

Table 4-1. Responses to Comments

Ltr#	Cmt#	Comment	Response
1177	1	<p>To say that we are concerned with this proposal is an understatement. We are very reasonable people and do our part for the environment and our fellow Californians but what the SED is proposing is bad for farmers, the valley and the environment. To be very honest, the fact that this is even under consideration shows that our system is broken. We sincerely hope that the voices of t</p> <p>he residents of the region were heard and that the Board entertains voluntary agreements that incorporate non flow measures so that we can avoid the lawsuits and save our water and the fish in the process.</p>	<p>Refer to Master Response 1.1, General Comments, for a discussion of voluntary agreements, the State Water Board’s support for voluntary agreements, and LSJR Alternatives and Alternatives Development.</p>
1177	2	<p>We were very disappointed in the SED as instead of complying with the mandated balancing of interest, the SED is riddled with numerous errors, nonsensical or inaccurate models and inaccurate information in a failed effort to justify the proposal. It was so flawed that Mark Holderman from your own California Department of Water Resources pointed out, among other things, that "The Water Board's SED contains out-of-date scientific information." This was a stunning assessment and critique since it came from the agency responsible for assessing, measuring and operating California's water system.</p>	<p>The State Water Board used the best available science throughout the SED. A variety of data were obtained for the water quality planning process: quantitative data from peer-reviewed published literature on topics specific to the plan area; peer-reviewed published literature outside the plan area but on topics relevant to the proposed project; unpublished quantitative data from within the plan area and from outside of the plan area; qualitative data or personal communication with topical experts; and expert opinion if no other sources were available.</p> <p>Please see Master Response 1.1, General Comments regarding the substantial evidence standard.</p>
1177	3	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED does not quantify groundwater quality and groundwater storage losses or land subsidence impacts as required by Section 13000 of the Water Code.</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for a discussion of the approach to evaluate the impact of the proposed LSJR flow objectives on groundwater resources in the plan area, assumptions made, use of relevant data, and models used for this evaluation.</p>
1177	4	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED fails to properly evaluate the loss of habitat that will result from the fallowing of land. The SED also assumes that farmers will change from "low value" crops to high value crops yet it fails to properly consider the environmental effects from the resulting change. For instance what would the effect on air quality alone be from changing over 70,000 acres of tree crops to row crops so that you can fallow during dry years? The SED assumes that farmers will do the opposite but almond trees cannot be fallowed, Cattleman do not just automatically become farmers and dairies cannot transition without shutting down. This is much too simplistic of an outlook for the Valley and it is built on faulty and simplistic assumptions. There are numerous evaluations that need to be done to assess the true environmental impact from such a proposal.</p>	<p>The State Water Board analyzed potential effects on habitat, including those from fallowing in Chapter 8, Terrestrial Biological Resources, specifically Impact BIO-3. In Chapter 11, Agricultural Resources, and Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results, the State Water Board relied upon the Statewide Agricultural Production (SWAP) model to assist in the analysis because it is peer reviewed and already widely used by state and federal agencies to model cropping decisions. SWAP accounts for crop production costs and revenues and other factors. SWAP also reflects observed grower behavior in response to changing conditions, which is that in times when available water supplies are reduced, some water supplies will typically shift from lower net revenue crops (e.g., certain row crops) to ones with higher net revenue (e.g., certain tree crops). (For more information on SWAP, see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model.) However, Chapter 11 and Appendix G do not state 70,000 acres of tree crops would be removed. Please see Chapter 11, in particular Tables 11-15 through 11-20 and Appendix G, Tables G.4-6a through 6f for SWAP acreage results. In addition, Appendix B, State Water Board’s Environmental Checklist, discusses why fallowing in response to implementation of the plan amendments would not result in increased air quality impacts.</p>
1177	5	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED did not evaluate the impact of increased flows and the resulting decrease in availability of surface water on the South San Joaquin Water Supply Project. Under a 40 percent scenario, the Project would be a \$63 Million stranded asset and at the same time you would leave the residents with permanent drought restrictions and increased bills as they will still have debt service on the bonds that were used for the project. (Hearing Transcript Dec.16,</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that do not raise significant environmental issues. Please see Chapter 20, Economic Analyses, Section 20.3.3, Effects on Municipal and Industrial Water Supplies and Affected Regional Economies and Master Response 8.4, Non-Agricultural Economic Considerations.</p>

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		2016, P.152-153).	
1177	6	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED is flawed as it calls for increased flows for the Stanislaus during June when the FISHBIO OID rotary screw trap has shown that there are only 1 to 2 percent of out migrating fish at that time (Hearing Transcript Dec.16, 2016 P.165 Lines 2-15).</p>	<p>To review responses to comments submitted by other entities within the comment period on the 2106 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, 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 2.1, Amendments to the Water Quality Control Plan, regarding a description of the plan amendments, including the time period of February through June. Please see Master Response, 3.1, Fish Protection, regarding the scientific basis for the plan amendments and the inclusion of June in the plan amendments as this month relates to potential benefits to life stages of different fish species.</p>
1177	7	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED contains out of date and incomplete scientific information as detailed by Mark Holderman from the California Department of Water Resources.</p>	<p>Please see response to comment 1177-2.</p>
1177	8	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED assigns responsibility for environmental harms without evidence.</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues. Additionally, Master Response 1.1, provides a general discussion of the impacts evaluated in the SED.</p>
1177	9	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED uses Unimpaired Flow Standards ill-suited for real-time operations.</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues. Please refer to Master Response 3.2, Surface Water Analyses and Modeling, for a discussion of modeling and the representation of operations used to evaluate conditions in response to implementation of the LSJR alternatives. The program of implementation specifies that the percent of unimpaired flow would be adaptively implemented, as described in Master Response 2.2, Adaptive Implementation. Furthermore, please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the role of the STM working group, the preparation and use of annual adaptive operations plans, and the role of the Executive Director to allow for the ability to manage under potentially rapidly changing circumstances.</p>
1177	10	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED makes inappropriate use of a "Flow-Only" approach. As Dr. Henry, California Science Director for Trout Unlimited testified, "Fish habitat is composed of many components, it's not just water obviously, it's vegetation, it's substrate ...So flow is a very important variable, but it's really only as important as it is working with all of those other things. "So the one thing that would be a terrible outcome of this process given the Board's focus on water is if we developed flow proposals that actually didn't get us what we needed for the fish and used a lot of water in the process." (Hearing Transcript Nov. 29, 2016, P.119-120). Unfortunately, with the Board's flow only approach, that is exactly what is being proposed.</p> <p>The testimony of Mrs. Zolezzi was especially enlightening where she stated that "The Stanislaus River currently has enough habitat to support about 2,500 female salmon. The Stanislaus River now has more than 11,000 adult returning</p>	<p>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 material from the November 2016 public hearing, which will be identified by the person's name and is assigned a letter number.</p> <p>In addition to proposing amendments to the LSJR flow objectives, the State Water Board recognizes that non-flow measures have a complementary role to flow-based restoration. As described in Appendix K, Water Quality Control Plan Update, and Chapter 16, Evaluation of Other Indirect and Additional Actions, non-flow measures may include floodplain and riparian habitat restoration, reduction of vegetation-disturbing activities in floodplains and floodways, gravel augmentation, enhancement of in-channel complexity, improvement of temperature conditions, fish passage improvements, predatory fish controls, and invasive aquatic vegetation control. Please see Master Response 5.2, Incorporation of Non-Flow Measures, for more information. Please also refer to Master Response 3.1, Fish Protection, for more information specific to predation as another stressor.</p> <p>See Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between</p>

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		<p>salmon. So it's essential to ask why we would increase flow on the Stanislaus River to create more fish, when we don't have sufficient habitat capacity for the fish that we have now?" (Hearing Transcript Dec. 16, 2016, P.188 Lines 14-20). Furthermore she stated "...the research that we have demonstrates up to 98 percent of salmon and steelhead are lost to predation before they even leave the tributaries." (Ibid P.189 Lines 14-16). So clearly the SED is fatally flawed for its flow only approach.</p> <p>What is most troubling is that while the Board has acknowledged that there is a need for non-flow measures that are an important part of the solution, the Board has stated that it cannot consider them because it has limited authority. This is absurd. You are talking about ending life in the Valley as we know it but say that you are forced to do this because you have limited authority? Why isn't a joint hearing held (or similar vehicle) so that all of the tools in the toolkit can be used? We are better than this as a State and we cannot choose to throw more water at a problem just because of bureaucratic red tape. This is the definition of waste.</p>	<p>February 1 and June 30, which provides an analysis of biologically important and measurable benefits of providing higher and more variable flow during the February 1 through June 30 time period. Also see Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, for the scientific basis of the plan amendments, and specifically, Section 3.6, Analyses of Flow Effects on Fish Survival and Abundance, which reviews flow effects on fish survival and abundance. See Section 3.9, Conclusions, for a summary of the conclusions of the scientific basis. Please refer to Master Response 3.1, Fish Protection, regarding Appendix C, and current fish decline and the need for increased flow. Additionally, current research that has been conducted (e.g. Sturrock et al. 2015; State Water Board 2017; TID and MID 2013; USFWS 2014; Zueg et al. 2014) continues to provide evidence of the importance of suitable flow and related habitat conditions during the spring time period.</p> <p>Please refer to Master Response 1.1, General Comments, regarding State Water Board authorities, and to Master Response 1.2, Water Quality Planning Process, regarding authorities and regulations governing the process.</p>
1177	11	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>While the SED harkens back to the days of "unimpaired flows" by increasing the flows during critical months, it is based upon a faulty assumption. If the Board is really attempting to reenact the state of the rivers prior to "impairment", they would be cutting back flows not increasing them. I have lived within a mile of the Stanislaus virtually my entire life and you can still from old timers that remember that the Stanislaus would run DRY in drought years. You are trying to recreate something that never existed. The Board should study how the salmon survived during the pre-impairment days when the Stanislaus would run dry. This is further bolstered by the testimony of Dr. Rachel Johnson of the NOAA Fisheries at the Southwest Fisheries Science Center when she stated "...the Central Valley has one of the most highly variable natural precipitation regimes in the country. And so we're not shy of mega- droughts, mega-floods and these fish have evolved to deal with that environmental uncertainty." (Hearing Transcript Nov. 29, 2016, P.165 Lines 19-23).</p>	<p>See Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, which provides an analysis of biologically important and measurable benefits of providing higher and more variable flow during the February 1 through June 30 time period. Also see Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives, for the scientific basis of the plan amendments, and specifically, Section 3.6, Analyses of Flow Effects on Fish Survival and Abundance, which reviews flow effects on fish survival and abundance. See Section 3.9, Conclusions, for a summary of the conclusions of the scientific basis.</p> <p>Please also refer to Master Response 3.1, Fish Protection, regarding Appendix C, and discussion of the current fish decline and the need for increased flow, use of best available science, and the benefits anticipated from implementation of the plan amendments. Additionally, current research that has been conducted (e.g. Sturrock et al. 2015; State Water Board 2017; TID and MID 2013; USFWS 2014; Zueg et al. 2014) continues to provide evidence of the importance of suitable flow and related habitat conditions during the spring time period.</p> <p>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 material from the November 2016 public hearing, which will be identified by the person's name and is assigned a letter number.</p>
1177	12	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED contains erroneous information on water quality within the South Delta.</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues. Please also see Master Response 3.3, Southern Delta Water Quality, for additional detail and responses to comments on southern Delta water quality.</p>
1177	13	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED identifies incorrectly the State Water Project pumping operations as causing degradation of water quality in the Delta that actually result from net</p>	<p>Please reference Master Response 3.3, Southern Delta Water Quality, for a discussion on the continued operation of the State Water Project and Central Valley Project as they relate to meeting water quality objectives.</p>

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		flows, not water levels or net flux.	
1177	14	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED makes unverified assumptions about its effects on groundwater sustainability.</p>	Please see response to comment 1177-19.
1177	15	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED relies on dated groundwater data prior to 2010 and does not include impacts of data collected during the 2012-2017 drought.</p>	Please See Master Response 2.5, Baseline and No Project, and Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for discussions regarding the SED drought evaluation. Chapter 21, Drought Evaluation, describes how drought conditions are adequately characterized by the Water Supply Effects (WSE) model during the analysis period.
1177	16	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The manner in which the hearings were handled resulted in a deprivation of due process rights under the US and California Constitutions. The SED consists of thousands of pages and it is unreasonable to think that the citizens of the central valley which are some of the poorest and least educated can evaluate the SED within the time given (even the extended time frame). In addition, all meetings were held during the day despite the fact that the Central Valley is a region comprised of working people that cannot attend meetings during the day. More than that, despite the huge hispanic population in our region, the SED was not distributed in Spanish (or if it was, no one could find it). Worse yet, an interpreter was not available at the hearings.</p>	Please see Master Response 1.1, General Comments, regarding the public outreach process and the duration of the comment period. Each of the five public hearings began at 9 am, and only the final hearing in Sacramento ended before 5pm. The hearings in Stockton, Merced, and Modesto ended between approximately 5:30 pm and 7:45 pm providing opportunity to participate outside of a typical 8-hour work schedule. The State Water Board made every effort to make the document and the public hearings as accessible as was feasible. Live hearings were webcast, written transcripts and video recordings of the hearings were made available on the State Water Board website and written comments were accepted 24-hours per day. While the public hearing notices and agenda were not translated into Spanish, Spanish language text at the bottom of the public hearing notice directed interested parties to a point of contact and a phone number to request translation services at a public hearing.
1177	17	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>On numerous occasions, testimony concerning the proposal's connection with the twin tunnels was immediately cut off. "MS. DODUC: Wait, wait, wait. CHAIR MARCUS: One second, if you're going to talk about WaterFix, you can't." (Hearing Transcript Dec.16, 2016, P.68 Lines 18-20).</p> <p>There were numerous instances where the crowd was admonished that they could not testify regarding the twin tunnels connection. This was both a due process violation and a blatant attempt to piecemeal the project under CEQA.</p> <p>As stated in the California Supreme Court's 1986 Laurel Heights decision: "an EIR must include an analysis of future expansion or other actions if (1) it is a reasonably foreseeable consequence of the initial project, and (2) the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects." Since this project continually ignores all evidence to the contrary in its quest to use the flow only approach to "save salmon" it sure looks like it is just an excuse to get additional fresh water into the delta to hold off salt water intrusion for the twin tunnels. Silencing testimony about the connection will not change the facts that tie the two together.</p>	Please see Master Response 1.1, General Comments, for information regarding the relationship between the plan amendments and California WaterFix. Since the WaterFix proceedings are evidentiary, evidence cannot be presented outside of the proceedings, nor can ex-parte communications occur during the water quality control planning process for the LSJR flow and southern Delta salinity objectives. Master Response 1.2, Water Quality Control Planning Process, includes responses to comments regarding the updates to the plan amendments through independent proceedings.

