but implementation of the plan amendments does not conflict with SGMA; together they allow for integrated planning of scarce water resources that does not trade impacts between surface and groundwater. For further discussion on these issues, please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act.
1219	4	Schools might be forced to bring in porta potties for students and staff to use because of the lack of running water for total use which could pose a health risk.	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.
1219	5	Cities, communities, labor, businesses and more will all feel the impact of lost economic output, farm revenue, recreational income, lost labor income and jobs.	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.
1219	6	The timing of the releases will have a negative impact on Modesto, Turlock and Merced Irrigation Districts hydroelectric power generation and 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.

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1219	7	Everyone needs to eat and this Plan fallows land that could be producing food which is already in short supply nationally and globally. Lets hope that this is not as some say, a conspiracy to send more water to faraway places. Sending our water wealth (to quote the Modesto Arch) somewhere else sends the Wealth with it which would be an unnecessary and devastating water grab. The Water Districts have implemented many conservation projects to modernize and improve their districts. They have been dedicated to science based policies and practices to benefit the environment, agriculture, domestic and recreational users of their products and services. Our communities are united more than ever on this issue. Continuing on this track could result in this Plan being tied up in courts for decades.	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.
1219	8	I strongly urge you to reject this plan in favor of ideas I have already mentioned, such as improving fish habitat and spawning grounds, eliminating or reducing the number of predator fish, use of fish hatcheries to replenish fish numbers and work with companies like Fish Bio and the Water Districts to correct the problem in a proactive and scientific way.	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.
1220	1	Our businesses, while different, all rely on the health of Central Valley rivers and the San Francisco Bay-Delta Healthy rivers and abundant salmon and steelhead mean business for California from the docks to the upper watershed, healthy salmon and steelhead runs and wild rivers support thriving businesses. Unfortunately, the waterways on which our businesses rely have been degraded for years. Our businesses and livelihoods have been impacted and, in some cases, lost as a result. The undersigned business owners appreciate the Board's efforts to date to adopt new water quality standards (which would set minimum requirements for the amount of inflow from the rivers of the San Joaquin basin), that seek to achieve a better balance between the many competing uses of the public's water resources . Unfortunately, the Board's most recent proposal to update water quality standards does not go far enough toward restoring the long-lost balance between those who extract water from the San Joaquin River and the Sacramento-San Joaquin Delta, and those, like us, whose businesses and livelihoods depend on leaving more water flowing from the southern Sierra Nevada to the sea. We urge the Board to fairly weigh the needs of fisheries and recreational beneficial uses by sincerely considering the benefits our businesses (and other like us) receive from a functioning river ecosystem and the significant economic benefits we provide to California's economy when our businesses are healthy. This is a once-in-a-generation opportunity for the Board to reverse decades of declining fisheries, water quality conditions, and fresh water flow rates by revising its proposed water quality standards for San Joaquin flows to the estuary in order to fully protect our fisheries.	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.
1221	1	As County Supervisors representing over a million people who live in Contra Costa County, including residents living along the Sacramento-San Joaquin River Delta, we are deeply interested in and supportive of the State Water Resources Control Board's efforts to adopt new water quality standards for the great San Francisco Bay estuary. Our constituents depend on a healthy Bay for jobs, sustenance, recreation, and an unrivalled quality of life. Phase 1 updates to the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan will set minimum requirements for the amount of inflow from the tributary rivers of the San Joaquin basin to the estuary. Appropriate standards set in Phase 1 can begin to improve this degraded system and repair the damage of the past. Only a third or less of the natural runoff from these rivers now reaches the estuary, with catastrophic	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.

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		results for fisheries and water quality. We support timely and strong action by the Board to increase the vitally important flows on these overburdened rivers that feed the Bay-Delta ecosystem.	
1221	2	The once great salmon runs of the San Joaquin River system have declined dramatically, contributing to historic closures of, and severe restrictions on, the Pacific Coast salmon fishery. This has had devastating impacts to thousands of men and women whose livelihood directly depends on that fishery, and has harmed many more in the seafood industry and those who consume its products.	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.
