

Table 4-1. Responses to Comments

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203	1	PG&E acknowledges that regulations and implementation plans associated with the proposed Bay-Delta Plan updates are still forthcoming. Therefore, the purpose of this letter is to provide a description of anticipated impacts to PG&E's hydropower generation operations if the proposed updates to the Bay-Delta Plan are adopted. Extent of Impacts to PG&E's Hydropower Projects: The proposed updates to the Bay-Delta Plan include significant unimpaired flow alternatives to the Sacramento River and tributaries, Delta eastside tributaries (Calaveras, Cosumnes, and Mokelumne Rivers), and Delta. PG&E owns and operates the following hydroelectric projects in various watersheds (listed from north to south) subject to the proposed updates: -- Pit River, McCloud River, and Hat Creek Projects (FERC Nos. 233, 2106, 2661, and 2687) -- Kilarc-Cow Creek Project (FERC No. 606) -- Battle Creek Project (FERC No. 1121) -- Drum-Spaulding Project (FERC No. 2310) -- DeSabra Project (FERC No. 803) -- North Fork Feather River Projects (FERC Nos. 619, 1962, 2105) -- Mokelumne River Project (FERC No. 137) The projects listed above include dozens of reservoirs, 47 hydroelectric powerhouses, and numerous water conveyance facilities. These projects will experience varying degrees of impact as a result of the proposed Bay-Delta Plan alternatives. The impacts may be relatively minor on watersheds with sufficient year-round natural flow (like those on the Pit and	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Section 7.8, Energy, includes an evaluation of possible reductions in hydropower generation in the Sacramento/Delta associated with the proposed Plan amendments.

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		McCloud Rivers) to significantly high impacts on watersheds that rely on previously stored water to operate during critical (high electricity demand) times of the year, such as the Mokelumne and Drum-Spaulding Projects.	
203	2	Reduced quantities of stored water may also affect the ability to meet environmental and recreational license requirements, such as spring and early summer pulse flows, minimum instream flows during the dry season, minimum reservoir levels for boating, and scheduled releases for whitewater rafting, as well as the ability to satisfy legal, regulatory, and contractual water delivery obligations, e.g. Lodi Decree flow requirements on the Mokelumne River or consumptive water supply deliveries to various irrigation districts or water agencies on the Bear, Feather, and Mokelumne Rivers.	As described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, and elsewhere, the Plan amendments are intended to be complementary to FERC and water quality certification requirements to provide sufficient flow for instream beneficial uses within the area of a hydroelectric project and also downstream and through the Delta. Generally, if requirements contained in the Bay-Delta Plan differ from those contained in any water right order or water quality certification, the more stringent requirement would control. Provisions for adaptive implementation of the numeric inflow requirements are provided to optimize flows to benefit native fish and wildlife while also minimizing water supply impacts, and for the numeric inflow requirements to be implemented in a coordinated fashion with the cold water habitat and inflow-based Delta outflow requirements. Adaptive implementation may be allowed on a seasonal, annual, or long-term basis as part of local cooperative solutions or may be required by the Executive Director or State Water Board. Adaptive implementation may also be used to integrate, as appropriate, Bay-Delta Plan requirements with water quality certification requirements, water right orders, or other existing environmental requirements. The SacWAM results used to inform the assessment of environmental effects in the Staff Report incorporates regulatory requirements that affect hydrology. Most instream flow requirements, including rafting releases and the Lodi decree are already included in the SacWAM modeling, which means that the hydrologic results include compliance with most instream flow requirements. The SacWAM output also includes potential effects of the Plan amendments on water supply. The effects of these changes in flow and water supply deliveries are evaluated throughout the Staff Report.
203	3	Value of Hydropower Generation Hydropower provides unique value in serving California's	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not

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		electricity demands, particularly the ability to dispatch generation to match varying electric demand on the grid. As energy demands rise, hydropower systems can be operated to increase flow through hydro facilities thus increasing energy output at the appropriate time. This is accomplished by releasing more or less water at various times as required by electric system demands. Unlike other sources of non-greenhouse gas emitting electric generation, hydropower is not dependent upon short-term weather patterns like solar or wind generation. While hydropower generation is impacted annually by hydrology with wet years yielding higher levels of precipitation and sufficient snowpack to provide additional fuel for hydroelectric powerplants during the spring, summer, and into the fall, drier years provide less reliable water supply and typically result in lower annual generation from hydropower. The integration of reservoirs and hydropower facilities mitigates the impact that less favorable hydrology may have on annual generation. Utilizing reservoirs to capture available inflow which can then be managed to the benefit of power generation in support of state electric energy and grid support needs is a very important aspect of hydropower generation.	raise specific economic effects of the project. The benefits of hydropower are discussed in Section 7.8, Energy, as are the potential effects of the Plan amendments on hydropower generation.
203	4	PG&E's hydropower projects also provide indirect benefits to downstream agricultural and municipal water users. PG&E's upstream reservoirs provide additional storage to further regulate the flow of water within the system. Many of the watersheds on which PG&E operates its project yield minimal natural flow in the summer and fall months. By storing water in the winter and spring for later release in the summer and fall, PG&E's hydropower operations provide year-round inflow to downstream water users.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
203	5	Unimpaired flow requirements that constrain PG&E's ability to manage water diversions, storage, and releases will limit its ability to manage water for the efficient utilization of hydropower generation.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. To the extent that this comment summarizes other comments, please see the substantive responses to those comments.

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203	6	Additionally, the increased burden of frequently adjusting operations to comply with unimpaired flow requirements will increase the cost of operating such projects.	The commenter does not provide information to explain why adjusting hydropower operations would increase the costs of operating hydropower projects. As described in Common Response 7.8, Energy and Hydropower, many upper watershed hydropower facilities would be minimally affected because existing flows would be sufficient to meet flow requirements at compliance points. Please see response to comment 203-7 for information specific to PG&E's Mokelumne River Project. Upper watershed facilities that are most likely to be affected by changes in hydrology occur in tributaries with substantial inter-basin diversions. However, the program of implementation includes flexibilities that can help minimize these impacts. For example, local cooperative solutions could be used to reduce hydropower effects and any associated operational adjustments while still protecting fish and wildlife and other beneficial uses of water. Water right holders may propose local cooperative solutions for individual tributaries or for two or more tributaries, and could be crafted to reduce changes in inter-basin diversions.
203	7	Example of Impacts PG&E has performed a modeling exercise to analyze impacts a potential 55% unimpaired flow requirement would have on power generation. The analysis was performed utilizing a software known as PLEXOS that optimizes power generation by analyzing hydrologic conditions and reservoir operations to emulate the operations of various PG&E hydropower projects. PG&E's Mokelumne River Project was selected as the test case for the initial analysis that is being referenced in this letter. The analysis evaluated impacts to hydropower generation for three different hydrologic year types to evaluate the full range of impacts that may occur. First a baseline analysis was performed using existing downstream release requirements and other regulatory constraints PG&E is subject to in the Mokelumne River system. A second analysis was then performed where the model was further constrained to either (1) existing regulatory requirements or (2) 55% of unimpaired flow downstream of Electra Powerhouse [Footnote 1: This is a simplified approach for modeling results. Exact implementation of a 55% Unimpaired	For a description of reduction in hydropower generation and the evaluation of effects on grid reliability in the summer, please see Section 7.8, Energy. While Section 7.8 shows some small summer reductions in hydropower generation for the Mokelumne River Project (Electra, Salt Springs, Tiger Creek, and West Point Powerhouses), the average annual change in hydropower generation is minimal (Figure 7.8-14). In addition, for a discussion of local effects, please see Common Response 7.8, Energy and Hydropower, particularly the section regarding commenter simulations of local effects. Common Response 8.1, Economic Analysis and Other Considerations, contains an analysis of the economic effects of changes in hydropower generation. It includes consideration of differences in pricing during spring versus summer months. Energy in the state is derived from a blend of multiple sources, including hydropower and other renewable and nonrenewable sources. Energy pricing is complex and accounts for many factors affecting both supply and demand. A projected cost of

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		Flow Scenario is still unclear at this time. If a 55% unimpaired flow requirement were adopted, PG&E anticipates utilizing voluntary implementation pathways similar to this approach for maintaining compliance with the requirement.], whichever is greater. A monthly summary of generation for both the Baseline and 55% Unimpaired flow scenarios is shown in Figure 1 [Exhibit 1] below. As shown in Figure 1, hydrologic year type has a large impact on hydropower generation within the Mokelumne River Project. Whereas hydropower generation is relatively unimpacted in very wet years due to plentiful water supply, normal and dry years see large changes in both the timing and quantity of generation throughout the year. In normal and dry years there is a large shifting of generation from the summer to the winter/spring months, this shifting in timing of generation is consistent with the results of the analysis in the Draft Staff Report. The impact of this shifting of generation is twofold, firstly it decreases the availability of hydropower to be dispatched to support grid needs during the summer when electric demand is highest, and secondly, costs to procure electricity in the winter/spring are generally lower than in the summer, this will result in increased electricity procurement costs being passed onto PG&E customers. The large decrease in gross generation and associated cost of replacing the lost generation is an impact not characterized in the DSR. Table 1 [Exhibit 2] below provides details on the anticipated reduction in annual generation and costs for wet, median, and dry hydrologic year types for PG&E's Mokelumne River Project. PG&E is providing the above summary as an example of impacts that may occur if a 55% unimpaired flow requirement is adopted. While the impacts shown in the analysis are limited to generation and corresponding costs for the Mokelumne River Project, PG&E anticipates impacts at other projects in the area subject to the Bay-Delta Plan updates.	replacement power, should it be necessary, is speculative within the changing energy production environment in California. In particular, the quantity of renewable sources are increasing such that power purchases need not be exclusively from natural gas facilities. Conditions that negatively affect hydropower generation (e.g., less water) are not likely to have a similar effect on other forms of energy production, including wind and solar. These sources may offset lost hydropower production such that effects on overall energy prices may be muted. In other words, energy consumers may or may not see a change in prices. There is no direct relationship between reduced hydropower generation and energy consumer rates, and it is speculative to assume that higher rates are a likely outcome of the flow scenarios.
203	8	[Exhibit 1: Graph titled Figure 1: Monthly Generation – Baseline vs. 55% UIF Scenario]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.