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1177	18	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The one size fits all approach is flawed. The SED proposes to take the same amount from the Merced, Tuolumne and Stanislaus Rivers since they are tributaries to the San Joaquin. Why would you propose to take the exact same percentage from three entirely different rivers? Each individual river and reservoir has unique and specific operational criteria that must be met. For example, Don Pedro Reservoir is full yet New Melones has plenty of capacity, more than 1 Million acre feet. New Melones was so low after five years of drought and government mandated releases for fish that it is only today approaching its historic average for the date (February 7, 20 17). So why would you take the same percentage from each when one is Full and at overflow status and the other is nowhere near full? Furthermore as set forth by the Stockton East representative Mrs. Zolezzi, the Stanislaus has already achieved the doubling goal and requiring additional flows would place a disproportionate burden on the Stanislaus. (Hearing Transcript Dec.16, 2016, P.192 Lines 1-4). So it doesn't make sense to just use a one size fits all percentage when each of the rivers is so unique.</p>	<p>Please refer to Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments regarding the justification for the plan amendments. Please refer to SED Appendix C for the scientific support for the approach to the plan amendments. Please Refer to Master Response 1.2, Water Quality Control Planning Process, regarding the adequacy of the SED and program-level documents and program-level analysis.</p> <p>The proposed plan amendments recommend 40 percent of unimpaired flow within an adaptive range of 30 and 50 percent of unimpaired flow. The SED analysis describes that this range will provide reasonable protection of fish and wildlife while moderating impacts to water supply for agriculture, drinking water and other uses. The proposal recognizes that although flow levels are unsustainably low at significant times on the tributaries, flow levels are not the only factor affecting fish survival, and that a number of other factors degrade conditions for native fish, such as non-native species, predation, high water temperatures, barriers to fish passage, and habitat loss. Thus, the plan amendments in Appendix K include recommendations to other agencies for non-flow actions (for example, habitat improvement) that are complementary to the flow objectives for the protection of fish and wildlife. These actions may support a change in the required amount of flow, within the range specified by the flow objectives, if certain criteria are met. These considerations, together with the evaluation of impacts on other beneficial uses, are explained in a level of detail in the SED that is appropriate for a programmatic analysis and provides a factual basis for the State Water Board's ultimate determination. For more information regarding the program-level analysis of the SED in evaluating environmental impacts of the plan amendments, please see Master Response 1.1, General Comments.</p> <p>The comment is incorrect that the doubling goal for fall-run Chinook salmon has been achieved on the Stanislaus River. Please refer to SED Chapter 7, Aquatic Biological Resources. Information in this chapter describes that in 2011, fall-run Chinook salmon escapement to the Stanislaus River was below 5,000 fish, most of which are hatchery origin. The doubling target for the Stanislaus River is 22,000 naturally produced adult fish.</p>
1177	19	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED failed to consider the effects of the Sustainable Groundwater Management Act (SGMA) on groundwater pumping ability in the impacted aquifers. As Mr. Anderson stated "We are aware that in the future pumping may be limited by the SGMA, the Sustainable Groundwater Management Act. And it's difficult to speculate exactly what those effects will be." (Hearing Transcript Nov. 29, 2016, P. 70 (Lines 4-8)). The SED acknowledges that the central valley would have to make up the loss of surface water by increased pumping of groundwater which directly contradicts the goals of the Sustainable Groundwater Management Act. It is therefore a flawed analysis and inaccurate report on the effects of increased flows as it assumes a remedy (increased pumping of groundwater) that will not be available (or to the extent assumed). This is another unbelievable omission from a SED that contains thousands of pages.</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding the approach to analyzing impacts on groundwater resources, potential increases in groundwater pumping, and SED consideration of SGMA. The SED does not contradict SGMA. SGMA requires local public agencies sustainably manage groundwater basins that are subject to SGMA without causing "undesirable results" (Water Code § 10721(x)). 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.</p>
1177	20	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED does not integrate surface water models with readily available</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for information regarding modeling and the use of groundwater data. Please also see Master Response 3.2, Surface Water Analyses and Modeling, for information regarding surface water balance and groundwater demand assumptions.</p>

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		groundwater models to assess the true impact of the increased flows proposal.	
1177	21	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED assumes that loss of surface water will be made up by groundwater pumping even though there are many areas where this is not an option. Specifically the Sierra Nevada Foothills.</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for discussions on the approach to evaluating groundwater impacts and potential increases in groundwater pumping. Chapter 9, Groundwater Resources, 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. Chapter 13, Service Providers, acknowledges that groundwater resources in some locations in the extended plan area are limited. Some alternative approaches for responding to reduced surface water supply, other than increased groundwater pumping, are also discussed.</p>
1177	22	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>Despite your mandate to do so, the SED does not consider any balancing of public trust resource protection with public interest needs for water. You have placed the purported needs of the Salmon over all else (humans and all other wildlife). Under the California Water Action Plan, the State set forth their co-equal goals of providing a more reliable water supply for California and to protect, restore and enhance the Delta ecosystem. The SED places one component of the Delta ecosystem- Salmon above all else including the California Water Supply and other aspects of the environment. The fact that your proposal calls for an increase in flows for fish in the driest years shows that you are favoring fish over humans. The proposal assumes that this is possible as human use will just be made up by groundwater pumping even though we all know that this will be limited by SGMA. This is disingenuous and the true impacts of fish over humans should be analyzed. We believe that there is more than ample evidence in the record to prove that the impacts to the central valley far outweigh the few speculative benefits to fish.</p>	<p>Refer to Master Response 1.1, General Comments, regarding protection of the public trust, the California Water Action plan, and the consideration of beneficial uses by the State Water Board. Refer to Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding groundwater pumping in response to reductions in surface water in response to implementation of the LSJR alternatives and SGMA compliance.</p>
1177	23	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>Food security is a national security issue and the SED needs to examine the effect of the proposal on the state's ability to continue to provide food for the people of California and the Nation. This is especially true of organic food which has very high certification standards in California. The state keeps growing and yet it has not added any new water storage and instead it keeps taking additional water for environmental purposes. Where are Californians going to get their food and at what costs and what drop in quality and more important safety. This proposal targets the top 3 food producing counties in the State and fails to evaluate the impact on California and the Nation. Specifically the SED needs to evaluate the impact on food safety, food pricing, the environmental and labor regulations. If the evaluation assumes that the food will just be imported then it will also need to evaluate the environmental effects (including global warming impacts), national security issues, labor implications (child labor etc.) and environmental justice issues.</p>	<p>The State Water Board's obligations under CEQA are to identify the significant environmental effects of the plan amendments on the physical environment and to mitigate for those effects through feasible mitigation measures and alternatives. The State Water Board properly evaluates impacts to the physical environmental and other factors that may result from the plan amendments throughout the SED as required by CEQA and the Porter-Cologne Water Quality Control Act. SED Chapters 5 through 23 evaluate, compare, and discuss effects to the physical environment and other factors and appropriately identify significant environmental effects that potentially result from the proposed plan amendments. Please refer specifically to Chapter 5, Surface Hydrology and Water Quality, Chapter 11, Agricultural Resources, and Chapter 20, Economic Analyses, for description of environmental impacts that occur to water supply for agriculture and municipal uses, agricultural land area in production, and the total economic output related to agricultural production.</p> <p>Please refer to Master Response 1.2, Water Quality Control Planning Process, for responses to comments regarding State Water Board consideration of beneficial uses. The State Water Board reviews and considers all the effects of the flow objectives through a broad evaluation into public trust and public interest concerns including, but not limited to, aquatic resources, economics, reservoir storage, power production, and groundwater resources. A precise quantification of potential impacts to these resources is not required to meet fulfill the State Water Board's water quality planning obligations. (United States v. State Water Resources Control Bd., supra, at 182</p>

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			<p>Cal.App. 3d at pp. 118-119.) As summarized in the Executive Summary and discussed in detail throughout the SED, the SED provides such an evaluation. In accordance with CEQA and the Porter-Cologne Act, the SED identifies and evaluates the potential significant adverse environmental effects of the plan amendments, as well as economic and other impacts. This includes, for example, analyses of impacts to agricultural resources (Chapter 11 and Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives), service providers (Chapter 13, Service Providers), and other economic analyses (Chapter 20). The SED's analyses provide a sufficient and credible assessment of the environmental impacts and other considerations that will inform the State Water Board's decision regarding the plan amendments. For a summary of the resource impacts analyzed in the SED, please refer to Chapter 18, Summary of Impacts and Comparison of Alternatives, and Master Response 1.1, General Comments.</p> <p>Please also refer to Master Response 1.1 for a description of the general approach and description of the programmatic environmental impact analyses and the economic considerations contained in the SED. See also Master Response 8.0, Economic Analyses Framework and Assessment Tools, for the framework, scope, and tools used to consider economics within the SED. As described in Master Response 1.1 the State Water Board is required to analyze potentially significant physical environmental effects and disclose those potential effects to decision makers. As described in both Master Response 1.1 and 8.0 the State Water Board is required to consider economics; the focus of the economic analyses are to quantify compliance costs to affected parties (e.g., growers and water districts) and assess related impacts on local and regional economies.</p>
1177	24	<p>Our own review of the testimony and the SED finds that the SED is flawed and deficient for the following reasons:</p> <p>The SED should evaluate whether the mass oyster die off resulting from low salinity in San Francisco Bay is caused by the mandated flows for fish.</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues. Also see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding comments about incorporation of other species.</p>
1178	1	<p>The approach taken to impact analysis in the SED is imbalanced.</p> <p>The effects of the unimpaired flow (UIF) proposal on fisheries have been evaluated in very specific detail, extensively described in the SED and other documents, and reviewed by several scientific panels. Conversely, the effects of UIF on water supply resilience are addressed only in the SED. This analysis utilized a very generalized approach that is difficult to interpret, and has not been independently evaluated by a single scientific panel of experts.</p>	<p>Please see Master Response 1.1, General Comments, regarding the Delta Reform Act, including establishment of coequal goals, the relationship to the water quality control planning process and the protection of fish, and consideration of beneficial uses within the water quality control planning process. Please also see Master Response 1.1 regarding the programmatic approach of the SED and the difference between program-level and project-level analyses. Please see Master Response 1.2, Water Quality Control Planning Process, for general information regarding the water quality control planning process, and specific information on the Appendix C, Technical Report on the Scientific Basis for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives (Delta Flow Criteria Report), and the peer-review process of Appendix C.</p>
1178	2	<p>Board staff have been quick to point out that the lack of detail is due to the nature of the SED being a "programmatic" document. Stanislaus County agrees that the SED does not need to be based on perfect science, but the approach is so generalized that the impacts on water supply resilience cannot be properly understood. The SED is required to support a balancing decision between two co-equal goals, but as conceived, it emphasizes the potential ecological benefits of UIF, while generalizing and de-emphasizing the potential adverse impacts on water supply resilience and the resulting impacts to our urban and rural communities, and the agricultural business sector at large.</p>	<p>Please see response to comment 1178-1 for information regarding the Delta Reform Act, the establishment of coequal goals under that act, and the consideration of beneficial uses in the water quality control planning process.</p>
1178	3	<p>The SED did not include any analysis of the interplay between UIF and how much groundwater would be actually available under the Sustainable Groundwater Management Act (SGMA). Without understanding this</p>	<p>Please see response to Comment 1178-14 regarding topics related to groundwater resources and the Sustainable Groundwater Management Act.</p>