1221	3	The drastic reduction in inflow also means that downstream water quality in the Delta and Bay continues to deteriorate, resulting in more frequent toxic algal blooms and higher concentrations of pollutants. Higher flows will contribute to the revival of our salmon fishery and improve water quality for all users.	Please see Master Response 1.1, General Responses, regarding toxic algal blooms and harmful algal blooms. Please see Chapter 5, Surface Hydrology and Water Quality, Section 5.4.2, Methods and Approach, Hydrologic and River Temperature Modeling Results, River Flows, for a description of the modeled flows under each of the LSJR alternatives. The flows under each of the LSJR alternatives evaluated are generally expected to increase relative from baseline. Please see Chapter 5, Impact WQ-3, regarding pollutant concentrations, which are not expected to increase relative to baseline. Please see Master Response 1.1 for responses to comments that generally support the plan amendments, a percent of unimpaired flow, or an LSJR alternative.
1221	4	California has adopted coequal state water policy goals of providing a more reliable water supply while simultaneously protecting, restoring, and enhancing the Bay-Delta ecosystem. Science tells us that more flows are needed to protect and restore the estuary's living resources and water quality. Potential impacts to other beneficial uses of water can be ameliorated or avoided completely through Californians' technical ingenuity, willingness to conserve, and investments in alternative water supplies. Demand reduction, water use efficiency improvements, water recycling and reuse, stormwater recapture, and other tools can help offset any reductions in surface water supply resulting from restoring the flow of fresh water to the estuary, starting with the San Joaquin River and its tributaries.	Please see Master Response 1.1, General comments regarding the 2009 Delta Reform Act, the description and purpose of the plan amendments, and the consideration of beneficial uses.
1221	5	Our constituents in Contra Costa County and along the delta care deeply about the health of the Bay estuary. Last year, over two-thirds of the voters in the nine-county Bay Area approved a property tax measure to support restoration of the Bay's wetlands. During every drought period in the past few decades, Bay Area residents have stepped up to reduce water consumption significantly. Our region is willing to do its part to make this happen, and we expect everyone in the watershed to do theirs.	Please see Master Response 1.1, General Comments, acknowledging the concerns of elected representatives and other community members and the relationship to other programs and policies such as conservation efforts.
1221	6	We are united in urging you to seize this once-in-a-generation opportunity to adopt new water quality standards for San Joaquin River and tributary flows to the estuary that protect our fisheries and water quality, and look forward to the Board's timely adoption of additional standards that ensure sufficient flow to San Francisco Bay.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.
1222	1	On behalf of the Marin County Board of Supervisors, I write in support of the State Water Resources Control Board's efforts to adopt new water quality standards for the San Francisco Bay estuary. Phase 1 updates to the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan will set minimum requirements for the amount of inflow from the tributary rivers of the San Joaquin basin to the estuary. Appropriate standards set in Phase 1 can begin to improve this degraded system and repair the damage of the past. Only a third or less of the natural runoff from these rivers now reaches the estuary, with catastrophic	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.

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Ltr#	**Cmt#**	**Comment**	**Response**
		results for fisheries and water quality. We support timely and strong action by the Board to increase the vitally important flows on these overburdened rivers that feed the Bay-Delta ecosystem.	
1222	2	The once great salmon runs of the San Joaquin River system have declined dramatically, contributing to historic closures of, and severe restrictions on, the Pacific Coast salmon fishery. This has had devastating impacts to thousands of men and women whose livelihood directly depends on that fishery, and has harmed many more in the seafood industry and those who consume its products.	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.