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203	9	[Exhibit 2: Table titled Table 1: Summary of Generation and Cost Impacts]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
203	10	PG&E also anticipates impacts will extend beyond that of generation and costs, including temperature management, loss of recreational opportunities, extended seasonal flows, and increased management of project operations, all of which will be exacerbated by lower seasonal storage in reservoirs.	The commenter does not provide specific comments on the impact analysis. For additional detail on the impact analysis for the 55% unimpaired flow scenario, including impacts on temperature and recreation, please see Chapter 7, Environmental Analysis, of the 2023 draft Staff Report. Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
203	11	Climate Value of Summer Generation Peak demand for electricity comes during the hottest months, and it is during the hottest days and hours of those months that PG&E and other electric utilities face capacity challenges that often require them to call on all sources of generation. If the SWRCB implements a 55% unimpaired flow requirement, this would mean a significant shift away from carbon-free generation in summer months during normal and dry years (see Figure 1 [Exhibit 1]). The loss in carbon-free hydropower generation will be replaced by natural gas generation with significant carbon emissions. The effect of this shift on PG&E's Mokelumne River Project alone would result in 11,000 – 12,000 tons of additional carbon emissions annually in normal and dry years. Extrapolate this against PG&E's other hydroelectric facilities listed on page 1 of this letter and the emissions impact is concerning.	Please refer to Common Response 7.10, Greenhouse Gas Emissions and Mitigation, regarding the quantification and analysis of GHG emissions from reduced hydropower generation. See also Common Response 7.8, Energy and Hydropower, for additional information on seasonal variations in hydropower availability and demand, and associated implications for the analysis of changes in hydropower generation under the proposed Plan amendments.
203	12	Insufficient Evaluation of Financial Impact on Hydropower Appendix A.5 of the Draft Staff Report characterizes the impacts to hydropower as a generation timing impact with an increase in generation during the winter/spring and a reduction in generation in the summer. Section 8.6.5 of the Draft Staff Report identifies that the proposed updates to the Bay-Delta Plan could result in a decrease in hydropower generation revenues but does not identify to what extent revenues would decrease. PG&E believes that simply identifying that a reduction in revenue may occur is an insufficient analysis of economic impacts resulting	Section 8.6.5, Energy, in the 2023 draft Staff Report (Section 8.7.4, Energy, in the final Staff Report) discloses that changes in the timing of hydropower generation, including an increase of hydropower generation in the spring and a decrease in summer, could affect hydropower generation revenues. In response to comments received on the 2023 draft Staff Report, changes in hydropower generation revenues were estimated using a representative monthly price series. Please see Common Response 8.1, Economic Analysis and Other Considerations, for the results of this analysis and additional discussion related to changes in hydropower generation revenues. The analysis

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		from the proposed plan updates. PG&E recommends that an economic analysis be performed of each sub-watershed to estimate the reduction in revenue as a result of shifting the timing of hydropower generation as identified in Appendix A.5 of the Draft Staff Report.	provided in Chapter 8, Economic Analysis and Other Considerations of the 2023 draft Staff Report and final Staff Report, and Common Response 8.1 is appropriately detailed for the scope of the project.
204	1	Reduce water for marijuana	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
205	1	ACWD's interest in the Draft Staff Report stems from our use of imported water supplies in addition to local supplies to provide water supply reliability for our customers. ACWD was formed in 1914 for the purpose of protecting the water in the Niles Cone Groundwater Basin and conserving the water of the Alameda Creek Watershed. However, during the drought of the 1920s, ACWD realized that this local supply was insufficient to meet the growing needs of our community and began efforts to broaden and diversify our water supplies. Today, ACWD provides retail water service to the 344,000 residents and businesses of Fremont, Newark, and Union City and manages a robust and integrated portfolio of local and imported water supplies, including imported water from the California State Water Project (SWP) and the San Francisco Public Utilities Commission's Hetch Hetchy Regional Water System, as well as a robust and thriving water use efficiency program. ACWD's SWP supply is a critical tool that enables us to sustainably manage local water resources.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
205	2	ACWD appreciates the significant effort to put forth this Draft Staff Report, which is an important milestone on the path to completing the current update to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan). While a number of alternatives are described in the Draft Staff Report, ACWD is writing to express support for the adoption of the Healthy Rivers and Landscapes Agreements (Agreements), Alternative 6, as the only alternative that can be immediately implemented at the finalization of the Bay-Delta Plan update and the only alternative that can protect all beneficial uses of water and comply with Porter Cologne Water Quality Control Act. The Agreements address watershed-wide flow and habitat needs that have been agreed upon and committed to by water users, including specific and firm commitments of water, funding, and physical habitat restoration.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.2, Water Quality Control Planning Process, on the Porter-Cologne Water Quality Control Act and the consideration of beneficial uses.

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		The Agreements have been developed centering around science-based collaborative and adaptive management in the Delta and include a well-defined plan for multi-party adaptive management, which will be critical to successful implementation of the Bay-Delta Plan. ACWD supports the flow and habitat commitments included in the Agreements that will also provide tangible environmental enhancements for the benefit of salmonids and other species of concern when implemented.	
205	3	ACWD also wishes to express concern about the significant water supply impacts to the SWP shown in Appendix A1 (A1-433 through A1-443) for the Unimpaired Hydrograph Alternatives. In addition to reductions in mean deliveries from the SWP, the analyses also show reductions in supply availability over the full range of possible hydro logic conditions - from very wet to very dry scenarios. ACWD's water portfolio management relies on the ability to store water during wet years for use during dry years, and cooperation with other SWP agencies to conduct groundwater banking and other water management activities. Given these identified impacts across the SWP system and the compounding impacts of climate change and extreme weather, the assumption that these losses can be absorbed or made up from other sources is flawed , as it does not take into account the current and future constraints on ACWD's other supplies and water supply system as a whole. The Unimpaired Hydrograph Alternatives can be expected to result in significant negative impacts to our communities and region .	The 2023 draft Staff Report includes mitigation measures in several resource sections identifying water portfolio diversification as an action water suppliers can and should undertake to the extent possible, in an environmentally responsible manner and in accordance with the law, to reduce or avoid impacts related to water supplies. Diverse water portfolios include sustainable conjunctive use of groundwater and surface water, water transfers, water conservation and efficiency upgrades, and increased use of recycled water. However, the State Water Board cannot guarantee that mitigation measures will always be adopted or applied to fully mitigate potential impacts. In addition, the revised proposed Plan amendments include water supply adjustments for existing water right holders at the outset of Plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs. Please see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion on the feasibility of mitigation measures proposed in the 2023 draft Staff Report related to alternative water sources.
206	1	I urge you to approve water policies that will restore the Bay-Delta ecosystem. Decisions must be based on science, difficult as that may be to implement. Science dictates a higher water flow than is now allowed. In addition to science, we need laws, not voluntary agreements. Would we want voluntary speed limits on our highways? No. Or voluntary rules for meat, dairy, fruits and vegetables? No As an example of the need for higher water flows, salmon populations are so low that our commercial fishing season had to be closed this year - this is happening now, although last year we had plenty of rain. In addition, toxic algae blooms in the Delta sicken humans, fish, pets and other wildlife because the water is slow-moving and warm, with nutrient rich	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. See also Common Response 4.1, Harmful Algal Blooms, for information on instream flows and HABs.

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		water, all of which cause the algae blooms. Again, higher water flows would solve this problem.	
206	2	What is needed? As you know, the State Water Board's 2010 Flow Criteria Report found that 75% of unimpaired flow on the Sacramento River and its tributaries, and 75% of unimpaired Delta outflow (water that reaches the Bay) is needed to protect the Bay-Delta ecosystem. In an average year, only 50% of the natural flow of our rivers reaches the Bay. During drought years it can drop to 1/3. The gives us a Bay-Delta in a state of perpetual drought. You have hard decisions before you and great power. Please consider the reasons above and others that urge that the water flow needed to bring the Delta to health is increased and mandated by law.	Please see Common Response 1.1, General Comments, for information on the Delta Flow Criteria Report and for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.2, Water Quality Control Planning Process, for information on the reasonable protection of fish and wildlife beneficial uses.
207	1	I write as a concerned resident of California and to urge the State Water Resources Control Board to move forward with a Bay Delta Plan Update that includes an unimpaired flow standard that will provide for recovery of imperiled species and address proliferation of Harmful Algal Blooms. Additionally, I urge the Board NOT to approve the proposed Voluntary Agreements (VAs). The VAs were developed without the input of Tribes, Delta communities, environmental justice, environmental, or fishing groups through a deficient process that lacked public transparency. The resulting agreement fails to provide meaningful improvements to in-stream flows, water quality, and species conditions in the Bay Delta.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
207	2	The Bay Delta watershed serves a critical role as important habitat for imperiled fish and wildlife, the source water supply for more than half of California residents, and supporting numerous industries, including fishing, agriculture, and recreation. It is also important to California native tribes. Unfortunately, the Bay-Delta Is an ecosystem in crisis. Almost everyone acknowledges this, yet water agencies and the Newsom Administration want people to believe they have solutions that will “produce more fish with less water.” Unsustainable diversions in the Bay-Delta result in inadequate in-stream flows and water quality impacts which are exacerbated during drought. Six species of fish dependent upon the Bay-Delta are listed as endangered or threatened. The Bay Delta Plan needs to protect all of them. Salmon populations are in such bad shape	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		that the commercial fishing season had to be closed this year and will likely be canceled again next year. Harmful algal blooms (HABs) in the Delta have worsened substantially in recent years because of high temperatures, stagnant water and inadequate flows through the summer months. HABs are toxic and put human health, animals, and wildlife at risk. The Delta needs more freshwater inflow. The Vas are nothing new, and are destined to fail. The State Water Board is charged with restoring the Bay-Delta ecosystem, so decisions should be made based on legitimate science, not wishful thinking.	
207	3	The goal of updating the Bay Delta Plan is to address long-standing issues driven by an over-appropriated water system, while preparing to meet new challenges brought on by climate change. The Voluntary Agreements do not accomplish this and are destined to fail. Programs, such as CalFed, that focused almost exclusively on nonflow measures have all failed. The VAs would produce more of the same results. VAs were touted as expediting ecological improvements but have achieved the opposite. They have only served as a delay tactic for intransigent water agencies. The VAs are a give-away of Public Trust water and public funding to water agencies that are legally obligated to keep fish populations in good condition but have failed to do so. Additionally, the Vas would only last eight years—less time than what it's taken to consider them. The Vas are so flawed that the few NGOs that were involved early on in the process dropped out. Not a single conservation, fishing, tribal or environmental justice group supports the Vas. The Vas do not include an adequate adaptive management plan (back-up plan if they fail). The Bay Delta Plan, on the other hand, could increase or decrease flow requirements based on whether biological goals are being met. The Vas are just a checklist. The Vas would not even meet the modest objectives of the proposed Bay Delta Plan, so consideration of them should be terminated immediately.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project; Common Response 1.2, Water Quality Control Planning Process, for information on public trust; and Common Response 1.3, Revised Proposed Plan Amendments, for information on the VA pathway.
207	4	Moreover, the State Water Board's 2010 Flow Criteria Report found that 75% of unimpaired flow on the Sacramento River and its tributaries, and 75% of unimpaired Delta outflow (water reaching the Bay) would be needed to protect the Bay-Delta ecosystem. However, the Draft Staff Report recommends an insufficient 55%	Please see Common Response 1.1, General Comments, for information on the Delta Flow Criteria Report and for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.2, Water Quality Control Planning Process, for information on the reasonable protection of fish and wildlife beneficial uses.