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		fundamental limitation, the impact of UIF on agricultural and urban water supply cannot be known, and is almost certainly underestimated because less groundwater will be available in the future.	
1178	4	The SED assumes groundwater use can be increased to 2009 levels before any fallowing will occur. But as we have learned, the SED did not include any analysis whether the 2009 pumping rates are sustainable. It almost certainly will not be sustainable in all areas, and more crops will need to be fallowed than assumed.	Please see response to Comments 1178-14, 1178-5 and 1178-6 regarding topics related to groundwater resources and agricultural resources.
1178	5	The generalized analysis approach in the SED sheds no light on what areas might be hit harder than others, yet the economic impact models used (SWAP and IMPLAN) assume that impacts will be uniform and the first crops to be fallowed will be low value crops. Without knowing where the area of shortfall will be and what is being grown there, the impacts on agriculture will assuredly be underestimated.	The SED is a programmatic document and the economic analysis accurately describes the potential overall economic effects of the LSJR alternatives for the region in a general sense. It is beyond the scope of the analysis to describe precisely how and where impacts will be distributed. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the scope of the economic analysis.
1178	6	The models assume that irrigation of permanent crops can be curtailed in some years, and then resumed in wetter years when more water becomes available and the crops will produce again. The models do not consider that permanent crops will actually be damaged or die.	Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding SWAP modeling assumptions and information regarding permanent crops. Please see Master Response 3.5, Agricultural Resources, for information on irrigation of permanent crops and illustrative examples of demand management.
1178	7	These kinds of evaluations always have to deal with uncertainty, and normally, Stanislaus County would expect that such an important analysis would have been supported by some kind of uncertainty or sensitivity analysis. That would have helped us to at least understand what our uncertainty means to the impact and economic analyses. No such analysis was done. To provide a single estimate of the economic and agricultural impacts is misleading when there are so many moving pieces.	The SED presents a reasonable estimate of the foreseeable economic effects of the LSJR alternatives. Please see Master Response 2.3, Presentation of Data and Results in SED and Responses to Comments, for discussion of why average results were presented. In addition, please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, and Master Response 8.2, Regional Agricultural Economic Effects, for presentation of the results of the revised SWAP model run averaged by water year type.
1178	8	It is not clear that the economic impact analysis has considered all of the downstream impacts of land fallowing on the regional job market and economy.	Performing a downstream linkage analysis would require assuming some relationship between input sectors and downstream industries. Information is not available to realistically model this relationship. However, the potential economic effects of the LSJR alternatives on downstream industries, such as dairies, are discussed in Chapter 20, Economic Analysis, and in Master Response 8.2, Regional Agricultural Economic Effects.
1178	9	Agriculture is a major industry and largest water user in Stanislaus County. Therefore, the question of water supply resilience goes straight to the heart of understanding the potential agricultural impacts to our region and all of its citizens. Stanislaus County wants to be sure that the analysis in the SED is unbiased, and robust enough to support a balanced decision.	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 1.1 for information on the State Water Board's consideration of beneficial uses. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding water reliability and economic effects. Please see Master Response 3.2, Surface Water Analyses and Modeling, for a discussion on water supply reliability and drought conditions.
1178	10	Stanislaus County believes the SED uses an approach that puts a great deal of science behind the ecosystem restoration part of the equation, but uses a generalized and uncertain approach to look at water supplies. As it stands, we do not believe the SED is very useful for informing a balanced decision. Though it has been stated that "we don't want to make this an argument about fish vs. farms," the Water Board is faced with a difficult balancing decision of the two co- equal goals of ecosystem restoration and water supply resilience.	Please see response to comment 1178-1 for information regarding the Delta Reform Act, the establishment of coequal goals under that act, and the consideration of beneficial uses in the water quality control planning process.

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1178	11	[ATT 1: Stanislaus County Written Comments & Questions, Amendment to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Supporting Draft Revised Substitute Environmental Document (SED)]	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.
1178	12	<p>[From ATT 1] The SED analysis does not support objective balancing between the coequal goals of ecosystem restoration and water supply reliability as required by the California Water Code.</p> <p>The water code requires that the process of amending the Bay-Delta Water Quality Control Plan be based on a balancing of the co-equal goals of water supply resilience and ecosystem restoration. Unfortunately the environmental analysis in the Substitute Environmental Document (SED) is imbalanced and as such cannot support a balanced decision-making process. As conceived, the SED emphasizes the potential ecological benefits of unimpaired flow (UIF), while generalizing and de-emphasizing the potential adverse impacts of UIF on water supply resilience. Board staff have been quick to point out that the SED is a programmatic document and the analysis of UIF impacts in the SED is not intended or required to go into very specific details. Stanislaus County agrees that the SED does not need to be based on perfect science or a complete analysis, but the approach taken is so generalized and imbalanced, that it creates an inherent policy bias and is not able to support an objective balancing decision between two co-equal goals.</p> <p>The SED evaluates the potential impacts of implementing unimpaired flow in the region on a programmatic level, and builds on a long and detailed study of the potential fisheries benefits of unimpaired flow in the region's rivers. Whereas the foundational premise of the concept that increased flows will directly result in increased fisheries management is of significant question, and will be addressed by other respondents to the SED, Stanislaus County does not offer any such arguments in our submittal. Unfortunately, the approach taken to groundwater impact evaluation in the SED leaves a fundamental imbalance in how in-stream benefits area evaluated compared to regional adverse impacts.</p> <p>For example Stanislaus County notes the following:</p> <ul style="list-style-type: none"> - Work on evaluating in-stream ecosystem benefits was advised by several scientific panels; evaluation of the adverse effects on water supply resilience has not been advised even by a single panel. - In stream processes were evaluated using several models; but the approach to groundwater resources evaluation was very generalized and abstract, was based on an incomplete groundwater budget, and did not include any modeling. - The ecosystem effects analysis attempts to quantitatively evaluate the benefits of UIF on fish and habitat using very specific metrics that supposedly relate to specific benefits and balancing objectives. Unfortunately, the SED does not present any information, data or studies that specifically relate floodplain access or temperature benefits on the Tuolumne River, for example, to juvenile fish growth, survival or future adult escapement. 	Please see Master Response 1.1, General Comments, regarding the Delta Reform Act and coequal goals, adequacy of the SED analysis, substantial evidence, and the level of analysis required in a program-level document and program-level analysis. Please see Master Response 1.2, Water Quality Control Planning Process, regarding consideration of beneficial uses within the context of the water quality control planning process. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding science and policy justification for adopting the plan amendments. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding water supply reliability. Please see Master Response 3.1, Fish Protection, regarding benefits of the plan amendments for protecting fish. Chapter 19, Analyses of Benefits to Native Fish Populations from Increased Flow between February 1 and June 30, includes descriptions of temperature and floodplain benefits to fish specific to the Tuolumne River. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding the approach to analyzing impacts on groundwater resources, including discussions on groundwater models, the 1-inch regional threshold, and sustainable groundwater management.

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		<p>- By contrast, the groundwater impact analysis uses a regionalized theoretical threshold of 1-inch of drawdown to predict whether significant and adverse impacts to water supplies will occur. The metric is abstract and arbitrary. There is no explanation how it was derived – why not ½ inch or 2 inches? It is impossible to tell even the approximate location and amount of drawdown, subsidence, water quality effects and supply shortfalls that will be experienced. The concepts presented are abstract and generalized, difficult to understand or even arbitrary, and are not related to specific adverse impacts or balancing objectives. The inherent imbalance in this approach is self-evident.</p> <p>- Finally, the ecosystem analysis spans a range of potential conditions, as is appropriate for an analysis of this complexity and importance; whereas, the water supply impact analysis is built on a single groundwater use scenario. It was explained that this scenario was selected as the “most likely outcome,” but no effort was made to evaluate whether it is actually sustainable. Furthermore, no perspective was provided on how likely it is that groundwater use might be different from the assumed scenario, and what the reasonable range of potential outcomes could be. What will happen if the assumed groundwater extraction rate cannot be supported for more than a few years, or, as is likely, cannot be supported in certain areas? Board staff argues that the water balance information to perform such an analysis is not available and that future groundwater management and demand decisions cannot be predicted; however, hydrogeologists are performing this very analysis all over the San Joaquin Valley at this time following standard hydrogeologic practice. The State also routinely incorporates more robust predictions of future groundwater demand into its water planning studies. Assessment of the future groundwater extraction rate is a basic and critical component of impact analysis. Without sensitivity or uncertainty analysis to better understand the foundational assumptions of the analysis, the reliability of the impact and economic analyses cannot be understood and stands in doubt. It is impossible to use such an analysis to support sound policy making.</p> <p>To sum up, the SED is required to support a balancing decision between two co-equal goals, but as conceived, it emphasizes and is very clear regarding the potential ecological benefits of UIF, while generalizing, deemphasizing, and leaving uncertain the potential adverse impacts of UIF on water supply resilience. The impact analysis does not need to be perfect, but it needs to include a much more robust basis for balancing of objectives to occur.</p>	
1178	13	<p>[From ATT 1] The scientific basis for the impact analysis in the SED is inaccessible and unclear, has the appearance of being biased, and is unlikely to gain the broad public acceptance that is critical for a decision of this importance.</p> <p>It is essential that a public policy decision as important, complex and controversial as the amendment process of the Bay-Delta Water Quality Control Plan be informed by science that is understandable and unbiased. Stanislaus County notes that we are not talking about perfect science, but science that is perceived as being unbiased, accessible and intelligible. There will always be those that are not persuaded, or that twist science to their own ends, but broad public acceptance of the basis of the Board’s decisions is critical both to the</p>	<p>Please see Master Response 1.1, General Comments, for responses to comments regarding the scientific basis of the SED, including discussions on the length and complexity of the SED, best available science, substantial evidence, and the scientific basis of the plan amendments. The State Water Board acknowledges the complexities of the plan amendments and the science that supports them, and the State Water Board has made every attempt to present the information in plain language and in a clear format with emphasis on the information that is useful to the public, agencies, and decision makers.</p> <p>Please see response to comment 1178-12, regarding State Water Board consideration of beneficial uses within the context of the water quality control planning process.</p>

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		<p>Board and to the regulated communities. Unfortunately, the approach taken to impact analysis in the SED fails to fulfill these requirements. Conversely, the analysis of water supply reliability impacts is based on a generalized and abstract approach, is not possible to relate to actual impacts, and is superficial. The predictable public reaction to such an analysis is that the science used in the analysis is normative, that is, it favors one policy alternative over another. This perception throws the validity of the SED’s intent and conclusions into doubt for a broad cross section of the people that have reviewed the document.</p> <p>Chair Marcus has spoken extensively on the appropriate use of science to support controversial policy decisions, and the fact that normative science tends to generate “more heat than light” in such cases. Stanislaus County agrees with this view and finds it very troubling in that the SED is based on such an imbalanced approach that will only fuel the public mistrust of the already difficult decisions the Board is tasked with making. Public acceptance of the Board’s decision, to the extent it is reasonably possible, is crucial to a successful long term policy. Stanislaus County urges the Board perform a balanced and complete analysis prior to making this important decision.</p>	
1178	14	<p>[From ATT 1] SGMA is a cornerstone of the State water policy, and yet the SED fails to analyze the potential effect of UIF implementation on SGMA compliance.</p> <p>It is essential that the effects of UIF implementation on meeting state and regional water management requirements be adequately understood. The SED is deficient in this regard in that it does not include any evaluation of the potential effect of UIF implementation on SGMA compliance, and provides no useful information for local jurisdictions to help them understand how to implement a difficult water management task that the UIF proposal will make much more difficult. The failure to provide any information or guidance in this regard is an abdication in water management leadership.</p> <p>Stanislaus County notes that SGMA is a new cornerstone of the California water policy and the Governor’s Water Action Plan. The three-county area affected by the UIF proposal has a long history of conjunctively managing surface and groundwater. In much of the area, this has been effective, but Stanislaus County also faces some significant challenges, especially in areas where surface water is not available or reliable. Most of our cities and unincorporated communities are heavily dependent on groundwater. Water quality issues and limited surface water availability are making it a challenge for these communities to meet their forecast water demands, especially since forecast growth in this area is greater than state averages. Many domestic wells have dried up during the drought. The region is hard at work in forming Groundwater Sustainability Agencies (GSAs) and planning for SGMA compliance. As you know, this is a very challenging process, but through a lot of hard work and collaboration, we are making progress. The proposed UIF requirements will radically change the local groundwater balance and put all of these efforts into uncertainty at what is probably the most critical time ever in groundwater management planning in this region.</p> <p>The SED completely fails to analyze the impacts of UIF on this critical aspect of local water supply management and state policy implementation. It includes a</p>	<p>The State Water Board strived to use best available science and best available information for the SED. However, the State Water Board acknowledges that uncertainty is inherent in a programmatic planning effort of this geographic and temporal scale. The State Water Board wrote the SED as objectively and completely as possible, following the appropriate legal process and in compliance with CEQA and the regulations that govern certified regulatory programs. A wide range of published literature, official reports and personal communications is cited to reasonably and objectively disclose the environmental setting of the plan area. The SED is a program-level (not project-level) first-tier evaluation, consistent with State CEQA Guidelines, Section 15168. Therefore, a location-specific groundwater analysis is outside the scope of the SED, because the State Water Board cannot reasonably foresee the mitigation actions local water users would take in response to surface water reductions, and quantification of the impacts of the proposed LSJR flow objectives would be speculative. For example, if local water users chose to build new wells or deepen existing wells in response to the plan amendments, the State Water Board could not forecast the location of the new wells, the depth of the wells, or the new extraction rate. The hydrogeological analyses under development in the San Joaquin Valley are site specific, highly technical, and require detailed location-specific analyses of the basin geology, hydrology, local water use, and recharge. SGMA requires Groundwater Sustainability Agencies (GSAs) to conduct hydrogeological analyses when developing Groundwater Sustainability Plans (GSPs) (Wat. Code, § 10727.2), but these types of analyses are beyond the scope of the SED. For a discussion on the scope and programmatic nature of the SED, the adequacy of the approach, and the requirements of CEQA for program-level review, please see Master Response 1.1, General Comments. For a discussion on the groundwater impact analysis approach (including the thresholds and criteria used to evaluate impacts on groundwater resources), and why groundwater models were not used in the SED, please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act.</p> <p>The SED uses historical 2009 levels of groundwater pumping for the baseline analyses. This is appropriate, because 2009 is the year the State Water Board issued the Notice of Preparation for the SED. It is not appropriate to include SGMA in the baseline or in the alternative analysis, because the baseline predates SGMA, no GSPs were developed before the release of the Recirculated SED, and it is unknown what actions GSAs will take to achieve the sustainability goal.</p>