1222	3	The drastic reduction in inflow also means that downstream water quality in the Delta and Bay continues to deteriorate, resulting in more frequent toxic algal blooms and higher concentrations of pollutants. Higher flows will contribute to the revival of our salmon fishery and improve water quality for all users.	Please see Master Response 1.1, General Responses, regarding toxic algal blooms and harmful algal blooms. Please see Chapter 5, Surface Hydrology and Water Quality, Section 5.4.2, Methods and Approach, Hydrologic and River Temperature Modeling Results, River Flows, for a description of the modeled flows under each of the LSJR alternatives. The flows under each of the LSJR alternatives evaluated are generally expected to increase relative from baseline. Please see Chapter 5, Impact WQ-3, regarding pollutant concentrations, which are not expected to increase relative to baseline. Please see Master Response 1.1 for responses to comments that generally support the plan amendments, a percent of unimpaired flow, or an LSJR alternative.
1222	4	The Marin County Board of Supervisors supports adopting new water quality standards for San Joaquin River and tributary flows to the estuary that protect our fisheries and water quality.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.
1223	1	As elected officials representing millions of people who live in the Bay Area, we are deeply interested in and supportive of the State Water Resources Control Board's efforts to adopt new water quality standards for the great San Francisco Bay estuary. Our constituents depend on a healthy Bay for jobs, sustenance, recreation, and an unrivalled quality of life. Phase 1 updates to the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan will set minimum requirements for the amount of inflow from the tributary rivers of the San Joaquin basin to the estuary. Appropriate standards set in Phase 1 can begin to improve this degraded system and repair the damage of the past. Only a third or less of the natural runoff from these rivers now reaches the estuary, with catastrophic results for fisheries and water quality. We support timely and strong action by the Board to increase the vitally important flows on these overburdened rivers that feed the Bay-Delta ecosystem.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.
1223	2	The once great salmon runs of the San Joaquin River system have declined dramatically, contributing to historic closures of, and severe restrictions on, the Pacific Coast salmon fishery. This has had devastating impacts to thousands of men and women whose livelihood directly depends on that fishery, and has harmed many more in the seafood industry and those who consume its products.	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.
1223	3	The drastic reduction in inflow also means that downstream water quality in the Delta and Bay continues to deteriorate, resulting in more frequent toxic algal blooms and higher concentrations of pollutants. Higher flows will contribute to the revival of our salmon fishery and improve water quality for all users.	Please see Master Response 1.1, General Responses, regarding toxic algal blooms and harmful algal blooms. Please see Chapter 5, Surface Hydrology and Water Quality, Section 5.4.2, Methods and Approach, Hydrologic and River Temperature Modeling Results, River Flows, for a description of the modeled flows under each of the LSJR alternatives. The flows under each of the LSJR alternatives evaluated are generally expected to increase relative from baseline. Please see Chapter 5, Impact WQ-3, regarding pollutant concentrations, which are not expected to increase relative to baseline. Please see Master Response 1.1 for responses to comments that generally support the plan amendments, a percent of unimpaired flow, or an

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			LSJR alternative.
1223	4	California has adopted coequal state water policy goals of providing a more reliable water supply while simultaneously protecting, restoring, and enhancing the Bay-Delta ecosystem. Science tells us that more flows are needed to protect and restore the estuary's living resources and water quality. Potential impacts to other beneficial uses of water can be ameliorated or avoided completely through Californians' technical ingenuity, willingness to conserve, and investments in alternative water supplies. Demand reduction, water use efficiency improvements, water recycling and reuse, stormwater recapture, and other tools can help offset any reductions in surface water supply resulting from restoring the flow of fresh water to the estuary, starting with the San Joaquin River and its tributaries.	Please refer to Master Response 1.1, General Comments regarding the 2009 Bay Delta Reform Act and the consideration of beneficial uses.
1223	5	Our constituents care deeply about the health of the Bay estuary. Last year, over two-thirds of the voters in the nine-county Bay Area approved a property tax measure to support restoration of the Bay's wetlands. During every drought period in the past few decades, Bay Area residents have stepped up to reduce water consumption significantly. Our region is willing to do its part to make this happen, and we expect everyone in the watershed to do theirs.	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. Please also see Master Response 1.1 for information regarding community concerns and elected representative concerns.