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		unimpaired flow standard. Granted, this would be a small improvement over current conditions, given that, in an average year, only 50% of the natural flow of our Central Valley rivers reaches the Bay. And during droughts it can drop to 1/3. This has put the Bay-Delta in a perpetual state of drought. So 55% is nowhere close to enough. Nonflow measures, such as habitat restoration and invasive predator management, are important, but cannot substitute for higher flows. We need both. Non-flow measures have little impact on critical issues such as water temperature, floodplain inundation (creating habitat for baby fish), harmful algae blooms in the Delta, and water quality. The Vas would produce very little new water, and wouldn't even produce much new habitat, which is what they falsely claim is all that's needed. I urge the Board to ensure the Bay Delta Plan update prioritizes a higher unimpaired flow standard so that local communities and wildlife do not continue to bear the burden of unsustainable water diversions, and the Bay Delta ecosystem can recover and remain resilient in the face of climate change.	
207	5	The Plan acknowledges the need for Tribal Beneficial Uses (TBU), but does not include a plan to protect them. The Plan fails to protect beneficial uses related to fisheries, including commercial, subsistence, tribal and recreational fishing (perhaps one of these beneficial uses relates to you).	Please see Common Response 11.1, Tribal Engagement and Tribal Beneficial Uses, for responses to comments related to Tribal Beneficial Uses. Please see Common Response 1.2, Water Quality Control Planning Process, for responses to comments related to reasonable protection of fish and wildlife and consideration of other beneficial uses.
207	6	The plan fails to protect water quality for other forms of recreation, such as swimming and boating. The plan is prejudicial toward agricultural interests at the expense of other beneficial uses. Agriculture uses 80% of California's developed water, but only contributes 2% of California's GDP. Agricultural exports privatize water—a Public Trust resource that is supposed to belong to the people of California—making a small group rich at the expense of our ecosystems and low-income communities. Agriculture wastes a lot of water and depletes groundwater because irrigation water is often too cheap to incentive innovation. We need to change the playing field to reward efficiency. We also need to acknowledge that California's water rights are inherently racist and do everything we can to eliminate the inequality and racism with regard to water issues in California.	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of the State Water Boards' duties in balancing competing public interests. Additionally, see Common Response 10.1, Economically Disadvantaged Communities, for responses to comments related to environmental justice, racial equity, and the State Water Board's Racial Equity Resolution and Action Plan.

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208	1	We are all impacted by the health of the Bay Delta, not just fishermen and farmers but disadvantaged communities, tribes, my children, my nine grandchildren and all future generations that are hoping, in a time when it is easy to lose hope, that you will do the right thing. It is very clear, both obviously, and scientifically, that reducing flows into the Bay will have immediate and long-term negative effects. I don't need to tell you the statistics of the CURRENT decreased and endangered fish populations, algae blooms, and the like. You know the Delta is in crisis and decreasing water further will simply make the situation worse. Please, please, for all of us and future generation, follow the science!	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
209	1	My name is Lionel Mares, a resident of Los Angeles, CA. I am a long-time resident of California and I have lived here my whole life. For the past year or so, I have been closely monitoring the Delta Tunnel Project, and I am concerned that it will cause more harm than good. I understand that California has faced droughts due to climate change but this project isn't the best way for water conservation. There are other methods that the state can use for water conservation such as storm water capture and conserving water for future generations. I would also like to add that tribal nations and vulnerable communities will be impacted by the Delta Tunnel Project and sacred burial grounds could be impacted, too. For that reason, here is why the Delta Tunnel Project is a bad idea: The State Water Board is charged with restoring the Bay-Delta ecosystem, so decisions should be made based on legitimate science, not wishful thinking. Salmon populations are in such bad shape that the commercial fishing season had to be closed this year, and will likely be canceled again next year.	Please see Common Response 1.1, General Comments, regarding comments about other projects.

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		In an average year, only 50% of the natural flow of our Central Valley rivers reaches the Bay. During droughts, it can drop to 1/3. This has put the Bay-Delta in a perpetual state of drought.	
209	2	The VAs do not include an adequate adaptive management plan (back-up plan if they fail). The Bay-Delta Plan, on the other hand, could increase or decrease flow requirements based on whether biological goals are being met. The VAs are just a checklist.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project and Common Response 1.3, Revised Proposed Plan Amendments, for information on the VA pathway.
209	3	The Plan acknowledges the need for Tribal Beneficial Uses (TBU), but does not include a plan to protect them. California's water rights are inherently racist. See this article.	Please see Common Response 11.1, Tribal Engagement and Tribal Beneficial Uses, for responses to comments related to Tribal Beneficial Uses. Please see Common Response 1.2, Water Quality Control Planning Process, for responses to comments related to reasonable protection of fish and wildlife and consideration of other beneficial uses.
210	1	My name is William L. Martin. I am a San Francisco resident. I am the co-chair of the Sierra Club California Water Committee. I have spoken before this Board on several occasions. Today I am writing as a concerned citizen, as a recreational kayaker and fisherman, and as someone who knows the Delta well from my many years of visiting and enjoying this unique and wonderful place. These activities led me to become a member of the Stanislaus-Tuolumne-Merced Working Group. I participated in all four of the meetings held so far. I spoke before this Board in favor of the biological goals you recently adopted for the Lower San Joaquin River basin. Let me remind you of a key fact about those biological goals: they were based on sound science, much of which was presented by your staff members at the four meetings. One of the scientific findings was that the ecosystem needs more water to improve its functioning. Those same findings apply to the Sacramento River basin, the subject of Phase 2. The staff proposal of 55% average unimpaired flows is too low. That was also true of the 40% average unimpaired flow for the Lower San Joaquin basin. That's not my opinion – that's what the best available science says.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project and Common Response 1.2, Water Quality Control Planning Process, for information on the reasonable protection of fish and wildlife beneficial uses.