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		<p>very generalized analysis of groundwater impacts and concludes there will be significant and unavoidable adverse impacts, but it does not provide any information where those impacts will occur or how severe they will be. The SED implies, and Board staff have stated, that the burden of analyzing and addressing groundwater impacts falls to the local communities under SGMA. They state that there are areas that are already in overdraft, and this issue already has to be addressed on a local level. They argue that since the local responses cannot be predicted, that evaluation of UIF impacts on SGMA implementation would be speculative. However, there are existing tools developed by the State, like the C2VSim model, that could have been used to analyze these impacts in a useful way.</p> <p>The areas that currently are currently experiencing overdraft have been working hard on achieving sustainability. A key component for these areas is to find additional surface water sources to decrease groundwater dependence or to use for recharge groundwater. Now these very plans are thrown into in a state of uncertainty because more surface water will be used to support UIF, but the effects are completely unknown. The GSAs that are trying to form in these areas are being told their job will be much more difficult, maybe impossible, and the position that Board staff has taken is that the SED is not required to analyze this direct impact on local groundwater supply resilience. Stanislaus County does not understand how the SED can possibly support a balancing decision between co-equal goals when it completely fails to analyze the impact of UIF implementation on this critical aspect of groundwater management.</p> <p>This approach is also inconsistent with the importance of SGMA as a cornerstone of regional and statewide water resources planning. While it is true that all local responses to the challenges of SGMA and UIF cannot be known, the SED stops short of including any analysis of the impacts or range of impacts that can be expected. The science that has been used provides no insight into the resulting impacts. Furthermore, the SED provides no information regarding potential options for mitigating what it has identified as significant and unavoidable impacts on groundwater supply reliability. This approach unfairly places the burden of all meaningful impact assessment and mitigation development on the local area and, frankly, greatly increases the chances that GSA formation and GSP implementation will not be successful. It is inconsistent and unfair that the state would require implementation of SGMA, threaten local basins with a state takeover if they do not comply, then completely change the playing field for what is needed to comply and take position that they have no responsibility to evaluate this impact.</p>	<p>Therefore, any impact assessment would be speculative and beyond the scope of the SED. However, SGMA was properly considered in the analyses, both as an existing legal requirement to prevent further degradation of groundwater basins and as a potential cumulative limit on future irrigation supplies. For a discussion on establishing the baseline, please see Master Response 2.5, Baseline and No Project. For a discussion on modeling assumptions of the level of pumping associated with 2009 and 2014 infrastructure in the SWE model, please see Master Response 3.2, Surface Water Analyses and Modeling.</p> <p>The State Water Board appreciates the efforts local entities have made to comply with SGMA. The State Water Board also recognizes the negative impacts of overdraft. Groundwater overdraft conditions in the plan area are legacy issues caused by unsustainable agricultural expansion; SGMA was passed by the legislature in 2014 to address overdraft issues. 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 cannot abdicate its responsibilities because local agencies assert that it will be a challenge to achieve sustainable groundwater management without existing or increased levels of surface water diversions. The State Water Board acknowledges that it will be challenging, but SGMA compliance cannot occur at the expense of reasonably protecting surface water beneficial uses; both groundwater and surface water must be protected. The plan amendments do not conflict with SGMA. Rather, both processes allow local entities to comprehensively address groundwater and surface water resources through integrated planning that does not trade impacts between surface water and groundwater. Actions that water users may take to replace surface water are described in Chapter 16, Evaluation of Other Indirect and Additional Actions, Section 16.2, Lower San Joaquin River Alternatives—Other Indirect Actions. Substitution of surface water with groundwater is only one of the actions described in the chapter. The SED and plan amendments do not require or encourage groundwater substitution as a response to reductions in surface water. The SED merely reflects the historical local response 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. Under SGMA, GSAs will define what sustainability means at the local level based on the needs of the beneficial uses and users of groundwater in each basin. Any future GSPs will have to incorporate any projected reduction in surface water due to the plan amendments, and account for the amount of surface water available in accordance with all relevant water regulations. For further discussion on SGMA in the context of the plan amendments, please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act.</p> <p>Providing technical assistance to local agencies to comply with SGMA is beyond the scope of the SED. However, the Department of Water Resources is required to assist GSA with SGMA compliance (Wat. Code, § 10729). Information on SGMA assistance is available at www.water.ca.gov/groundwater/sgm/.</p> <p>Please see Master Response 2.7, Disadvantaged Communities, for a discussion regarding the plan amendments as they relate to disadvantaged communities (DACs) and small water systems and the resources available to assist with water supply issues and improve water supply resiliency.</p>
1178	15	<p>[From ATT 1] The SED impact analysis is deficient in that it fails to use readily available tools and information in its groundwater resources impact analysis, including tools developed by other state and federal agencies for such studies.</p> <p>Board Staff have indicated that any additional detail in the groundwater impact analysis would be speculative, and at a workshop in Modesto even said that</p>	<p>Please see response to Comment 1178-14 regarding groundwater resources.</p>

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		<p>more specific analysis is impossible because local responses cannot be predicted. How can it be then that this very analysis is currently being undertaken by hydrogeologists all over the San Joaquin Valley in order to prepare for development of Groundwater Sustainability Plans (GSPs) that comply with state regulations? Proven scientific tools and approaches are available, and sufficient data exist to evaluate groundwater resource-related impacts in specific and meaningful ways so that the nature of the impacts and their implications for groundwater management can be understood. Many of the available tools were developed by other state and federal agencies, suggesting that the failure to use them is the result of a siloed approach to the SED project by Board staff. An analysis would not need to be perfect, or as thorough as the studies that are currently being undertaken, to develop a more adequate understanding the groundwater impacts and allow objective balancing of the co-equal goals of water supply resilience and ecosystem restoration. The claim by staff that such analysis would be speculative or impossible is inconsistent with the standard of current hydrogeologic practice, and the SED is therefore substandard in its application of science.</p> <p>Specifically, Stanislaus County notes the following:</p> <ul style="list-style-type: none"> - C2VSim was developed by DWR expressly to support these kinds of evaluations and decisions, but it was not used. Even the 2009 version of this model includes subregional water budgets that could have been updated to assess groundwater impacts more locally. Many improvements to C2VSim have been made in recent years and further improvements are in progress. No justification is provided why this useful tool was not used. - CVHM is a similar model developed by the USGS that could have been consulted or used. Updates for CVHM are also in progress. There is no indication that USGS was consulted regarding the potential applicability of this model to the SED analysis. - There are a number of other regional models that were constructed to evaluate these kinds of issues and that could have been used or consulted in evaluating groundwater resource-related impacts, including the USGS MERSTAN model, which includes a large portion of the area that would be affected by implementation of the proposed UIF requirements. The USGS and local governments made a substantial investment in developing this model to make it available for these kinds of studies. Again, there is no indication that USGS was consulted regarding the potential applicability of this state-of-the-art model to the SED analysis. - The modeling effort that Board Staff have indicated would be speculative or impossible is currently being undertaken in each of the Counties affected by the UIF proposal. Available data and modeling tools are being used (or have been used) to build robust modeling tools that are adequate for impact evaluation. Building such models is considered part of the routine standard of care for practicing hydrogeologists, and are a necessary foundation to sound water management decisions. None of the Counties were consulted regarding these ongoing efforts, which are being funded by State grants. 	

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		<p>- The SED fails to utilize data tools which reflect information on small water systems. Specifically, the Water Board analysis does not appear to have referenced information collected, hosted and mandated by their very agency. The Human Right to Water (HR2W) web page, SDWIS federal database, and the Drinking Water Watch web page should have been utilized to determine real and possible effects of the SED on small water systems.</p>	
1178	16	<p>[From ATT 1] The groundwater impact analysis in the SED fails to follow standard hydrogeologic practice and does not meet the standard of care for a CEQA impact analysis.</p> <p>The SED fails to utilize basic components of sound hydrogeologic impact assessment and does not meet the standard of care for CEQA analysis. The hydrogeologic impact analysis in the SED relies on an incomplete water budget, uses an abstract and arbitrary threshold of significance, does not use standard minimum analysis tools, and relies on a single scenario with questionable validity.</p> <p>The basic component of any groundwater resources impact analysis is a water budget. The SED acknowledges the importance of an adequate water budget for impact analysis, and yet the water budget information provided in the SED consists of quoted information from a variety of sources that apply to a various different areas within the study area. No attempt was made to actually develop a water balance for the study area, or to even verify or validate the information that was quoted. As such the water budget information quoted in the SED provides an inadequate understanding for impact analysis. Furthermore, the water analysis itself is not based on a water budget at all, but on a single estimate of regional groundwater demand, and the estimated increases in demand that may occur if UIF is implemented. These numbers were not evaluated in terms of their impact to the local water budget, so impacts could not be adequately predicted, and the SED instead relied on an abstract and arbitrary threshold of 1 inch of regional drawdown to evaluate whether significant impacts were likely. The lack of an adequate water budget to support the impact analysis in the SED represents a fundamental departure from the use of hydrogeologic science in impact analysis, which is difficult to justify when the data needed to develop a water budget are available and being gathered by local hydrogeologists to prepare local jurisdictions for SGMA compliance. In addition, the DWR has been gathering data from remote sensing studies to update the water budget data in C2VSim.</p> <p>A hydrogeological analysis of this scope and importance is almost universally recognized as requiring construction of a calibrated numerical groundwater flow model. This has been the case for a long list of water project and policy decisions by local, state and federal agencies. A review of the CEQA and NEPA literature will show that this is usually the case for similar projects. This is largely because use of a numerical flow model is key to developing an adequate understanding of the complex inter-relationship of the various water budget components, and the resulting impacts when new stresses are added. Without the additional rigor imposed on this analysis by use of such a model, it is extremely difficult, if not impossible, to evaluate such complex questions in a</p>	<p>Please see response to Comment 1178-14 regarding groundwater resources.</p>