1223	6	We are united in urging you to seize this once-in-a-generation opportunity to adopt new water quality standards for San Joaquin River and tributary flows to the estuary that protect our fisheries and water quality, and look forward to the Board's timely adoption of additional standards that ensure sufficient flow to San Francisco Bay.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.
1224	1	I am writing to express my support for the proposed San Joaquin River inflow requirements to restore fisheries and water quality in the San Francisco Bay Estuary. As a San Mateo County Supervisor, Chair of the SF Bay Restoration Authority, and a board member for the SF Bay Conservation and Development Commission, I have a keen appreciation for the importance of a healthy San Francisco Bay Estuary for local jobs, a vibrant ecosystem, recreation, and an unrivalled quality of life. Phase 1 updates to the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan will set minimum requirements for the amount of inflow from the tributary rivers of the San Joaquin basin to the estuary. Appropriate standards set in Phase 1 can begin to improve this degraded system and repair the damage of the past. Only a third or less of the natural runoff from these rivers now reaches the estuary, with catastrophic results for fisheries and water quality. I support timely and strong action by the Board to increase the vitally important flows on these overburdened rivers that feed the Bay-Delta ecosystem.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.
1224	2	The once great salmon runs of the San Joaquin River system have declined dramatically, contributing to historic closures of, and severe restrictions on, the Pacific Coast salmon fishery. This has had devastating impacts to thousands of men and women whose livelihood directly depends on that fishery, and has harmed many more in the seafood industry and those who consume its products.	Please refer to Master Response 1.1, General Comments regarding the 2009 Bay Delta Reform Act and the consideration of beneficial uses.
1224	3	The drastic reduction in inflow also means that downstream water quality in the Delta and Bay continues to deteriorate, resulting in more frequent toxic algal blooms and higher concentrations of pollutants. Higher flows will contribute to the revival of our salmon fishery and improve water quality for all users.	Please see Master Response 1.1, General Responses, regarding toxic algal blooms and harmful algal blooms. Please see Chapter 5, Surface Hydrology and Water Quality, Section 5.4.2, Methods and Approach, Hydrologic and River Temperature Modeling Results, River Flows, for a description of the modeled flows under each of the LSJR alternatives. The flows under each of the LSJR alternatives evaluated are generally

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			expected to increase relative from baseline. Please see Chapter 5, Impact WQ-3, regarding pollutant concentrations, which are not expected to increase relative to baseline. Please see Master Response 1.1 for responses to comments that generally support the plan amendments, a percent of unimpaired flow, or an LSJR alternative.
1224	4	California has adopted coequal state water policy goals of providing a more reliable water supply while simultaneously protecting, restoring, and enhancing the Bay-Delta ecosystem. Scientific research makes clear that more flows are needed to protect and restore the estuary's living resources and water quality. Potential impacts to other beneficial uses of water can be ameliorated, or avoided completely, through Californians' technical ingenuity, willingness to conserve, and investments in alternative water supplies. Demand reduction, water use efficiency improvements, water recycling and reuse, stormwater recapture, and other tools can help offset any reductions in surface water supply resulting from restoring the flow of fresh water to the estuary, starting with the San Joaquin River and its tributaries.	Please refer to Master Response 1.1, General Comments regarding the 2009 Bay Delta Reform Act and the consideration of beneficial uses.
1224	5	Last year, a remarkable 70.3% of the voters in the nine-county Bay Area approved a parcel tax measure to support restoration of the Bay's wetlands. During every drought period in the past few decades, Bay Area residents have stepped up to reduce water consumption significantly. Our region is willing to do its part, and we hope everyone in the watershed will do theirs.	Please see Master Response 1.1, General Comments, acknowledging the concerns of elected representatives and other community members and the relationship to other programs and policies such as conservation efforts.