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210	2	In fact, the State Water Board's 2010 Flow Criteria Report found that 75% of unimpaired flow on the Sacramento River and its tributaries, and 75% of unimpaired Delta outflow (water reaching the Bay) would be needed to protect the Bay-Delta ecosystem. So any part of the Phase 2 report which doesn't add substantial amounts of water to the river system is inadequate for ecosystem recovery. That especially applies to the voluntary agreement analysis included in the Phase 2 staff report.	Please see Common Response 1.1, General Comments, for information on the Delta Flow Criteria Report and for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.2, Water Quality Control Planning Process, for information on the reasonable protection of fish and wildlife beneficial uses.
210	3	For several reasons as listed below, please reject the voluntary agreement section and remove it completely from the staff report before moving forward: Programs, such as CalFed, that focused almost exclusively on non-flow measures have all failed. The voluntary agreements would produce more of the same results.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
210	4	The voluntary agreements were touted as expediting ecological improvements but have achieved the opposite. They have only served as a delay tactic for incalcitrant water agencies.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
210	5	The voluntary agreements are a give-away of Public Trust water and public funding to water agencies that are legally obligated to keep fish populations in good condition but have failed to do so.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project and Common Response 1.2, Water Quality Control Planning Process, for information on public trust.
210	6	The voluntary agreements would only last eight years – less time than it has taken to consider them.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
210	7	For several reasons as listed below, please reject the voluntary agreement section and remove it completely from the staff report before moving forward: The voluntary agreements are so flawed that the few non-governmental organizations that were involved early in the process dropped out. Not a single conservation, fishing, tribal or environmental justice group supports the voluntary agreements.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		Please note that this lack of support stands in stark contrast to the support of several organizations for the new biological goals adopted for the Lower San Joaquin River basin. The reason for the difference is what I myself experienced as a member of the STM Working Group: the Lower San Joaquin River goals are based on sound science and include higher flows as one of the factors necessary to achieve the goals.	
210	8	The voluntary agreements do not include an adequate adaptive management plan (back-up plan if they fail). The Bay Delta Plan, on the other hand, could increase or decrease flow requirements based on whether biological goals are being met. The voluntary agreements are just a checklist.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project and Common Response 1.3, Revised Proposed Plan Amendments, for information on the VA pathway.
210	9	The voluntary agreements would not even meet the modest objectives of the proposed Bay Delta Plan, so consideration of them should be terminated immediately.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
210	10	Finally, you need to act now. This process has gone on for too many years already. It is entirely possible that your long delay will be directly responsible for the extinction of species or runs of salmonids. I am sure you don't want that to be your legacy.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
211	1	My family has been here for 150 years now. During that time they watched the damming of valley and coastal rivers and the coinciding crash of salmon stocks. With the rapid unpredictable onset of global warming it is more important than ever to provide salmon sufficient flows of cold water for their survival. This ecology keystone species is deserving of better treatment than they have received since the creation of the California water project and diversion of valley water to arid San Joaquin valley agribusiness. Stop sending water to the desert to export fruits and nuts overseas. You can take action today to save our salmon. Do better.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
212	1	Please amend the report and prioritize river flows to support salmon restoration. Please do not certify in any way the draft report as it is currently prepared. Thank you.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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213	1	THE PHASE 2 SED CONTINUES TO UNLAWFULLY SEGMENT THE UPDATE TO THE BAY-DELTA PLAN IN VIOLATION OF CEQA AND THE PORTER-COLOGNE ACT The State Board's proposal to adopt the Inflow-Based Delta Outflow Objective requiring flow contributions from the San Joaquin River watershed would violate the Porter-Cologne Water Quality Control Act ("Porter-Cologne Act") and the California Environmental Quality Act ("CEQA") by continuing to, among other things, unlawfully segment its review, analysis, and consideration of Delta outflow contributions from the San Joaquin River watershed from the rest of the Delta watershed.	Please refer Common Response 1.2, Water Quality Control Planning Process, regarding State Water Board authorities related to the water quality control planning process, the Porter-Cologne Water Quality Control Act, and the relationship to the LSJR/SD Update to the Bay-Delta Plan. Refer to Common Response 7.1, General CEQA and Approach to the Analysis, regarding general CEQA compliance.
213	2	ADOPTING THE INFLOW-BASED DELTA OUTFLOW OBJECTIVE WOULD VIOLATE THE PORTER-COLOGNE ACT When setting water quality objectives, the Porter-Cologne Act requires the Board to consider, among other things, "[w]ater quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area." (Wat. Code, § 13241(c)(emphasis added).) To comply with this requirement, the Board must take a "global perspective" and consider all available "water resources" when setting objectives; it cannot exclude certain portions of the watershed from consideration. (United States v. State Water Resources Control Bd. (1986) 182 Cal.App.3d 82, 118-119.) The Board violated this requirement in 1978 when it adopted a Bay-Delta Plan with objectives based on mimicking conditions that would hypothetically occur without the Central Valley Project and State Water Project, known as "without project" standards, because those objectives failed to account for "upstream water[]" resources and "upstream users." (Id. at 118.) The Board's decision to phase the Bay-Delta Plan update (with Phase 1 covering the Lower San Joaquin River and three tributaries thereto, and Phase 2 covering the Sacramento River and its tributaries, the Delta, and three eastside Delta tributaries) violates the Porter-Cologne Act's requirement the Board consider "all factors which affect water quality in the area," including all available water resources. (Wat. Code, § 13241.) Specifically, the proposed "Inflow-Based Delta Outflow	Please refer to Common Response 1.2, Water Quality Control Planning Process, regarding State Water Board authorities related to the water quality control planning process, the Porter-Cologne Water Quality Control Act, and relationship to the LSJR/SD Update to the Bay-Delta Plan. Please see Common Response 1.3, Revised Proposed Plan Amendments, for a discussion of the Delta outflow objective. The inflow-based Delta outflow objective simply requires that any required inflows (from the Sacramento/Delta and Lower San Joaquin River) be provided as outflows. Implementation of the inflow-based Delta outflow objective could not alter the upstream inflow requirements from the San Joaquin River and thus would have no effect on the required inflows from the Lower San Joaquin River.

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		Objective” which requires that the flows set for the San Joaquin River and its tributaries during Phase 1 be committed to Delta outflow during Phase 2 would violate this provision. (Phase 2 SED, 5-29.) Because the proposed Inflow-Based Delta Outflow Objective would require contributions from both the Sacramento/Delta tributaries and the San Joaquin River, the Board’s requirement to consider all factors which affect water quality in the area when setting a reasonably protective objective for Delta outflow extends to both the Sacramento/Delta tributaries and the San Joaquin River watershed. The latter cannot be excluded from consideration during Phase 2 if its flows are a required component of an objective adopted as part of Phase 2.	
213	3	The Phase 2 SED fails to analyze what San Joaquin River flow contributions are needed to provide reasonable protection for Delta outflow when combined with the proposed range of flow contributions from the Sacramento River and its tributaries, and the Delta eastside tributaries. (Wat. Code, § 13241, § 13000.) In the absence of a comprehensive analysis evaluating flow contributions from the Sacramento River watershed, the San Joaquin River watershed, and the Delta eastside tributaries, the Board cannot determine what flows from each source constitute a reasonable level of protection given the resulting impacts on other beneficial uses, as required by the Porter-Cologne Act. (Wat. Code, §13241 [“board shall establish such water quality objectives [that] ensure the reasonable protection of beneficial uses” considering impacts on “[p]ast, present, and probable future beneficial uses of water”], §13000 [“the quality of the waters...shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters”].) Indeed, increasing flows from one resource (e.g., the Sacramento River watershed) could provide more benefits to fish and wildlife than an equivalent increase in flows from another resource (e.g., the San Joaquin River watershed), while also having fewer impacts on other beneficial uses. If the Board intends to set a Delta outflow objective that includes flow contributions from all water resources within the Delta watershed, it must comprehensively analyze and consider flow contribution ranges from every contributing sub-watershed to satisfy its obligation to set reasonably protective objectives	Please refer to Common Response 1.2, Water Quality Control Planning Process, regarding State Water Board authorities related to the water quality control planning process, the Porter-Cologne Water Quality Control Act and the Clean Water Act, the State Water Board’s consideration of factors under Water Code section 13241, and the relationship to the LSJR/SD Update to the Bay-Delta Plan. Also see Common Response 1.3, Revised Proposed Plan Amendments, for a discussion of the inflow-based Delta outflow objective. See Common Response 7.23, Cumulative Impact Analysis, regarding adequacy of the cumulative impact analysis.

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		that consider “all factors affecting water quality in the area” (Wat. Code, § 13241) and “all demands being made...on those waters.” (Wat. Code, § 13000.) The acknowledgment in the Phase 2 SED that most San Joaquin River water which reaches the Delta is diverted by exporters or other water users only adds to the need that San Joaquin River flow contributions be analyzed together with SWP and CVP operations in the Delta. (Phase 2 SED, Ch. 3, 3-39 stating “when exports are high, little if any flow from the San Joaquin River basin may make it out to the ocean.”)	
213	4	Notably, the Board did not analyze or determine the flows purportedly necessary for Delta Outflow from the San Joaquin River during Phase 1, but rather focused solely on the flows ostensibly necessary to protect fish and wildlife beneficial uses in the San Joaquin River watershed. As neither Phase 1 nor Phase 2 evaluates or determines a reasonably protective level of flows from the San Joaquin River watershed for Delta outflow, the Board cannot adopt an Inflow-Based Delta Outflow objective that requires flow contributions from the San Joaquin River watershed as part of Phase 2. To comply with the Porter-Cologne Act, any objective for Delta outflow that requires flow contributions from the Sacramento River, San Joaquin River, and Delta eastside tributaries must be supported by analysis that evaluates what flow contributions from each source will provide reasonable protection to fish and wildlife beneficial uses balancing impacts on all other beneficial water uses. (Wat. Code §13000, § 13241.)	See the responses to comments 213-2 and 213-3.
213	5	THE BOARD’S DECISION TO PHASE ITS BAY-DELTA PLAN UPDATE INTO MULTIPLE PHASES AFFECTING INTERCONNECTED WATERBODIES VIOLATES CEQA The California Environmental Quality Act (CEQA) and its accompanying Guidelines require that, “[w]here...a phased project is[] to be undertaken and where the total undertaking comprises a project with a significant effect, the lead agency shall prepare a single program EIR for the ultimate project.” (Cal. Code Regs., tit. 14, § 15165.) A “project” is defined as “the whole of an action,” not each individual component. (Cal. Code Regs., tit. 14, § 15378; see County of Ventura v. City of Moorpark (2018) 24 Cal.App.5th 377, 385.) “[W]here two activities are part of a coordinated endeavor...which taken together obtain an objective,	Please refer to Common Response 7.1, General CEQA and Approach to the Analysis, regarding general CEQA compliance and the level and scope of the analysis. Also see Common Response 1.2, Water Quality Control Planning Process, regarding State Water Board authorities related to the water quality control planning process and the relationship to the LSJR/SD Update to the Bay-Delta Plan.