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		<p>meaningful way.</p> <p>Only a single groundwater use scenario was considered in the impact and economic analysis, with the assumption that it was the most likely outcome. However, no effort was made to evaluate whether this rate is actually sustainable. (It was not possible to make such an evaluation without an adequate water budget.) Typically, such an important assumption is supported by a sensitivity or uncertainty analysis so that the uncertainties and limitations can be understood. As it is, the SED provides no perspective on that will happen if this rate cannot be supported for more than a few years, or, as is likely, cannot be supported in certain areas. Coupling a deterministic, single outcome impact analysis of an important issue with such a generalized approach is an inadequate basis for decision making.</p> <p>No information is provided regarding the derivation of the “1 inch” threshold of significance adopted in the SED for groundwater resources assessment. This value appears to have no precedent and does not appear to be based on any study. Why was a value of 1 inch selected? Board staff were asked these questions in a workshop and in writing, but have provided no response. In fact, this threshold appears to be an arbitrary construct that was developed because, without an adequate groundwater budget, any such impact analysis would be impossible. The threshold itself is an arbitrary and capricious method for establishing drawdown impact significance. Using this threshold, it is not possible to determine the amount and location of the actual drawdown, water quality, groundwater storage, subsidence or other groundwater related impacts. In addition, it is possible for these impacts to occur locally as a result of the proposed UIF implementation even when the 1 inch threshold is not reached.</p>	
1178	17	<p>[From ATT 1] The SED fails to adequately address all reasonably foreseeable impacts cumulative effects and indirect effects of UIF implementation.</p> <p>The SED does not evaluate the potential for significant adverse impacts related to groundwater resources sufficiently to answer questions contained in the CEQA Initial Study Questionnaire adopted by the SWRCB. Given that the SED would be expected to contain a more in depth analysis than an Initial Study, this is a significant deficiency. The questions which are not addressed include those related to subsidence, water quality effects (point and non-point, natural and anthropogenic), drawdown, water supplies and non-aquatic biological resources (e.g., Groundwater Dependent Ecosystems (GDEs)). The approach taken to impact analysis does not account for the fact that these adverse effects can only be evaluated when the water budget is known, and when the analysis can account for sub-regional or local conditions and effects. As discussed previously, this could have been readily achieved by developing a groundwater budget and analyzing impacts using a groundwater flow model. As it stands, the generalized treatment of adverse effects in the impact analysis is not sufficient to understand what impacts will actually occur.</p>	<p>The level of detail in the SED is reasonable and appropriate for a program-level analysis. The State Water Board strived to use the best available science throughout the groundwater impacts analysis, consistent with State CEQA Guidelines.</p> <p>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. Please see Master Response 6.1, Cumulative Analysis, for information regarding the cumulative impact assessment for effects on service providers and the incorporation of SGMA into the cumulative analysis.</p> <p>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 and implementation of the plan amendments. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding evaluations related to subsidence, groundwater quality effects, groundwater-dependent ecosystems, and the methodology for evaluating groundwater resources in Chapter 9, Groundwater Resources. Chapter 5, Surface Hydrology and Water Quality, Impact WQ-3 addresses whether or not the plan would substantially degrade water quality by increasing pollutant concentrations caused by reduced river flows. Please see Chapter 13, Service Providers (Impacts SP-2a and SP-2b) regarding potential effects of water quality on service providers.</p>
1178	18	<p>[From ATT 1] Areas at greater risk of subsidence have been identified by USGS, the BOR, DWR, and others. Evaluation of potential subsidence impacts is a</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding evaluations related to subsidence and the methodology under which groundwater</p>

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		standard component of CEQA-compliant groundwater resource impact analysis. Vulnerable areas, or areas with active subsidence, could have been compared with drawdown estimates to identify subsidence risk on a subregional level; however, this was never attempted. As such, the risk to public infrastructure and safety related to subsidence has not been evaluated.	resources are evaluated in Chapter 9, Groundwater Resources. Please see Impact GW-2 in Chapter 9 regarding subsidence.
1178	19	[From ATT 1] Public water systems vulnerable to water quality impacts are known to exist in the study area, and evaluation of impacts to municipal and small public water systems is a standard component of any CEQA compliant impact analysis. Potential adverse impacts to these areas could have been readily identified with available tools; however, this was never attempted. No attempt was made to identify which public water supply systems have experienced water quality issues that could be exacerbated by the UIF proposal, and no assessment of the potential risks to public services or safety was completed. The ability of public water systems to respond to water quality and supply issues was not evaluated. In fact, as discussed in greater detail in our comments further below, Board staff had made no attempt to obtain any information regarding the numerous small public water systems in the area that could be adversely affected, even though these records are readily available from the Board's Drinking Water Division. These systems are the most vulnerable to potential water quality degradation, and have the least resources to respond.	The commenter does not specify the small public water systems in the plan area that may be affected. The Environmental Setting in Chapter 13, Service Providers, identifies 93 public water suppliers and approximately 66 domestic wells within the four groundwater subbasins in the area of potential effect; Eastern San Joaquin, Modesto, Turlock, and Extended Merced. These suppliers and wells were identified with the best available information. Please refer to Section 13.4.2., Methods and Approach, for a description of how this information is used in the impact analysis. Please also see Impacts SP-1, SP-2a, and SP-2b regarding the potential impacts on small public water systems. As identified in the references section of Chapter 13, several resources from the State Water Board were consulted, including its Drinking Water Division, and information from those sources is included in Chapter 13. Please refer to Master Response 3.6, Service Providers, for clarifying information regarding municipal and public water systems. Please refer to Master Response 2.7, Disadvantaged Communities, for clarifying information regarding small public water systems as they may relate to disadvantaged communities and funding opportunities regarding potential responses.
1178	20	[From ATT 1] Areas with domestic wells vulnerable to wells going dry or water quality impacts are known to exist in the study area, and evaluation of these impacts is a standard component of any CEQA compliant impact analysis. Potential adverse impacts to these areas could have been readily identified with available tools; however, this was never attempted.	Please refer to response to comment 1178-19.
1178	21	[From ATT 1] Potential adverse effects to groundwater-dependent ecosystems from the proposed UIF implementation were not evaluated. The potential for impacts to GDEs located away from streams was not evaluated (e.g., seeps, springs, wetlands and groundwater dependent oak woodlands). As such, biological impacts were not adequately evaluated.	Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for discussion regarding groundwater-dependent ecosystems.
1178	22	[From ATT 1] The potential for domestic and other production wells to be adversely impacted evaluated was not evaluated (e.g., wells going dry, pump lowering, increased maintenance, increased pumping cost, diminished supply for approved uses, worsening water quality, deeper wells/well deepening resulting in other adverse impacts).	Please see Master Response 3.6, Service Providers, for a discussion regarding impacts on service providers. Please refer to Master Response 6.1, Cumulative, for a discussion regarding the program level cumulative impacts assessment related to groundwater, SGMA, service providers, and domestic and other production wells.
1178	23	[From ATT 1] The potential for more acute impacts during dry and multiple dry years was not adequately evaluated.	The commenter does not specify which acute impacts during dry and multiple dry years were not evaluated. Please see Master Response 2.3, Presentation of Data Results in SED and Response to Comments, regarding the cumulative distributions presented in the impact analysis and the use of cumulative distributions to identify drier years. Chapter 21, Drought Evaluation, identifies that 2 out of 10 years have runoff that is less than 50 percent of average runoff, and 4 out of 10 years have runoff that is less than 75 percent of average runoff. The potential effects on water supply increase during these dry-year sequences and potential water supply reductions are reflected in other SED chapters (e.g., Chapter 10, Recreational Resources and Aesthetics). Tables 21-4a to 21-4c in Chapter 21 describe reductions in full diversions under each LSJR alternative for each

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			tributary. The tables describe average water supply reductions and percentage of years with water supply deficits, indicating that existing deficits are greatest in dry-year sequences (with depletion of storage) and become greater for LSJR alternatives with higher percent of unimpaired flow requirements (e.g., LSJR Alternatives 3 and 4).
1178	24	[From ATT 1] Groundwater impacts typically develop over many years and take many years to correct. The SED failed to identify a planning horizon for impact analysis that considers this fact.	Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for information on the method and approach to groundwater impact analysis. Between the impact analysis in Chapter 9, Groundwater Resources, and the cumulative analysis in Chapter 17, Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources, the SED does take into account that groundwater impacts do develop over many years.
1178	25	[From ATT 1] The SED failed to adequately consider cumulative impacts. The SED did not evaluate the potential cumulative effects of UIF implementation and SGMA compliance. UIF implementation could make some aspects of SGMA compliance very difficult, if not impossible, without devastating effects. The failure to consider this reasonably foreseeable cumulative effect is a significant deficiency in the SED. Other cumulative effects were only superficially evaluated. Several of the groundwater subbasins that would be adversely affected by UIF implementation are designated as being in a state of critical overdraft and have experienced active subsidence, water quality degradation and supply depletion. Other areas have seen significant drops in groundwater levels, and significant numbers of domestic wells have dried up. Although the SED acknowledges that some of the effects exist, it does not include an evaluation of the cumulative effects of UIF implementation on these existing adverse conditions.	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding a discussion of SGMA, its relationship to the plan amendments, and its evaluation in the SED. Please see Master Response 6.1, Cumulative Analysis, for information on the adequacy of the programmatic cumulative analysis and the evaluation of cumulative impacts on service providers. Chapter 17, Cumulative Impacts, Growth-Inducing Effects, and Irreversible Commitment of Resources, includes SGMA in the list of projects considered. It states that “SGMA would improve groundwater resources and provide service providers tools to prevent and/or mitigate domestic well drinking water supply impacts and therefore are not expected to result in a cumulative impact on groundwater resources and service providers.” It also notes that SGMA could result in limits on groundwater supply for agricultural resources during the transition from current practice to sustainable groundwater management. Nonetheless, the incremental contribution to groundwater resources from LSJR Alternatives when combined with past, present, and reasonably foreseeable projects was analyzed and disclosed. It was determined that the impacts would be cumulatively considerable.</p> <p>Please refer to Master Response 3.6, Service Providers, for availability of municipal water supply and compliance with SGMA and the plan amendments.</p>
1178	26	[From ATT 1] The SED failed to adequately evaluate the indirect effects of UIF implementation. As a result of the substantial reduction of surface water supply on the rivers in the region, it is expected that there would be a substantial depletion of groundwater supplies in the Modesto, Turlock, and Merced Subbasins. These reductions would potentially require service providers to construct new and expanded water supply or wastewater treatment facilities, the construction of which could result in significant environmental effects. These indirect effects were not considered in the SED.	<p>Several chapters in the SED analyze the indirect effects. Chapter 9, Groundwater Resources, analyzes LSJR Alternatives 2, 3, and 4 impacts that could substantially deplete groundwater supplies or interfere substantially with groundwater recharge.</p> <p>SED, Chapter 13, Service Providers, analyzes the effects that the LSJR alternatives may have that would require or result in the construction of new water supply facilities or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. Chapter 16, Evaluation of Other Indirect and Additional Actions, programmatically evaluates the potential environmental effects associated with the construction of new and expanded water supply or wastewater treatment facilities in Sections 16.2.2, Substitution of Surface Water with Groundwater, through Sections 16.2.7, New Surface Water Supplies.</p>
1178	27	<p>[From ATT 1] The SED analysis fails to meet the requirement to consider the Human Right to Water contained in the Water Code, as it did not identify potentially disproportionate impacts to Disadvantaged Communities and small water systems.</p> <p>In 2013, the Human Right to Water was elucidated in the California Water Code, establishing that every human being has the right to safe, clean, affordable and accessible water. This right is required to be considered by the State Board when revising, adopting or establishing policies. The populations in the three-</p>	<p>The right of every human being to safe, clean, affordable and accessible water for human consumption, cooking, and sanitary purposes (Wat. Code, § 106.3) has been and will continue to be a part of the State Water Board’s consideration of the proposed LSJR flow objectives. For further information regarding consideration of the human right to water in the plan amendments, please see Master Response 2.1, Amendments to the Water Quality Control Plan.</p> <p>For information regarding consideration of disadvantaged communities (DACs) in the SED, the human right to water as it relates to DACs, financial and technical assistance programs available to assist DACs to implement drinking water infrastructure projects and to comply with SGMA, please</p>

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		<p>county area that are most vulnerable to potential adverse groundwater resources impacts resulting from the SED are disadvantaged communities (DACs). Most of these communities are entirely reliant on groundwater for their water supplies, and many have been struggling with addressing ongoing water quality issues with already strained resources. Many schools and other small water systems in disadvantaged rural areas in the region also rely on groundwater. Such communities and small water systems are the reason that the state recently incorporated the Human Right to Water in the Water Code. And yet, the analysis in the SED fails to recognize or address this issue. The generalized impact analysis in the SED is insufficient to determine which DACs and small water systems may be adversely affected, though such an analysis could have been readily completed.</p> <p>Moreover, the SED does not recognize even in general terms that DACs will be disproportionately affected by water quality and supply issues resulting from UIF implementation, and offers no mitigation or guidance on actions to address these impacts. In fact, it became clear during a recent workshop in Modesto that Board staff never even reviewed its own files regarding the many small public and non-public water systems in the region that could be at risk. Such a review is foundational to meeting the Board's mandate to consider the Human Right to Water in its decision. For example: The cities of Ceres and Turlock, like most cities and communities in Stanislaus County, are entirely dependent upon groundwater for their drinking water supplies. Both Cities are experiencing significant water quality concerns which have undermined the reliability of their drinking water supplies. Drinking water contamination includes but is not limited to: nitrates, arsenic, uranium, PCP and PCE. Both agencies operate Public Water Systems that are listed as having current exceedance / compliance issues on the State Water Board's "Human Right to Water" website. Neither City currently has access to any surface water supply; however, together the agencies have formed the Stanislaus Regional Water Authority (SRWA) which has a Water Sales Agreement with Turlock Irrigation District (TID) to obtain up to 30,000 acre feet per year of Tuolumne River surface water. The SRWA's water treatment plant is in the planning stages. At present, the planned delivery schedule is that Ceres will receive 5,000 acre feet per year and over time 10,000 AFY. The City of Turlock estimates an immediate need of 10,000 AFY, increasing to 20,000 AFY over time. Not only will the SRWA's project provide an alternative source of high quality drinking water, it will also assist in our region's efforts to comply with the Sustainable Groundwater Management Act of 2014 (SGMA) by allowing for the in lieu recharge of the aquifer. The Cities of Ceres and Turlock have worked hard over the years to reduce water demand while simultaneously looking to expand the diversity of their water supply portfolio. Preliminary estimates indicate that the SRWA water treatment project will cost \$200 million. For those two communities this is the single largest infrastructure investment since the communities were incorporated. The SED has undermined the viability of the project. Preliminary estimates from TID indicate that they will lack an adequate supply of Tuolumne to make the SRWA's drinking water project viable. Ceres and Turlock lack the resources to invest millions of dollars with no assurance that a surface water supply will be available. Therefore, the SED further exacerbates the Cities' drinking water supply and water quality</p>	<p>see Master Response 2.7, Disadvantaged Communities.</p> <p>The SED provides program-level analysis of the environmental impacts of the plan amendments on resources and service providers. Project-level details that would inform the planning of the Stanislaus Regional Water Authority (SRWA) water treatment plan project would be addressed in a subsequent environmental analysis. However, Chapter 16, Evaluation of Other Indirect and Additional Actions, describes the actions that affected entities may take to develop alternative water supply resources which include transfers, sales, aquifer storage and recovery. Chapter 16 also acknowledges that water treatment facilities may be needed to address water quality concerns associated with substituting surface water with groundwater.</p> <p>Because the SED is a program-level document, the State Water Board was not required to model or assess impacts on DACs differently from the rest of the plan area and did not have unique assumptions in regard to DACs. For further discussion regarding the requirements of CEQA as they pertain to a program-level analysis, please see Master Response 1.1, General Comments.</p> <p>Please refer to Master Response 8.4, Non-Agricultural Economic Considerations, for a discussion regarding water supply uncertainty and effects on water supply infrastructure planning, and stranded capital costs (e.g., investments in expanded or new water treatment plants).</p>