1224	6	The State Water Resources Control Board has a unique opportunity to adopt new water quality standards for San Joaquin River and tributary flows to the estuary that protect our fisheries and water quality. I urge you to adopt the proposed San Joaquin River inflow requirements, and I look forward to the Board's timely adoption of additional standards that will ensure sufficient freshwater flows to San Francisco Bay.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.
1225	1	As elected officials representing millions of people who live in the Bay Area, we are deeply interested in and supportive of the State Water Resources Control Board's efforts to adopt new water quality standards for the great San Francisco Bay estuary. Our constituents depend on a healthy Bay for jobs, sustenance, recreation, and an unrivalled quality of life. Phase 1 updates to the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan will set minimum requirements for the amount of inflow from the tributary rivers of the San Joaquin basin to the estuary. Appropriate standards set in Phase 1 can begin to improve this degraded system and repair the damage of the past. Only a third or less of the natural runoff from these rivers now reaches the estuary, with catastrophic results for fisheries and water quality. We support timely and strong action by the Board to increase the vitally important flows on these overburdened rivers that feed the Bay-Delta ecosystem.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.
1225	2	The once great salmon runs of the San Joaquin River system have declined dramatically, contributing to historic closures of, and severe restrictions on, the Pacific Coast salmon fishery. This has had devastating impacts to thousands of men and women whose livelihood directly depends on that fishery, and has harmed many more in the seafood industry and those who consume its products.	Please refer to Master Response 1.1, General Comments regarding the 2009 Bay Delta Reform Act and the consideration of beneficial uses.
1225	3	The drastic reduction in inflow also means that downstream water quality in the Delta and Bay continues to deteriorate, resulting in more frequent toxic algal blooms and higher concentrations of pollutants. Higher flows will contribute to the revival of our salmon	Please see Master Response 1.1, General Responses, regarding toxic algal blooms and harmful algal blooms. Please see Chapter 5, Surface Hydrology and Water Quality, Section 5.4.2, Methods and Approach, Hydrologic and River Temperature Modeling Results, River Flows, for a description of the modeled flows

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		fishery and improve water quality for all users.	under each of the LSJR alternatives. The flows under each of the LSJR alternatives evaluated are generally expected to increase relative from baseline. Please see Chapter 5, Impact WQ-3, regarding pollutant concentrations, which are not expected to increase relative to baseline. Please see Master Response 1.1 for responses to comments that generally support the plan amendments, a percent of unimpaired flow, or an LSJR alternative.
1225	4	California has adopted coequal state water policy goals of providing a more reliable water supply while simultaneously protecting, restoring, and enhancing the Bay-Delta ecosystem. Science tells us that more flows are needed to protect and restore the estuary's living resources and water quality. Potential impacts to other beneficial uses of water can be ameliorated or avoided completely through Californians' technical ingenuity, willingness to conserve, and investments in alternative water supplies. Demand reduction, water use efficiency improvements, water recycling and reuse, stormwater recapture, and other tools can help offset any reductions in surface water supply resulting from restoring the flow of fresh water to the estuary, starting with the San Joaquin River and its tributaries.	Please refer to Master Response 1.1, General Comments regarding the 2009 Bay Delta Reform Act and the consideration of beneficial uses.
1225	5	Our constituents care deeply about the health of the Bay estuary. Last year, over two- thirds of the voters in the nine-county Bay Area approved a property tax measure to support restoration of the Bay's wetlands. During every drought period in the past few decades, Bay Area residents have stepped up to reduce water consumption significantly. Our region is willing to do its part to make this happen, and we expect everyone in the watershed to do theirs.	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. Please also see Master Response 1.1 for information regarding community concerns and elected representative concerns.
1225	6	We are united in urging you to seize this once-in-a-generation opportunity to adopt new water quality standards for San Joaquin River and tributary flows to the estuary that protect our fisheries and water quality, and look forward to the Board's timely adoption of additional standards that ensure sufficient flow to San Francisco Bay.	Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues or that make a general comment regarding the plan amendments including comments that are generally in support or opposition to the plan amendments.