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		or otherwise relate to each other; they constitute a single project for purposes of CEQA.” (County of Ventura, supra, 24 Cal.App.5th at 385 [internal quotations and citations omitted].) Including the Inflow-Based Delta Outflow Objective, which requires contributions from both the Sacramento River watershed and the San Joaquin River watershed, demonstrates that Phase 1 and Phase 2 are “two activities” that are “part of a coordinated endeavor” which “taken together obtain an objective.” (County of Ventura, supra, 24 Cal.App.5th at 385.) In this case, that objective is to establish a Delta outflow objective with contributions from all watersheds. Accordingly, the updates in Phase 1 and Phase 2 “constitute a single project for purposes of CEQA” and must be analyzed in a single environmental document. (Id.) To comply with CEQA, the Board should set aside its adoption of the Phase 1 Amendments to the Bay-Delta Plan and circulate a new notice of intent to comprehensively review, analyze, and update the Bay-Delta Plan considering all water resources within the Bay-Delta watershed.	
213	6	Chapter seven in the Phase 2 SED proposes “modular drought alternatives” in section 7.2.3.6. (PHASE 2 SED, Ch. 7, 7.2-11.) The Phase 2 SED proposes two alternatives (5a and 5b) that are implementation provisions that could be applied as part of the Plan amendments during “dry periods” that are meant to “address limited water supplies for meeting flow-based water quality objectives and related requirements.” (Id.) Preliminary, these proposed modular alternatives cannot be applied to the San Joaquin River water rights holders because the San Joaquin River watershed is outside the scope of Phase 2. The description of Modular Alternative 5b properly limits its application to the Sacramento/Delta watershed, but the description of Modular Alternative 5a does not explicitly include a similar limitation. In the event the Board includes either Modular Alternative in a program of implementation, it must explicitly state that neither alternative can be applied to the San Joaquin River watershed.	As described in Section 7.1.5.1, Sacramento/Delta, Plan Area, and Study Area, of the 2023 draft Staff Report, the proposed Plan amendments focus on the Sacramento River and its tributaries, Delta eastside tributaries (including the Calaveras, Cosumnes, and Mokelumne Rivers), Delta outflows, and interior Delta flows. However, the range and scope of alternatives are not limited to this area. In addition, the project has been revised. See Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, for information on the revised proposed Plan amendments.
213	7	THE MODULAR DROUGHT ALTERNATIVES WOULD VIOLATE THE RULES OF WATER RIGHT PRIORITY AND ARE NOT APPROPRIATE COMPONENTS OF A WATER QUALITY CONTROL PLAN	Neither drought alternatives propose to shift the flow requirements from junior to seniors. Both alternatives propose to expand the number of diverters obligated to meet the flow requirements. This would not alleviate junior users from meeting the same requirements. Modular drought Alternative 6b

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		Furthermore, the Board should reject staff's proposal to include either Modular Alternative in a revised Bay-Delta Plan for multiple reasons. First, both options are essentially trying to address curtailment of water rights when there is insufficient water in the system to meet all water rights. This is a fundamentally different authority of the State Water Board than water quality control planning and should not be addressed in a water quality control plan. Water quality control plans are composed of three primary components, a list of beneficial uses, a set of objectives that reasonably protect those beneficial uses, and description of the actions necessary to achieve the objectives. (Wat. Code, § 13050(j), § 13241, § 13242.) Actions to curtail water rights cannot be adopted as part of a program of implementation and must be separately noticed and provide appropriate due process to affected water rights holders. (Mathew v. Eldridge (1976) 424 U.S. 319, 323-33.)	would specify that all water users have an obligation to contribute toward meeting water quality and flow objectives. Under this alternative, all water right holders and claimants would be required to reduce their consumptive use of water by a specific percentage (e.g., 20 percent) to contribute toward instream flows under drought conditions. The flow contributions would be required to remain instream and would be unavailable for diversion by other users. By applying the conservation rule equally across all water rights, no junior water right holder would get any increased water from the reduced diversion by a senior water right diverter. This preserves the priority system but also would apply the public trust doctrine and reasonable use that applies to all water rights. The rule of water right priority is not absolute, nor is the Board without power to act contrary to that rule in appropriate circumstances (142 Cal.App.4th at p. 965). The Board would need to find that absent this modification, water quality objectives would not be met (as evidenced by recent number of TUCPs) in order to implement this alternative. Modular Alternatives 5a and 5b are evaluated as CEQA alternatives and do not establish regulatory requirements or modify water rights. The Plan does specify that to implement the Sacramento/Delta updates to the Bay-Delta Plan, as necessary the State Water Board will issue water right curtailments based on water right priorities for appropriative rights and pre-1914 appropriative and riparian claims of right, including adjudicated rights, when it is determined that water is not available at water right priorities. In order to inform the curtailments, the State Water Board will develop an implementation methodology to determine when water is not available at water right holders' priorities of right. This methodology will be developed through a public process within one year of approval of the current Plan amendments by OAL. Within two years of approval of the current Plan amendments by OAL, the State Water Board will adopt curtailment regulations consistent with the above that will identify specific curtailment procedures and requirements. Additional opportunities for public review will occur with the development of the Implementation Methodology and Curtailment Regulations.

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213	8	Modular Alternative 5a is referred to as an Instream Flow Protection Provision and purports to protect stored water releases from the CVP and SWP. (Phase 2 SED, Ch. 7, 7.2-12.) The State Water Board admits that “diversions by other water users can also result in the need for the Projects to release previously stored water in order to meet water quality requirements.” (Id.) Ironically, the State Water Contractors filed a water rights complaint in 2015 asking the State Water Board to protect stored releases and no action to date has been taken. 5a would now seek to extend Term 91 to other water rights holders as it currently only applies to 115 of the roughly 17,000 water rights and claims of right in the Delta watershed. (Id.) While we agree that other water rights holders do not have the right to divert previously stored water that is intended to be diverted, this is not the appropriate manner to address the question as there are significant legal implications and controlling case law that must be applied. Imposing Term 91 type restrictions on water users is “an adjudicatory function” and the Board should not do so without “conven[ing] a proceeding that would encompass all of those junior appropriators without term No. 91 in their permits or licenses and that would address their obligation to contribute toward Delta water quality.” (El Dorado Irrigation Dist. V. State Water Resources Control Bd. (2006) 142 Cal.App.4th 937, 960, 970.)	Please see response to comment 213-7. An adjudicatory proceeding is not the only legal proceeding available to give force and effect to the flow requirements in the Bay-Delta Plan. As explained in Section 5.2.3, Regulations and Adjudicative Proceedings, the State Water Board conducts both quasi-legislative and quasi-judicial administrative proceedings, and different rules apply depending on the type of action pending before the State Water Board. In the past, the State Water Board has conducted adjudicative water right hearings to implement the Bay-Delta Plan. In a quasi-adjudicative proceeding, the procedural rules are similar to a court in that testimony is submitted and subject to cross-examination and rebuttal, evidentiary motions may be made, and ex parte communications with the decision-maker are prohibited. This type of hearing is best suited for cases with a discrete set of issues and limited individual parties. Quasi-legislative proceedings, including hearings for the adoption or amendment of regulations, water quality control plans or state policy for water quality control, and hearings to gather information to assist the State Water Board in formulating policy for future action, are not adjudicative proceedings and are subject to different procedures. (See Cal. Code Regs., tit. 23, § 649 et. seq.) A rulemaking proceeding is most effective when a large number of parties will be subject to the regulation. The process can be time and resource intensive, but the procedures are less structured and better tailored for actions that require a comprehensive approach. The basin planning process is a rulemaking proceeding. Both types of proceedings provide adequate due process. The State Water Board possesses legal authority to adopt regulations declaring that a particular use of water under given circumstances is unreasonable without the requirement to conduct a hearing as to any individual water right. (Stanford Vina Ranch Irrigation Co. v. State (2020) 50 Cal.App.5th 976, 1004 [citing Light v. SWRC State Water Resources Control Bd. (2014) 226 Cal.App.4th 1463, 1484-85] [“Stanford Vina”].) The State Water Board implements the Bay-Delta Plan objectives using its quasi-legislative or adjudicative authorities involving water rights and water quality. The State Water Board may implement the objectives by adopting regulations, conducting adjudicative proceedings, or both, that take into consideration

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			the requirements of the public trust doctrine and the California Constitution, article X, section 2. The State Water Board will likely implement the flow components of the Sacramento/Delta updates to the Bay-Delta Plan primarily through water right curtailments based on water right priorities subject to possible modifications (e.g., drought, public health and safety, public trust obligations). Water released from storage is not available to downstream users. (See e.g. North Kern Water Storage Dist. v. Kern Delta Water Dist. (2007) 147 Cal.App.4th 555, 570 [When the stored water is released for use, it is not part of the river's natural flow and redirection of this water does not count toward the appropriator's current allocation of river water]; see State Water Resources Control Bd. Cases (2006) 136 Cal.App.4th 674, 737-745 [a riparian or appropriator has no legally protected interest in other appropriators' stored water or in the continuation of releases of stored water].)
213	9	Modular Alternative 5b [Footnote 2: Modular Alternative 6a described in section 7 suffers from similar issues.] is referred to as the Shared Water Shortage Provision. Modular Alternative 5b suffers from the same issues as 5a but is even more egregious because it ignores California water law. Instead of applying curtailments based on priority, as required by law, this alternative is a share the pain approach that requires "all water rights holders and claimants" to "reduce their consumptive use of water by a specific percentage" to "contribute toward meeting the Bay-Delta Plan objectives regardless of priority. (City of Barstow v. Mojave Water Agency (2000) 23 Cal.4th 1224,1242; Millview County Water District v. State Water Resources Control Board (2014) 229 Cal.App.4th 879,890.) Importantly, water rights are not administered based on consumptive use. Besides being illegal, this methodology will not reliably create more water in the system during drought times. Applying water to land changes the timing and quality of the water. Thus, to make a meaningful difference in water availability, the State Board must regulate the water diversion, not the consumptive use. Any curtailment must be done consistent with California water rights, by priority, and in a separately noticed process.	Please see the responses to comments 213-7 and 213-8.
213	10	WATER QUALITY CONTROL PLAN SHOULD NOT INCLUDE REQUIREMENTS IN THE BIOLOGICAL OPINIONS	The State Water Board has evaluated the possibility of excluding interior Delta flow and fall Delta outflow provisions originating from the National Marine Fisheries Service and U.S. Fish and