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		problems.	
1178	28	<p>[From ATT 1] The SED failed to appropriately analyze impacts to public water supply systems.</p> <p>The SED failed to appropriately analyze the potential impacts of UIF implementation to public water supply systems on a number of points. First, a fundamental premise that is missing from the analysis is the recognition that drinking water is a protected use for both surface and groundwater. California recognizes water for domestic purposes as the most important use of water and irrigation as the next most important use (Cal. Code Regs., tit. 23, § 106). Yet the SED concludes that groundwater "...service providers and private users relying heavily or primarily on groundwater sources for municipal and domestic use could experience significant reductions in water supply over the long term" (p. 13-64). The SED fails to identify that this impact would violate the water code and to identify adequate mitigation.</p>	<p>Please refer to Master Response 3.6, Service Providers, regarding Water Code Section 106 and the impact on supplies of water needed for minimum health and safety needs.</p> <p>Please refer to Master Response 1.1, General Comments, regarding the State Water Board's obligations under CEQA to mitigate for the significant environmental impacts identified throughout the SED.</p>
1178	29	<p>[From ATT 1] Cities' General Plans and similar documents were not considered in the SED. A CEQA document would be expected to include a review of key applicable planning documents and to discuss whether the proposed action is consistent with their requirements. This is especially important since the San Joaquin Valley is projected to experience significant population increases over the next 20+ years.</p>	<p>State agencies, such as the State Water Board, are generally immune from local regulation and land use controls based on the doctrine of sovereignty and therefore are typically not bound by city and county general plans or local ordinances (Hall v. Taft (1956) 47 Cal. 2d 177, 183; Town of Atherton v. Superior Court (1958) 159 Cal. App. 2d 417; Lawler v. City of Redding (1992) 7 Cal. App. 4th 778, 784; Laidlaw Waste Systems, Inc. v. Bay Cities Services, Inc. (1996) 43 Cal. App. 4th 630, 635; Bame v. City of Del Mar (2001) 86 Cal. App. 4th 1346, 1356; City of Orange v. Valenti (1974) 37 Cal. App. 3d 240, 244; Rapid Transit Advocates, Inc. v. Southern Cal. Rapid Transit Dist. (1986) 185 Cal. App. 3d 996, 1001). This concept involves a hierarchy of governmental authority with the federal government at the top, and then moves downward to the state government, and follows to local governments such as cities and counties (United States v. City of Pittsburg, California, 661 F.2d 783 (9th Cir. 1981); 68 Ops. Cal. Atty. Gen. 310 (1985)). State agencies, such as the State Water Board are not bound by local general plans, regulations, or ordinances because cities and counties lack legal authority over state and federal agencies, as higher sovereigns. The state can waive this right to immunity from local regulation and land use control, but only if it consents through statute or provision of the California Constitution (Laidlaw Waste Systems, Inc. v. Bay Cities Services, Inc. (1996) 43 Cal. App. 4th 630, 635; Bame v. City of Del Mar (2001) 86 Cal. App. 4th 1346, 1356). The consent to waive immunity must be expressly stated. The State Water Board has not issued a waiver of immunity or consent to local control for the plan amendments (City of Orange v. Valenti (1974) 37 Cal. App. 3d 240, 244; Laidlaw Waste Systems, Inc. v. Bay Cities Services, Inc. (1996) 43 Cal. App. 4th 630, 635; Bame v. City of Del Mar (2001) 86 Cal. App. 4th 1346, 1356).</p> <p>Although the State Water Board is not required to comply with local regulations or other local land use controls, including general plans, as described above, the State Water Board did incorporate appropriate planning documents into the SED. Since the plan amendments are necessarily broad, and because the SED is a programmatic document, not every single plan was incorporated in every instance in the SED. Please see Master Response 1.1, General Comments regarding the programmatic nature of the SED's analysis. Programmatic analyses are by their very nature broader and less detailed than project level analyses, because the details that are needed to conduct a project-level analysis are not known and cannot be described in sufficient detail in which to appropriately analyze. Whether or not particular plans were incorporated depends on the type of potential impact on a particular resource. Because CEQA requires an agency to analyze direct or indirect physical effects on the environment, inconsistencies with local plans, by</p>

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			<p>themselves, do not amount to significant environmental effects in under CEQA and therefore may not have been incorporated if no physical impact could result because of the plan amendments. The SED incorporates large regional plans throughout the SED as they relate to evaluating physical environmental impacts on different resources, including: the Central Valley Flood Protection Plan in Chapter 6, Flooding, Erosion, and Sedimentation; the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan in Chapter 7, Aquatic Biological Resources, Chapter 8, Terrestrial Biological Resources, Chapter 16, Evaluation of Other Indirect and Additional Actions, and Appendix B, State Water Board’s Environmental Checklist; Integrated Regional Water Management Plans Chapter 9, Groundwater Resources, and Chapter 13, Service Providers. The SED references various county general plans or ordinances in Chapters 7, 8, 9, 10, Recreational Resources and Aesthetics, and 11, Agricultural Resources. Finally, it reviewed and incorporated different city general plans and urban water management plans in Chapter 13.</p>
1178	30	<p>[From ATT 1] As a result of the substantial reduction of surface water supply on the rivers, it is expected that there would be a substantial depletion of groundwater supplies in the Modesto, Turlock, and extended Merced Subbasins. These reductions would potentially require service providers to construct new and expanded water supply or wastewater treatment facilities, the construction of which could result in significant environmental effects. These effects were not considered in the SED. In addition, no consideration was given to whether such projects are even feasible.</p> <p>Page 13-61 of the SED states: “The LSJR Alternative 2 program of implementation states that the State Water Board will take actions as necessary to ensure implementation of flow objectives does not impact supplies of water for minimum health and safety needs, particularly during drought periods. Actions may include assistance with funding and development of water conservation efforts and regional water supply reliability projects and regulating public drinking water systems and water rights. These actions would be aimed at those service providers supplying water to municipal users and may offset water supply reduction impacts on providers. However, it is expected service providers may need to construct or expand new water treatment facilities or water supply infrastructure to try to accommodate reductions in surface water supplies.” This statement indicates that the burden for mitigating the impacts of UIF implementation will fall on the local agencies and the state will not provide mitigation for the actual impacts.</p> <p>The potential impacts of the flow proposals in the SED on our region’s municipal water supplies are staggering. The document notes that groundwater supplies and groundwater impacts will be severely impacted (Chapters 13 and 16).</p> <p>Page 13-67: “The average annual groundwater balance is expected to be substantially reduced in the Modesto, Turlock, and Extended Merced Subbasins...which would eventually produce a measureable decrease in groundwater elevations. These substantial reductions in groundwater supplies would, in turn, impact service providers and private groundwater users. These entities would likely experience significant reductions in their groundwater supply, particularly over the long term and in dry years. Service providers at particular risk include those that have a higher potential for a well to run dry in the future. For example, Hickman, Hilmar CWD, Hughson, and Keys CSD in the</p>	<p>Please see response to comment 1178-26 and 1178-31 regarding the potential environmental effects of constructing new and expanded water supply or wastewater treatment facilities topics related to groundwater resources.</p> <p>Please refer to Master Response 1.1., General Comments, regarding the programmatic nature of the environmental impact analysis and the State Water Board’s obligations under CEQA to mitigate for the significant environmental impacts identified throughout the SED.</p> <p>Please refer to Master Response 3.6, Service Providers, regarding concerns about the availability of drinking water and water for minimum health and safety needs.</p> <p>Please see Master Response 3.2, Surface Water Analyses and Modeling, for a discussion on water supply reliability.</p>

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		<p>Turlock Subbasin; Le Grand CSD and the City of Merced in the Extended Merced Subbasin; and the City of Modesto in the Modesto Subbasin (Table 13-3b). This is because these service providers have relatively few active wells relative to the size of the population served and/or the range of difference between well depths and depths to groundwater is less than 100 feet”</p> <p>Unfortunately the State Water Board is deliberately and consciously undermining the drinking water supply and security in our entire region.</p>	
1178	31	<p>[From ATT 1] The document acknowledges that the proposed regulatory action will have a significant impact on municipal groundwater supplies, and yet places the burden for developing alternate water supply sources on the local agencies. For instance, page 13-67: “The average annual groundwater balance is expected to be substantially reduced in the Modesto, Turlock, and Extended Merced Subbasins under LSJR Alternative 3, which would eventually produce a measureable decrease in groundwater elevations (Chapter 9, Groundwater Resources). The SWRCB lists a suite of alternative water supplies that local agencies could develop to mitigate the impacts of the SED but does not consider where the water will come from or whether it is actually available. Chapter 16 details a number of alternative water supplies that local agencies could develop to offset the impacts of the SWRB’s regulatory program. The actions include the following capital intensive projects, the costs and feasibility of which were not considered:</p> <ul style="list-style-type: none"> - Transfer/Sale of Surface Water - Substitution of Surface Water with Groundwater - Aquifer Storage and Recovery - Recycled Water Sources for Water Supply - Delta Diversions - Water Supply Desalination - New Surface Water Supplies 	<p>The other indirect actions that entities may take in response to indirect effects of the LSJR alternatives (e.g., surface water supply reduction) are addressed in the SED (Chapter 16, Evaluation of Other Indirect and Additional Actions) because they have been taken in the past within the plan area and within the Central Valley. Thus these actions are not speculative. The plan amendments do not mandate or require any action evaluated in Chapter 16 be implemented. As identified in Chapter 16, the different types of other indirect actions that could be taken in response to each of the alternatives are unknown; therefore, specific combinations of actions cannot be predictably matched with each alternative. While entities could take one or more of these actions, the combination of actions that entities would take under each alternative is speculative and unknowable. It is reasonable to include these actions in a portfolio of possible actions because they were considered in the past and may be appropriate for further consideration depending on how circumstances change. Furthermore, if these actions do not occur, the potential environmental impacts and estimated costs associated with these actions, as disclosed in Chapter 16, would not occur.</p>
1178	32	<p>[From ATT 1] Additional surface storage projects on the Tuolumne, Merced and Stanislaus should be considered to provide additional municipal and agricultural supplies. There should be an analysis of developing additional storage in existing reservoirs on the Merced, Tuolumne and Stanislaus Rivers. This is not found in the document, not even in the “New Surface Water Supplies” section which is limited to a discussion of new locations for dams and reservoirs. The document should investigate enhancing storage by increasing the heights of New Exchequer Dam, New Don Pedro Dam, and New Melones Dam. Increasing storage may be an appropriate means of meeting fishery flows and retaining enough water to offset impact to irrigation and municipal users.</p>	<p>Enhancing storage by increasing the heights of the New Exchequer, New Don Pedro and New Melones Dams is not considered a reasonably foreseeable or feasible indirect action. Consideration of raising the height of the dams to enhance storage was not found in recent documents relating to planning, management and licensing application of the dams (Final Environmental Impact Statement for Hydropower Licenses [Merced River Hydroelectric Project—FERC Project No. 2179-043 and Merced Falls Hydroelectric Project—FERC Project No. 2467-020]), 2015; Don Pedro Hydroelectric Project, FERC NO. 2299 Final License Application, Exhibit E-Environmental Report, 2014; The Merced River S.A.F.E. Plan (Salmon, Agriculture, Flows, and Environment), http://www.mercedriversafeplan.org/, Accessed August 14, 2017; New Melones Lake Area Resource Management Plan and Environmental Impact Statement Final Scoping Summary Report, 2007). In addition, new water rights acquired for the resulting additional storage would be the most junior among those for the entire reservoir. The water stored in the reservoir would have to be used to meet the demand of other beneficial uses with more senior water rights</p>

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			<p>first. There might not be any water left to be released for fish and wildlife benefits, especially in dry years, when the flow is badly needed downstream for fish. Furthermore, retaining more water for other beneficial uses would result in even less flow released downstream, resulting in an even worse situation for fish.</p> <p>The list of the indirect actions recommended in Chapter 16, Lower San Joaquin River Alternatives—Other Indirect Actions, is not exclusive. As stated in Chapter 16 and in Chapter 13, Service Providers, Section 13.4.2, Methods and Approach, service providers may choose any approach described in Chapter 16, or a combination of approaches, or they may identify another as-yet unknown approach to meet their own unique needs. Potential new water supply facilities or infrastructure are described in Chapter 16 and include, but are not limited to, substitution of surface water with groundwater, aquifer storage and recovery, and recycled water sources.</p>
1178	33	<p>[From ATT 1] The document defers groundwater impacts and mitigation to GSAs under SGMA. In effect, the state is indicating that mitigation will be provided by the local communities. The document notes that the unimpaired flow proposal will have an adverse impact on groundwater sustainability and result in the degradation of groundwater quality but defers mitigation to others, stating that "...local agencies can and should nevertheless exercise their authorities under SGMA to prevent and/or mitigate any degradation of groundwater quality from the migration of contaminants." (p. 13-80).</p>	<p>Please refer to Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding compliance with the SGMA and plan amendments. Please refer to Master Response 1.1, General Comments, regarding the programmatic nature of the SED and the State Water Board's obligations under CEQA to mitigate for the significant environmental impacts identified throughout the SED.</p>
1178	34	<p>[From ATT 1] The SED did not adequately consider the impacts to small water systems and local schools that are reliant on groundwater.</p> <p>There are a significant number of small water providers, including schools and disadvantaged communities that will be adversely impacted by implementation of UIF. Small districts and many rural School District systems that rely on groundwater for drinking and irrigation from wells will likely experience the need for well deepening, additional wells (deeper levels) and/or water treatment. Many of these small systems have shallow wells that are particularly vulnerable to groundwater quality and supply impacts. Surface water has been unavailable or prohibitively expensive for these districts, and funding for water treatment, well replacement or well deepening has been problematic.</p> <p>The expenses associated with these impacts have not been planned for or budgeted, and these districts do not have the rate structure, size and funding available to implement such changes. Small water providers have developed operational, capital programs and rate structures based on the regulatory environment established by the State. Efforts to adjust to the impact of UIF would have comparatively huge time and money impacts for these districts. Small agencies do not have the staffing and expertise to handle such a significant change. The disproportionate impacts to these small districts would wipe out decades of capital, operations and financial planning. Without significant financial support and technical assistance many of these small agencies would be doomed to bankruptcy or extinction.</p> <p>This is not evaluated or recognized in the SED. No potential avenue for these districts to address these issues is proposed or discussed in the SED. Some are questioning if the treatment of these districts in the SED is part of a tactical endeavor to force small district to consolidate and in effect loose independent</p>	<p>Please see Master Response 2.7, Disadvantaged Communities, regarding the role of the Sustainable Groundwater Management Act in protection of disadvantaged communities (DACs), drinking water quality, assistance programs available to DACs to ensure access to safe, clean and affordable water supplies, and consideration of the human right to water. In addition, consolidation or extension of service to small public water systems (Senate Bill (SB) 88) is also discussed in Master Response 2.7.</p> <p>As described in Chapter 22, Integrated Discussion of Potential Municipal and Domestic Water Supply Management Options, the state is committed to identifying and monitoring the status of drought-vulnerable public water systems to help prevent or mitigate any anticipated shortfalls in supply and to secure alternative sources of water for the communities when needed. As described in Chapter 22, the reduction in surface water supply could affect all entities that rely upon groundwater as a partial or primary source of drinking water, including end-users of municipal and public water systems, DACs, domestic well owners, and schools. Chapter 22 addresses potential impacts on schools, small water systems (community water systems), and disadvantaged communities in the context of public health due to implementation of the LSJR alternatives and the effects these alternatives may have on groundwater quality. In addition, it is noted in the chapter that disadvantaged communities may be more vulnerable than other municipalities and cities to impacts associated with the LSJR alternatives. Nonetheless, public water systems serving DACs are required to maintain public health and resources. Section 22.5, Assistance Programs, describes select State Water Board programs that provide financial and technical assistance to agencies for implementing water supply and water quality projects. SB 88 is discussed in Section 22.5.2.</p> <p>Chapter 13, Service Providers, provides a discussion of community water systems in the context of groundwater quality in Section 13.2.1.</p>

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		<p>and local control. The SED fails to reflect the Water Boards own policies and procedures (SB88, SB1263 and Technical Managerial Financial Reports) that acknowledge small water systems struggle with sustainability by not including an acceptable analysis of real and possible effects on small water systems.</p>	
1178	35	<p>[From ATT 1] Although it has been stated that implementation of UIF should not be an argument about fish vs. farms, the Board is faced with a difficult balancing decision of the two co-equal goals of ecosystem restoration and water supply resilience. Agriculture is the biggest industry and biggest water user in the region that will be most affected by UIF, so the question of water supply resilience goes straight to looking at agricultural impacts, which must be addressed in a way that is unbiased, and that is robust enough to support the balancing decision. As stated previously, the SED uses an approach that puts an extensive evaluation behind the ecosystem restoration part of the equation, but uses a generalized and uncertain approach to look at water supplies, and therefore at the impacts on agriculture. As it stands, the SED is not useful for informing a balanced decision.</p> <p>Stanislaus County agrees that the SED does not need to be based on perfect science, but the approach to evaluating the impacts on water supply resilience is so generalized that, unlike the SED evaluation of benefits and impacts to fisheries, the adverse impacts to water supply resilience and therefore to agriculture cannot be properly understood. This undermines the balancing of the two co-equal goals.</p>	<p>Please also see Master Response 1.1, General Comments, regarding the Delta Reform Act and coequal goals and the consideration of beneficial uses. As described in the Master Response 1.1, the Delta Reform Act does not require the State Water Board to achieve the coequal goals; however, the plan amendments would further the coequal goals by proposing water quality objectives that reasonably protect fish and wildlife while continuing to provide water supplies for other beneficial uses. Please see response to comment 1178-9. Please see Master Response 1.1 for information regarding the overall approach to the analyses contained in the SED. Please see Master Response 3.2, Surface Water Analyses and Modeling, regarding the tools used to evaluate water supply (e.g., Water Supply Effects Model) as appropriate for the water quality control planning process.</p>
1178	36	<p>[From ATT 1] The SED did not include any analysis of how SGMA may limit the availability of groundwater if UIF is implemented. Without understanding this fundamental limitation, the impact of UIF on agriculture cannot be known, and is almost certainly underestimated because the general consensus is that less groundwater is likely to be available in the future. The SED assumes groundwater use can be increased to 2009 levels before any fallowing will occur. As stated previously, this single demand number is used with the assumption that it represents the most likely outcome, but the likelihood of being able to sustain 2009 extraction levels is not known. The SED did not include any evaluation that 2009 extraction levels would be sustainable. Indeed, such evaluations are impossible without first understanding the groundwater budget, which the Board staff did not attempt to do. The assumed extraction levels almost certainly will not be sustainable in all areas, and more crops will need to be fallowed than assumed.</p>	<p>Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for discussion of SGMA compliance and groundwater recharge.</p>
1178	37	<p>[From ATT 1] These kinds of evaluations always have to deal with uncertainty, and normally, Stanislaus County would expect that such an important analysis would have been supported by considering additional possible outcomes, such as less, or no groundwater being available to replace surface water used to support UIF requirements. An uncertainty or sensitivity analysis of the reasonable range of possible outcomes is also usually completed. As it is, the SED provides no insight into the certainty that the 2009 groundwater pumping rate can be implemented or sustained, and therefore no perspective on the reliability of the impact and economic analyses. In addition, averages are provided throughout the document to show the impacts. As we all know an</p>	<p>The SED presents a reasonable estimate of the foreseeable economic effects of the LSJR alternatives assuming a reasonable level of groundwater replacement based on historical groundwater use. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, for discussion of groundwater use. Please see Master Response 2.3, Presentation of Data and Results in SED and Responses to Comments, for discussion of why average results were presented. In addition, please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, and Master Response 8.2, Regional Agricultural Economic Effects, for a presentation of the results of the revised SWAP model run averaged by water year type.</p>

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		average can represent vastly different ranges of values, and for impact evaluation more specific understanding of the range of inputs and outputs is needed. To provide a single estimate of the economic and agricultural impacts is misleading when so much is uncertain in the SED.	
1178	38	[From ATT 1] The generalized analysis approach in the SED sheds no light on what areas, or what crops, might be hit harder than others. The analysis was based on water use information in the Modesto ID, TID, Merced ID, OID or SSJID and the results extrapolated across the region using the SWAP and IMPLAN models. In addition, some areas that receive surface water will almost certainly have less groundwater available than assumed. Nevertheless, the SWAP and IMPLAN models assume that impacts will be uniform and the first crops to be fallowed will be low value crops. Without first knowing where the area of shortfall will be and what is being grown there, the impacts on agriculture cannot be known, and almost certainly be underestimated.	The SED is a programmatic document and the economic analysis accurately describes the potential overall economic effects of the LSJR alternatives for the region in a general sense. It is beyond the scope of the analysis to describe precisely how and where impacts will be distributed. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the scope of the economic analysis.
1178	39	[From ATT 1] The SED uses 2010 data in regard to groundwater. These values have changed significantly, and in some cases resulting in negative and irreversible changes in groundwater use and availability as a result of the extended drought. These changes would influence the conclusions and the degree of impact as determined in the SED, but were not considered. For example, pumping capacities have dropped around 40% for the Merced ID wells.	Please see Master Response 2.5, Baseline and No Project, for information regarding the baseline. The State Water Board strived to use the best available science throughout the groundwater impacts analysis, consistent with State CEQA Guidelines. Please also see Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results, and Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for a discussion of groundwater pumping, pumping capacities and 2009 and 2014 information.
1178	40	[From ATT 1] Based on comments in the recent Modesto workshop, the SWAP and IMPLAN models assume that irrigation of permanent crops can be curtailed in some years, and then resumed in wetter years when more water becomes available, with an immediate resumption in productivity. The models do not consider that permanent crops will actually be damaged or die, resulting in decreased production and considerable cost to the affected farmers.	The SWAP model represents standard agricultural practices for management of permanent crops, such as deficit irrigation and fallowing of older trees early to plant new trees that don't require as much water. Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, for discussion of the SWAP model and assumptions about stress irrigation and permanent crops.
1178	41	[From ATT 1] Water quality changes issues, and their potential impacts were not adequately considered in the SED. The variability of groundwater quality throughout the region, and its potential effect on crop productivity, does not appear to have been considered. The loss of surface water is also likely to lead to additional water quality challenges with respect to nitrate, total dissolved solids (TDS) and other constituents, which are of concern under the Irrigated Lands Program as well as for local municipal water providers. In addition, water quality degradation and the use of poor quality groundwater leads to inevitable reductions in crop productivity. None of these factors were considered, and all of them result in underestimation of the impacts and costs of UIF implementation.	Groundwater quality throughout the plan area and the potential effect of reduced surface water supply on groundwater quality are discussed in Chapters 9, Groundwater Resources, and 13, Service Providers. Potential groundwater quality impacts on municipalities are considered in Chapter 13. The Environmental Settings and Regulatory Background sections of Chapter 11, Agricultural Resources (Sections 11.2 and 11.3) were prepared by reviewing publicly available data and information including agricultural water management plans prepared by irrigation districts. If water quality and crop production information is documented within the AWMPs, the irrigation districts note that, at a minimum, water quality is generally acceptable for irrigation. The "Terrain and Soils" sections of the irrigation district agricultural water management plans do not state any areas with poor crop production due to water quality. In addition, the designation of Prime, Unique and Farmland of Statewide Importance, has, at a minimum, a requirement that the soil has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. The use of groundwater, properly managed, for irrigation is not expected cause a problem for crop production, given the salinity information available in Agricultural Water Management Plans, estimates of leaching fractions, and the types of crops grown in the plan area. The long-term use of a given water quality along with a consistent leaching