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		The Board attempts to include several new objectives, taken from the Biological Opinions or the Incidental Take Permits (ITPs), into the PHASE 2 SED. The Board admits that these elements may change, as the Biological Opinions and ITP are issued under the federal Endangered Species Act and California Endangered Species Act, and consistent with National Environmental Protection Act and the California Environmental Quality Act. (PHASE 2 SED, p. 5-36.) Over the years, the Biological Opinions and ITPs have changed and will continue to change based on best available science and new data. The Water Quality Control Plan has not changed in decades. The PHASE 2 SED would cement into the WQCP dynamic requirements and only allow them to be modified in the Water Quality Control Plan if the changes “are no less protective....” (Id.) This flies in the face of best available science and asserts Board jurisdiction over items outside of the Board’s authority. These changes should be rejected as unnecessary because they are covered in the Biological Opinions and ITPs.	Wildlife Service Biological Opinions for operation of the State Water Project and Central Valley Project and from the California Department of Fish and Wildlife incidental take permit for the same projects. Alternative 4a is discussed in depth in Section 7.24, Alternatives Analysis, of the 2023 draft Staff Report. The draft updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Watershed released on October 25, 2024 and July 25, 2025 each contain a narrative objective for interior Delta flows, a Delta Cross Channel Gate closure objective, as well as sections detailing April 15 through May 15 export limits based on San Joaquin River Flows and export limits based on Delta inflows. Consistent with Alternative 4a of the 2023 draft Staff Report, possible new objectives for Old and Middle River flows, expanded export constraints based on San Joaquin River flows, and fall Delta outflows were not included in the revised proposed Plan amendments. Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of providing reasonable protection for fish and wildlife beneficial uses under the Bay-Delta Plan.
213	11	The Unimpaired Flow Regime Remains Unsupported Like the Phase 1 SED, the Phase 2 SED continues to repeat the unsupported and unsubstantiated claim that more flow will result in increased fall-run Chinook salmon (FRCS) abundance. Chapter 3 of the SED states, “this chapter relies on scientific and empirical evidence from published and peer reviewed articles...” The Board purports to build on science from the Board’s 2010 Delta Flow Criteria Report (DFCR). Both the DFCR and Phase 2 SED primarily rely upon simple regression analyses without acknowledging the imitations and uncertainties of the analyses. Most of these analyses are based on the same linear regression approach repeatedly re-packaged by several authors. From this correlation between spring flows and adult escapement 2.5 years later the authors derive two hypotheses: 1) that more flow increases juvenile survival, and 2) that increased juvenile survival in turn results in higher escapement. The Phase 2 SED	Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, of the Staff Report and the peer-reviewed 2017 Scientific Basis Report draw from a wealth of peer-reviewed scientific literature to describe the evidence supporting the use of unimpaired flow for improving environmental conditions for native fish species in the Sacramento/Delta. Chapter 3 includes evidence supporting the relationship between flow and survival. See Common Response 3.1, Fish Protection, on use of best available science and the flow benefit analyses. Non-flow stressors are addressed in Chapter 4, Other Aquatic Ecosystem Stressors, of the Staff Report. See also the response to comment 213-12.

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		continues to ignore the limitations and flaws in the regression analyses that have been the subject of significant dispute, fails to provide any information directly examining the underlying hypotheses regarding flow and survival and survival and escapement, and fails to examine stressors other than flow.	
213	12	Regression of spring flow and escapement was highly disputed in the 1991 and 1995 Bay-Delta proceedings, and further comments were provided by the San Joaquin Tributaries Authority during Phase I as to why the analysis was flawed. (SJTA Comments on 2012 SED, specifically Doug Demko presentation from March 20-21 Speaker Presentation [Footnote 3: Available at https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/dsedoc/sjta_demko_revised.pdf].) In particular, the analysis was found to violate standard statistical practices by using untransformed, nonnormally distributed data, the regression was highly sensitive to a few overly influential data points, there were large deviations of some points from the regression line indicating lack of a robust relationship, and the relationship was not consistent when looking across different time periods. When transformed data were analyzed, the R2 was found to be quite low (0.27) suggesting, at best, a weak correlation and models which included factors other than flow had more predictive power. Further, the correlation does not stand up across different time periods. In fact, using the past 21 years of record (2002-2022 escapements) are analyzed using the regression approach, the datapoints are highly scattered and the R2 plummets to 0.08. There is no support for the claim that more flow results in higher escapement. Further, the trend line suggests a negative correlation between flow and escapement (Figure 1) [Exhibit 1].	Please see Common Response 1.1, General Comments, on previously submitted comments for the Lower San Joaquin River watershed update. The statistical relationship between escapement and flows does not form the primary basis of the recommendations from the 2017 Scientific Basis Report and the Staff Report, which rely more upon the relationship between flow and out-migration survival as a basis for its conclusions. Please see Common Response 3.1, Fish Protection, on flow-benefit analysis and discussion of uncertainties. As discussed in Common Response 3.1, Michel (2019) is a recent study that supports the claim that freshwater conditions (i.e. higher flows) have a large effect on salmon escapement.
213	13	[Exhibit 1: Graph titled Figure 1. Average river flow at Vernalis March 15 through June 15 and total salmon escapement to the Stanislaus, Tuolumne, and Merced Rivers in 20002-2022]	Please see the response to comment 213-12.
213	14	The Phase 2 SED also refers to an increase in salmon production when the ratio of spring flows at Vernalis to exports increased. A regression of only a few data points collected across only three years is presented as supporting evidence for the recommendation of positive flows at Jersey Point to protect salmonids. This is followed by the unsubstantiated claim that increasing flows at Vernalis is more significant than limiting	Dauble et al. (2010) is the proper citation of Hankin et al. (2010). The NMFS Biological Opinion (2009) addressed the issue of increased San Joaquin River flows at Vernalis in relation to total Delta exports (Vernalis I:E ratio) to reduce the vulnerability of emigrating steelhead and enhance the migratory survival of juvenile salmonids in the channels of the south Delta (Action

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		exports. Later peer review of a larger dataset generated by VAMP and other survival studies found that the survival estimates for the few years reflected in Figure 3.4-17 of the SED with high (~10,000 cfs) exports and very low (near zero) San Joaquin River flows were found to be much higher than survival estimates from experiments with low (~1,500 cfs) exports and higher (~3,000 cfs) San Joaquin River flows at Dos Reis in later years (Hankin et al 2010). This is contradictory to the Phase 2 SED's claim that flow is more significant and indicates that survival was higher at 3,000 cfs than at 10,000 cfs.	IV.2.1 San Joaquin River Inflow to Export Ratio). The figure cited in the comment (Figure 3.4-17, in Section 3.4, Chinook Salmon (<i>Oncorhynchus tshawytscha</i>) and Central Valley Steelhead (<i>Oncorhynchus mykiss</i>)) reflects the importance of maintaining positive flows of the lower San Joaquin River calculated at Jersey Point to ensure juvenile salmonid survival through the south Delta. Higher flows from and through the lower San Joaquin River corridor and south Delta facilitate migration of juvenile salmonids and reduce their potential entrainment toward the water export facilities. Although the VAMP Review Panel Report (Dauble et al. 2010) stated that juvenile salmon survival rates under high exports (~10,000 cfs) and low San Joaquin River flows were much higher than those under low exports (~1,500 cfs) and higher San Joaquin River flows (~3,000 cfs), interpretation of the juvenile salmonid migratory survival data based on these experiments should be treated with caution for several reasons. First, the high exports and low flows experiments were conducted in the years 1989 and 1990, and fish were released at Dos Reis which is downstream of the Head of Old River location. On the other hand, the low exports and high San Joaquin River flows experiments were conducted in the years 2003 and 2004 and fish were released at Mossdale upstream of the Head of Old River with a barrier at the Head of Old River in place. The San Joaquin River flows were measured and reported at Dos Reis for these experiments, not Vernalis, the current location of various flow requirements for the lower San Joaquin River. Further, Dauble et al. (2010) concluded that the export effects on juvenile salmon survival were inconclusive and the data available at the time should not be interpreted to mean that exports have no effect on survival rates.
213	15	It is clear that high Vernalis flow alone does not guarantee strong salmonid survival and production. Since 2003, survival through the San Joaquin Delta has consistently been less than 12%, while flows at Vernalis ranged between 2,000 cfs and 27,000 cfs. This data is consistent with Buchanan et al. (2018) showing survival has generally been approximately 2-5%. Large variability in survival rates and a decline in estimated survival rates across all flow levels led a peer review to conclude that "simply meeting certain flow objectives at Vernalis is unlikely to achieve consistent rates of smolt survival through the Delta over time,"	The comment quotes a conclusion from the VAMP Review Panel Report (Dauble et al. 2010), stating, "simply meeting certain flow objectives at Vernalis is unlikely to achieve consistent rates of smolt survival through the Delta over time." However, Staff could not find the quoted text, "reliance on flow alone would not consistently meet survival rates of juvenile Chinook salmon in the San Joaquin River and Delta", in Dauble et al. (2010). The report (Dauble et al. 2010) also states that the lower survival rates were combined results of, in part, the hydraulic

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		and “reliance on flow alone would not consistently meet survival rates of juvenile Chinook salmon in the San Joaquin River and Delta.” (Dauble et al. 2010). This 2010 review recommended the Board consider the role of smolt survival through the Delta in the larger context of the entire life cycle of FRCS. The Board still has not done so 13 years later. Similar recommendations were made to the Board in 2019 (ISAP 2019). Both reviews addressing other factors besides flow, yet the Board has maintained a steadfast focus on flow alone.	environment and predation in the Delta, and increasing survival rates would be complicated due to the apparent strong trend toward lower survival rates at all flows that occurred during the past. Dauble et al. (2010) concluded that “increased flows generally have a positive effect on survival and that it is desirable, to the extent feasible, to reduce or eliminate downstream passage through the Old River channel.” Further, the report stated that flow, water exports, and barriers in the Delta were affecting juvenile salmonid migration survival, and those were the most easily managed variables. The population-level success of salmonid fish should be considered in the context of the entire life cycle including juvenile production, growth, and outmigration survival, ocean growth and survival, adult upstream migration survival, and spawning. Michel (2019) concluded that streamflow conditions during juvenile outmigration were highly correlated with smolt-to-adult ratios and most interannual variation in the smolt-to-adult ratio was explained by outmigration survival. Findings in Michel (2019) support the use of flow-based measures that are analyzed in the Staff Report and considered for updating the Bay-Delta Plan for increasing juvenile salmon survival and overall production. Additionally, as described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta and Chapter 13, Revised Proposed Plan Amendments, of the Staff Report, the revised proposed Plan amendments includes options for non-flow measures, e.g., habitat enhancement and restoration, in the Delta and its watershed along with flow requirements that would enhance the recovery of native fish populations.
213	16	The Phase 2 SED states that “Stressors other than flow can affect ecosystem processes”, and “each of these stressors has the potential to interact with flow to affect available aquatic habitat” (Phase 2 SED, 3-1). These stressors are identified in chapter 4 as physical habitat loss, water quality, non-native species, fisheries management (harvest and hatcheries), and climate change. These stressors were also identified as issues that needed to be addressed for FRCS to improve in the 1995 WQCP. The stressors were again identified in the 2010 DFCR and the Phase 1 Program of Implementation. Even though these stressors have been called	Chapter 4 of the 2023 draft Staff Report contains an in-depth discussion of non-flow stressors and potential actions to address those stressors. The State Water Board acknowledges that ecosystem recovery in the Delta depends on more than just adequate flows, and that various non-flow measures are necessary to address those stressors unrelated to flow. However, many of those potential actions fall within the purview of other agencies and entities, and should be further developed and implemented by those agencies and entities in concert with the State Water Board’s planning and implementation efforts.