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			<p>fraction would result in a steady-state soil salinity (ECe) that can be estimated using a concentration factor (Ayers and Westcott 1994).</p> <p>For example, a leaching fraction of 15-20 percent is associated with a concentration factor of 1.45, which means that the ECe would be 45 percent higher than the EC of the applied water. For example, at the typical high end of EC values (600 PPM) could be used successfully for growing salt sensitive crops (e.g., beans), which require an ECe of 1.0 dS/m (Ayers and Westcott 1994) or lower. Assuming a river water salinity of 100 PPM (0.16 dS/m), a groundwater salinity of 600 PPM (0.94 dS/m), a typical leaching fraction of 15-20 percent, and a concentration factor of 1.45 (Ayers and Westcott 1994), a bean grower could have almost 70 percent of the applied water be supplied by groundwater and still have 100% yield. If the crop was alfalfa, which has an ECe threshold of 2 dS/m for 100 percent yield potential then the grower could use 600 PPM water for the full water supply.</p> <p>These examples do not include precipitation or an assessment of the frequency of exclusive use of high quality river water, both of which would reduce soil salinity (ECe). These examples show that the groundwater quality in the plan area would not be expected to reduce production. Please see Chapter 13, Service Providers, Impacts SP-2a and SP-2b regarding the impact analysis of groundwater water quality and local municipal water providers (please also see Master Response 3.6, Service Providers, and Master Response 2.7, Disadvantaged Communities).</p> <p>Please see Master Response 3.3, Southern Delta Water Quality, for a discussion of water quality as it relates to agriculture in the southern Delta.</p>
1178	42	[From ATT 1] The cost of shifting to a more groundwater based agricultural water supply was not considered in the SED. Increased reliance on groundwater will mean installation of new wells, and increased pumping costs, well deepening and well rehabilitation as groundwater levels fall. This will be the case even if groundwater is withdrawn sustainably as required under SGMA.	Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the scope of the economic analysis and groundwater pumping costs. The direct cost of increased groundwater pumping is included in the analysis as shown in Appendix G, Agricultural Economic Effects of the Lower San Joaquin River Flow Alternatives: Methodology and Modeling Results, Section G.4.4.
1178	43	[From ATT 1] It is not clear that the economic impact analysis has considered all of the downstream impacts of land following on the regional job market and economy. This is further addressed in the comments prepared on the economic analysis by Stratecon, Inc.	Please see Master Response 8.2, Regional Agricultural Economic Effects, for discussion of the economic analysis performed by Stratecon, Inc. Also, please see Master Response 8.2 for discussion of potential economic effects on dairies, livestock operations, and food processors.
1178	44	[From ATT 1] No analysis was performed to evaluate whether the water that may be needed to convert lands to agricultural uses with a lower water demand will actually be available.	<p>Please see Master Response 1.1, General Comments, for responses to comments that either make a general comment regarding the plan amendments or do not raise significant environmental issues. Please see Master Response 3.5, Agricultural Resources, regarding effects to agricultural resources and the implementation of demand management practices.</p> <p>Please see Master Response 8.1, Local Agricultural Economic Effects and the SWAP Model, regarding the use of the SWAP model to analyze economic effects of potential reductions in water supply. As discussed in Master Response 8.1, the State Water Board used SWAP because it is peer reviewed and already widely used by state and federal agencies to model cropping decisions. SWAP reflects observed grower behavior in response to changing conditions, which is that in times when available water supplies are reduced, some water supplies will typically shift from lower net revenue crops (e.g., certain row crops) to ones with higher net revenue (e.g., certain tree crops). Also discussed in Master Response 8.1 and Master Response 3.5 is water supply reliability and permanent crops. Please see Master Response 8.2, Regional Agricultural Economic Effects, regarding regional economic effects. Please see Master Response 3.5 regarding the thresholds and criteria used to evaluate impacts on agricultural resources and the use of the State Water Board's</p>

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			Environmental Checklist (Appendix B), which includes the potential conversion of designated farmland to nonagricultural uses. Please see Master Response 3.4, Groundwater and the Sustainable Groundwater Management Act, regarding the groundwater impact analysis and the relationship to SGMA.
1178	45	[ATT 2: Attachment 2 from Letter 1176: "The Economic Consequences of the Proposed Flow Objective for the Lower San Joaquin River in Merced, San Joaquin and Stanislaus Counties"]	Please see Master Response 8.2, Regional Agricultural Economic Effects, regarding the State Water Board’s evaluation of potential regional economic effects associated with change(s) in agricultural production, and a discussion on surface water supply reliability. As discussed in Master Response 8.2, while the 2016 Recirculated Draft SED’s analyses and conclusions differ from the commenters, the SED’s analyses are supported by reasonable assumptions, substantial evidence, and an appropriate level of analysis for considering economic effects. Responses to comments provided in the Stratecon Inc. Report referenced are provided in letter 1176.
1179	1	<p>The obligations of the SWP and CVP to mitigate their adverse impacts and meet their affirmative obligations for salinity control and for fish and wildlife should be determined and plans to meet such obligations should be in place prior to shifting such burdens on those within the watersheds of origin.</p> <p>The basic obligations of the CVP and SWP are reflected in the language of Water Code 11460 [ATT2] and explained in the Central Valley Water Project Documents [ATT1] attached hereto. "The Bureau will not divert from any watershed and water which is needed to satisfy the existing or potential needs within that watershed. For example, no water will be diverted which will be needed for the full development of all the irrigable lands within the watershed, nor would there be water needed for municipal and industrial purposes or future maintenance of fish and wildlife resources."</p> <p>In the argument in Favor of California Water Resources Development Bond Act passed in 1960, in effect spawning the SWP [ATT3] the obligations are confirmed. "The program will not be a burden on the taxpayer; no new state taxes are involved; the bonds are repaid from project revenue, through the sale of water and power. In other words, it will pay for itself."</p> <p>"No area will be deprived of water to meet the needs of another. Nor will any area be asked to pay for water delivered to another."</p> <p>"Under this Act the water rights of northern California will remain securely protected."</p> <p>"A much needed drainage system and water supply will be provided in the San Joaquin Valley."</p> <p>Also attached is page 906 [ATT4] from Goodman v. Riverside 140 Cal. App. 3d 900 (1983) where then-Governor Edmond G. "Pat" Brown confirmed, "The law provides that the contracts have to provide for the repayment of the cost of the entire Project. That's the real answer to it." Under the CVPIA (PL 102-575) the CVP is required to restore the natural production of anadromous fish in Central Valley rivers to not less than twice the average levels attained during the period of 1967-1991 and that a separate program is provided for the San Joaquin River between Friant Dam and the Mendota Pool. See attached excerpt [ATT5].</p>	<p>Please see Master Response 1.2, Water Quality Control Planning Process, for information regarding the water quality planning process, regulatory framework, and scope of the Bay-Delta Plan proceedings. The master response also describes the distinction between the Bay-Delta Plan’s program of implementation to achieve the water quality objectives and the future implementation of the plan in a water right or water quality proceeding. Any responsibility to achieve the plan’s water quality objectives will be imposed through a future proceeding. For information regarding the plan amendments, see Appendix K, Revised Water Quality Control Plan, and Master Response 2.1, Amendments to the Water Quality Control Plan. As set forth in the Program of Implementation in Appendix K, DWR and USBR will continue to be required to address the impacts of their operations on interior southern Delta salinity levels and must develop a Comprehensive Operations Plan. Please see Master Response 3.3, Southern Delta Water Quality, for discussion of the Comprehensive Operations Plan and the responsibilities of DWR and USBR with regards to southern Delta salinity.</p> <p>Please see Master Response 3.1, Fish Protection, for discussion of actions to protect fish and wildlife.</p>

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		<p>Pursuant to Water Code 11912 (1961) the SWP contractors are to bear the costs for the preservation of fish and wildlife. The 1961 levels for fish have not been preserved. Both the SWP and CVP are obligated to provide salinity control for the Delta and prohibited from exporting from the Delta if the Delta does not have an adequate supply. See attached excerpt [ATT6] from page 12 of the 1960 Bulletin 76 report to the legislature which provides: "In 1959 the State Legislature directed that water shall not be diverted from the Delta for use elsewhere unless adequate supplies for the Delta are first provided."</p> <p>The referenced legislation is Water Code 12200 et seq. which has been determined by the Appellant Court in United States v. State Water Resources Bd. (1986) 182 Cal. App. 3d 82 at page 139 (page 139 is attached) to provide: "The act prohibits project exports from the Delta of water necessary to provide water to which Delta users are "entitled" and water which is needed for salinity control and an adequate supply for Delta users. (Sections 12202, 12203, 12204)." Under the San Luis Act of 1960, PL 86-488, Construction of the San Luis Unit was not to be commenced until the Secretary of Interior received satisfactory assurance from the State of California that it would make provision for a master drainage outlet and disposal channel for the San Joaquin Valley. See excerpt attached hereto [ATT7].</p> <p>Both the CVP and SWP were founded on the obligation to develop sufficient supplies so that all obligations to the Delta and other areas of origin would be met and that surplus supplies would serve the needs of export areas. The plan for the SWP was to develop and import 5,000,000 acre-feet of water seasonally to the Delta from north coastal streams. See attached page 13 from the 1960 Bulletin 76 [ATT6].</p>	
1179	2	<p>The SWP and CVP have failed to meet their obligations for salinity control and for fish and wildlife.</p> <p>Friant Dam was built and water of the San Joaquin River diverted south to such an extent that portions of the river were dewatered and anadromous fisheries decimated. The reduced natural flow in the San Joaquin River and CVP construction of and delivery of water from the San Luis Unit without a master drainage outlet has greatly contributed to the salt loading in the San Joaquin River and the salinity control burden in the Delta. The continued export of water from the Delta of water which is not truly to the needs in the areas of origin has caused great damage to the fisheries.</p> <p>In the SWRCB Decision 1485 (1978) [ATT8] the SWRCB determined: "To provide full mitigation of project impacts on all fishery species now would require the virtual shutting down of the project export pumps." The project exports were not shut down and exports allowed to increase. See attachments [ATT11]. Although reservoirs on the tributaries have an obligation to bypass water for fish they should not be burdened with the obligations that are rightfully the obligations of the SWP and CVP.</p>	Please see the response to comment 1179-1.
1179	3	The fair determination of tributary flow responsibility for fish cannot be done without inclusion of the upper San Joaquin River and the Kings River.	Please see Master Response 1.1, General Comments, for responses to comments regarding the watersheds considered and the San Joaquin River Restoration Program. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, for responses to comments

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			regarding the project description and the geographic scope of the Recirculated SED. Also see Master Response 1.2, Water Quality Control Planning Process, for information regarding the scope of the Bay-Delta Plan proceedings.
1179	4	The Stanislaus River has been disproportionately burdened for fish flows and federal law requires that this be addressed. Public Law 108-361 sets forth this requirement. See attached excerpt [ATT9].	The comment cites to the 2004 Public Law 101-361, the Calfed Bay-Delta Authorization Act. The Act required the Secretary of the Interior to update the New Melones operating plan to take into account, among other things, actions designed to reduce the reliance on New Melones Reservoir for meeting water quality and fishery flow objectives. The Act does not limit the State Water Board's responsibility and authority to reasonably protect beneficial uses of water within the state. Please see Master Response 2.1, Amendments to the Water Quality Control Plan, regarding the justification for the LSJR plan amendments and why flow is necessary from the each of the three eastside tributaries. See also Master Response 3.1, Fish Protection, for discussion of the anticipated benefits of the LSJR plan amendments in protecting fish and wildlife.
1179	5	Further degradation of the San Joaquin River by relaxing salinity standards in the south Delta is unjustified and a violation of state and federal policy. It is common knowledge that leaching fractions for agricultural irrigation are dependent upon soil conditions and the demands of economically viable agricultural practices. We hereby request that the salinity standards not be reduced and that the proposed additional flow allocation to tributaries be deferred until the responsibilities of the SWP and CVP are first determined. Further depletion of over-drafted groundwater basins will reduce accretions and also increase losses from the rivers to the detriment of fish. A better approach is to foster projects to add to supply which can serve both fish and consumptive needs and replenish groundwater.	Please see the response to comment 1179-1. 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 regarding the responsibilities of DWR and USBR.
1179	6	[ATT1: Central Valley Project Documents.]	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.
1179	7	[ATT2: Water Code Section 11460. Prior right to watershed water.]	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.
1179	8	[ATT3: Argument in Favor of California Water Resources Development Bond Act.]	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.
1179	9	[ATT4: Page from Goodman v. County of Riverside. 140 Cal.App.3d 900; 190 Cal.Rptr. 7 [Mar.1983].]	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.
1179	10	[ATT5: Title 34 (of Public Law 102-575). Central Valley Project Improvement Act.]	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.
1179	11	[ATT6: Bulletin No. 76. Delta Water Facilities.]	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.

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1179	12	[ATT7: Page 156 of Public Law 86-488. June 3, 1960.]	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.
1179	13	[ATT8: Water Right Decision 1485.]	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.
1179	14	[ATT9: Excerpt from Public Law 108-361. Oct. 25, 2004.]	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.
1179	15	[ATT10: Delta Smelt and Striped Bass indices, California Department of Fish and Wildlife.]	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.
1179	16	[ATT11: Figure 6: Exports to the south excluding Friant-Kern.]	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.
1179	17	[ATT12: Graph of water exports, 1955-2009.]	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.
1179	18	[ATT13: Graph of estimated Steelhead spawning.]	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.
1179	19	[ATT14: Graph of USFWS Delta Smelt recovery index.]	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.