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		out again and again, from 1995 to 2023 nothing has been done to address them. The Board continually asserts it had no jurisdiction to control these other factors. Without addressing these stressors, implementing new flow objectives will result in a waste and unreasonable use of water.	Section 7.21, Habitat Restoration and Other Ecosystem Projects, of the 2023 draft Staff Report examines the potential environmental impacts of non-flow measures that entities might undertake and identifies the role these measures can play in improving water quality conditions in the Delta. Additionally, it is important to note that non-flow measures often depend on sufficient flow for successful implementation. For an in-depth examination of the benefits of flow and its role as a critical element of protection and restoration, see Chapter 3 of the 2023 draft Staff Report, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations. Please see Common Response 1.2, Water Quality Control Planning Process, for discussion of non-flow measures and the State Water Board's authority to impose such measures, as well as for a discussion of waste and unreasonable use and Article X, Section 2 of the California Constitution.
213	17	While the Phase 2 SED states that fish and wildlife protection cannot be achieved solely through flow, and that habitat restoration and stressor reduction are also needed, it then in the next sentence reverts to a belief that "the dynamic nature of flow interacts with the physical environment to produce aquatic habitats suitable for native fish and wildlife." The theme that flow is a major determinant of physical habitat and salmon abundance carries through Chapter 3. There is no discussion of how the other stressors interact with flow to affect available habitat nor the degree to which the continued lack of action to address these factors will impede recovery.	The 2023 draft Staff Report considers the impacts of other ecosystem stressors and the ways they may interact with flow in Chapter 4, Other Aquatic Ecosystem Stressors.
213	18	Again, in Phase 2, Chapter 4 of the Phase 2 SED discusses these stressors. The Phase 2 SED states: "The State Water Board recognizes that ecosystem recovery in the Delta depends on more than adequate flow". (PHASE 2 SED, Ch 4., 4-1.) This quote misstates the Board's jurisdiction and mandate, which is to protect beneficial uses, not restore the ecosystem. The Board on one hand says it will not address other stressors, and on the other hand states that it is trying to recover the ecosystem. However, the Board's job is to set water quality	The included quote from the 2023 draft Staff Report makes no statement about the State Water Board's jurisdiction, mandate, or the purpose of the project. As described in Section 7.1.3, Purpose and Goals of the Sacramento/Delta Update to the Bay-Delta Plan, of the 2023 draft Staff Report, the purpose of the project is to establish water quality objectives, a program of implementation, and monitoring and special study measures for the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta. The 2023 draft Staff Report acknowledges the benefits of non-flow actions, and this discussion can be found in Chapter 4, Other Aquatic Ecosystem Stressors. A description of complementary, non-flow actions that

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		objectives to protect beneficial uses. The purpose of the water quality control plan process, and Phase 2 is not restoring the Delta, but rather the objectives should provide reasonable protection for all beneficial uses. Given that 55% unimpaired flow is recommended and no other changes to address stressors, the objective cannot be met by flow alone as the stressors listed above thwart any fisheries improvements.	may help address the stressors described in Chapter 4 can be found in Section 5.5, Habitat Restoration and Other Complementary Ecosystem Measures. Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of non-flow measures and the State Water Board's authority to impose non-flow measures.
213	19	If the Board asserts that beneficial uses will be reasonably protected by flow alone then there is no need for discussion or analysis of other factors, such as those offered by the Voluntary Agreements. If flow alone will not protect beneficial uses then the following question arises: what other actions proposed by the Board will coordinate with flow to reasonably protect beneficial uses? The Board cites to the Delta plan, Sommer 2007, and Moyle 2012 to support this position. (Phase 2 SED p. 4.1). It doesn't appear the Board is taking any action in Phase 2 of the WQCP to address these stressors.	Please see the response to comment 213-18.
213	20	The Phase 2 SED states: "...that term [non-flow actions] is something of a misnomer as it fails to capture both how inadequate flow have contributed to the pervasiveness and severity of other stressors and the need for adequate flows to successfully implement many non-flow or other aquatic ecosystem measures." (PHASE 2 SED, Ch. 4, 4-1.) This quote implies that flow is needed to make these non-flow actions successful. However, it is unclear and not stated how inadequate flows caused the pervasiveness and severity of the hatchery stressor, predation stressor, Ocean Harvest (Magnusson/Stevens Act), Ocean Conditions, and climate change. To our knowledge, flows do not have anything to do with these stressors and the Phase 2 SED does not describe how increases in flows to 55% UIF will stop the pervasiveness or severity of these stressors.	The selected quote from the 2023 draft Staff Report provided by the commenter suggests that the impacts of inadequate flows and other ecosystems stressors compound on one another but does not state that inadequate flow is the cause of all stressors. Most stressors are either partially caused or compounded by inadequate flow or flow-related issues. As stated in Section 4.5.2, Hatcheries, of the 2023 draft Staff Report, most hatcheries are operated to mitigate the loss of habitat above dams and thus hatchery-related stressors are caused in part by lack of flow connectivity. As stated in Section 4.4.1, Fishes, of the 2023 draft Staff Report, nonnative species (including predators) are favored by the altered hydrology of the Bay-Delta. The purpose of the project is not to resolve every stressor faced by native species, but rather to provide for the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta. The Staff Report considers that successful implementation of non-flow measures can be complemented by the provision of adequate flows to help alleviate the combined impacts of inadequate flows and other ecosystem stressors, as described in Chapter 4, Other Aquatic Ecosystem Stressors and Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta. Section 5.5,

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			Habitat Restoration and Other Complementary Ecosystem Measures, also includes discussion of non-flow actions that may help address some of the other stressors.
213	21	The Phase 2 SED then states: “The benefits of flows are enhanced when implemented in concert with habitat restoration, control of waste discharges, control of invasive species, fisheries management...” (PHASE 2 SED, Ch 4, 4-1.) The Phase 2 SED does not qualitatively or quantitatively describe how 55% UIF will provide enhanced benefits. The Phase 2 SED does not describe a baseline for these alleged increased benefits created by flow. This statement seems to support and confirm that until other stressors are addressed, increasing flow in a highly modified system is not going to meet the narrative objective, provide reasonable protection or protect the public trust.	Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, of the Staff Report provides quantitative and qualitative evaluations of the benefits of 55% of unimpaired flow compared to baseline conditions. In addition, the Scientific Basis Report Supplement and Chapter 13, Revised Proposed Plan Amendments, of the Staff Report include qualitative evaluations of the interaction between flow and other stressors. A description of the existing hydrology and environmental conditions of the study area can be found in Chapter 2, Hydrology and Water Supply. For more information on baseline conditions included in the Staff Report, refer to Common Response 6.2, Baseline and No Project Alternative. Additionally, please see the responses to comments 213-17, 213-18, and 213-20. Please also see Common Response 1.2, Water Quality Control Planning Process, for a discussion on reasonable protection of fish and wildlife beneficial uses.
213	22	Furthermore, the Board has determined in Phase 1 that flow is the “master variable.” 55% UIF is the minimum flow needed (SED 1-101). Phase 2 SED builds on the Delta Flow Criteria report. The Board in the Phase 2 SED states D-1641 flows are not adequate. However, the Voluntary Agreement table shows water contribution under the Voluntary Agreement are relatively equal to D-1641 flows. The Board cannot have it both ways, either flow alone is enough, or flow must be coupled with other actions, such as those contemplated in the Voluntary Agreements and discussed below.	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of reasonable protection of fish and wildlife beneficial uses provided under the regulatory and VA pathways, and for a discussion of non-flow measures and the State Water Board’s authority to impose such measures. As discussed in the response to comment 213-16, flow and non-flow measures are linked, with the effectiveness of certain non-flow measures hinging on sufficient flow being available. Please see Common Response 3.1, Fish Protection, for an explanation of the Board’s approach to analyzing the effects of flow on species abundance and life cycle models. Contrary to what this commenter appears to suggest, in analyzing how best to reasonably protect all beneficial uses, it is appropriate for the State Water Board to consider approaches involving different flow requirements and their combination with non-flow measures.
213	23	Climate Change and Ocean Conditions	As described in Section 7.1.3, Purpose and Goals of the Sacramento/Delta Update to the Bay-Delta Plan, the purpose of

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		While the Phase 2 SED describes the pervasive and severe problem of climate change, it fails to state how the Board's action will improve the situation. Specifically, the Phase 2 SED does not state how increased flows can address impacts from climate change. A 2018 forecast identified that if current climate change trends continue, Central Valley salmon face extirpation by the end of this century (Franks and Lackey 2018). Notably, the trends referred to were not only climate change, but also a need for major sustained ocean harvest reductions and reducing hatchery production. More northerly salmon populations have incurred declines due to climate change and warming temperatures. Warming temperatures will not only impact salmon directly, but also increase predation pressure. Climate change effects are broad, affecting both conditions experienced in the freshwater segment of the salmon lifecycle as well as the much longer life cycle portion in the ocean. Ocean conditions cannot be managed, and as was observed in 2008 and 2009 can result in catastrophic collapse of the population. This collapse occurred when the ocean food chain was impoverished. One indicator of ocean conditions for salmon are indices of northern and southern copepod species. Copepods are the marine food chain base and coldwater northern species are lipid rich while the southern species are lipid poor. As a result, positive anomalies of northern copepods indicate a rich food chain and positive anomalies of southern copepods indicate an impoverished food chain. These indices have been used to forecast salmon survival in Oregon and Washington. Figure 2 [Exhibit 2] demonstrates severe poor ocean conditions for salmon occurring from 2015-2019. This likely contributed to the overfished designation for salmon in 2018-2020.	the project is to establish water quality objectives, a program of implementation, and monitoring and special study measures for the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta. Climate change contributes to the overall decline of the Bay-Delta ecosystem and negatively impacts many native fish species, as described in Staff Report Section 4.6, Climate Change. This planning process includes actions to directly address the reasonable protection of fish and wildlife beneficial uses. To the extent that climate change acts as a stressor on these beneficial uses, these same protective actions contribute to addressing the impacts of climate change. The effects of climate change on beneficial uses and possible mitigation measures are considered throughout the Staff Report (for example, see Section 2.6, Climate Change and Drought or Section 4.6, Climate Change). Please see Common Response 4.2, Drought and Climate Change, for additional discussion on the consideration of climate change within the Staff Report. The commenter provides an exhibit that shows copepod species richness from 1996-2022 to illustrate the variability of ocean conditions for salmon over time. While ocean conditions and related management actions do not fall under the scope of the Bay-Delta Plan, flow measures and cold water management provisions within the Plan can impact the overall resiliency of salmonids. Please see Section 3.2.1, Riverine Flows, of the Staff Report for a discussion on the provision of flows as a management strategy for addressing climate change effects. This section also includes information on changing ocean conditions and how the maintenance of natural flow regimes can support genetic and life-history diversity, thereby increasing resiliency of salmon stock towards poor ocean conditions. Flow measures, paired with cold water management provisions further discussed in Section 3.14.3, Cold Water Storage, are meant to provide comprehensive protection to native aquatic species from natal streams through the Delta and Bay in a manner consistent with a holistic approach.
213	24	[Exhibit 2: Graph titled Figure 2 Copepod species richness, Blue bars indicate copepods are primarily from northern, colder waters]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.

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213	25	Hatcheries Hatcheries are identified as a major stressor in the 1995 WQCP, 2018 Phase 1 and again in the Phase 2 SED. After identifying that FRCS escapement is now dominated by hatchery origin fish and the detrimental consequences resulting from hatchery management practices, the Phase 2 SED briefly touches on recommendations made in 2012 to begin addressing these impacts. But the Phase 2 SED stops there and does not discuss any recommendations. One of the most basic recommendations to mark all hatchery fish, which has been broadly supported and recommended as early as the 1995 WQCP, has yet to be implemented. Although a program was initiated in 2007 to mark a constant fraction of hatchery production, lack of action to implement a 100% marking program has hampered timely assessment of the relative contributions of hatchery and natural origin FRCS.	Information on impacts from hatcheries and suggestions for mitigation can be found in Section 4.5, Fisheries Management. As described in the 2023 draft Staff Report, fishery management actions are largely the purview of other agencies, such as CDFW, California Fish and Game Commission, Pacific Fishery Management Council, USFWS, and NMFS. Further discussion of actions to address harvest and hatchery operations and the appropriate responsible state and federal agencies can be found in Section 5.5.4, Fishery Management Actions. While implementation of a 100 percent marking of hatchery-origin juvenile salmon program may improve understanding of the relative contributions of hatchery- versus natural-origin fish, this management action alone would not help to reduce the number of hatchery origin fish that spawn in Bay-Delta tributaries. Increased marking may help facilitate the exclusion of hatchery origin fish from spawning grounds, but only if exclusion weirs are put in place. No known hatchery fish exclusion program has been proposed in the Bay-Delta tributaries. The 2023 draft Staff Report acknowledges the difficulties associated with estimating natural production in Section 3.4.3.1, Population Abundance Goals and Species Declines, but utilizes the best available long-term data set from CDFW's GrandTab.
213	26	Interestingly, the Phase 2 SED does not mention the marking program that has been initiated or the decade of results available to evaluate hatchery and natural production in the returning escapement. Instead, the Phase 2 SED uses natural production figures from the Anadromous Fish Restoration Program which are known to be highly uncertain and flawed. These estimates are based on broad assumptions about fish origin depending on whether they returned to a hatchery or to the spawning grounds and many streams without hatcheries are assumed to have no hatchery contribution. The impacts of hatchery-origin Chinook salmon on natural-origin Chinook salmon populations in the Central Valley have been increasingly studied over the past decade, and it is clear from the Constant Fractional Marking Program (CFM; www.CalFish.org) that hatchery origin fish consistently dominate the fall-run population. The CFM found on average 76% of fall-run Chinook salmon escapement to the	Please see Common Response 3.1, Fish Protection, for a discussion on the use of Anadromous Fish Restoration Program and Constant Fractional Marking Program data in the Staff Report.

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		Central Valley during 2011-2020 were of hatchery origin (Figure 3 [Exhibit 3]). The Phase 2 SED does not mention let alone consider data from the CFM.	
213	27	Juvenile FRCS numbers released by hatcheries annually increased by 52% from an average of 23 million during 1964-1988 to nearly 35 million during 1989-2013 (Figure 4 [Exhibit 4]; Huber and Carlson 2015). The Phase 2 SED identifies an increasing dominance of hatchery fish in the spawning population, along with habitat loss and degradation as factors contributing to reduced genetic and phenotypic diversity of Central Valley stocks. The Phase 2 SED acknowledges that reduced resilience from these factors contributed to the collapse of the fall-run population in 2005 and 2006 in response to poor ocean conditions. Ironically, the Phase 2 SED does not consider whether hatcheries have impacted the population's resilience to respond to ocean conditions, by extension hatcheries have reduced resilience to drought and other factors.	As acknowledged in Section 4.5.2, Hatcheries, of the 2023 draft Staff Report, fish produced in hatcheries can have detrimental genetic and evolutionary population-level effects, reducing the overall resiliency of salmon stock. These hatchery impacts of reduced resiliency are carried throughout the salmon life cycle, including to ocean environments, where reduced resiliency combined with poor ocean conditions can exacerbate the factors leading to collapse. The 2023 draft Staff Report discusses the link between weak salmon runs and the collapse of the ocean salmon fishery in Section 3.2.1, Riverine Flows, citing ^Lindley et al. 2009.
213	28	The dominance of hatchery fish continues to persist even following recent flood years declining to a low of 57% in 2019 following the 2017 flood year. The SED notes that most fish harvested commercially during 1979-2014 were from hatchery production, implying that hatchery fish have long dominated the population. Hatchery production and release strategies have been used to compensate for impacts from various factors, including habitat loss, predation by non-native fishes, harvest, and drought at a cost of reduced resilience and replacement of natural fish. Record escapement to the Mokelumne River and record low returns to Coleman Hatchery this year provides a vivid example of one impact of hatchery practices. Fish this year would be returning from brood years 2019-2021, with the majority expected to be from 2020 and 2019 (Age 3 and Age 4). These were years of record production from the Mokelumne Hatchery and all of the 7 million fish per year were trucked off-site for high survival (Figure 5 [Exhibit 5]). In contrast, Coleman Hatchery production has been relatively stable at approximately 13 million salmon per year, over the past 20 years, including the years contributing to escapement (Figure	Please see response to comment 213-20.

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		6 [Exhibit 6]]. ALL of these fish were released on-site. This means that at least 54% would have needed to survive migration through the entire Sacramento River and the Delta to equal the 7 million released into the Bay from the Mokelumne Hatchery. For context, acoustic telemetry studies during 2007-2011 found survival to range from 3%-16% from the Upper Sacramento to the Golden Gate (Figure 7 [Exhibit 7]). In summary, Coleman Hatchery production was average but faced substantial loss during outmigration while Mokelumne Hatchery released record numbers of salmon with 100% survival to the estuary due to trucking. The SED does not set forth how increasing flows to 55% UIF will improve hatchery practices.	
213	29	[Exhibit 3: Graph titled Figure 3. Proportion of CV fall-run escapement originating from hatchery production]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	30	[Exhibit 4: Graph titled Figure 4. Chronology of Central Valley FRCS hatcheries and annual numbers of FRCS juveniles released from hatcheries]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	31	[Exhibit 5: Graph titled Figure 5. Mokelumne Hatchery salmon production released in basin and out of basin]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	32	[Exhibit 6: Graph titled Figure 6. Coleman Hatchery salmon production released in basin and out of basin]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	33	[Exhibit 7: Graph titled Figure 7. Salmon survival from the Upper Sacramento to the Golden Gate from acoustic telemetry studies]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	34	Harvest Harvest is managed by the Pacific Fishery Management Council (PFMC) and the Phase 2 SED identifies at p. 3.15 that ocean harvest has averaged approximately 500,000 fish between 1975	A description of fishery management activities and appropriate decision-making agencies, including information on ocean harvest, can be found in the 2023 draft Staff Report Section 5.5.4, Fishery Management Actions.

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		and 2014. Over the same years, escapement to the Sacramento Basin averaged only 260,000 indicating an average harvest rate of more than 65%. The Phase 2 SED identifies unsustainable harvest of adult breeding stock as a potential factor that could reduce population abundance and viability. Indeed, this is a significant factor, and despite the population being designated as overfished from 2018-2020, harvest rates averaging more than 60% were still allowed and harvest soared to 75% in 2022. Management decisions regarding ocean harvest represent a significant impediment to recovery of Central Valley fall-run Chinook salmon and remain unaddressed in the Phase 2 SED. Ocean harvest has a significant impact on escapement to the Central Valley, and harvest regulations are set to result in a range of at least 122,000 to 180,000 fall-run Chinook salmon escaping to the Sacramento Basin each year (PFMC 2023). As a result, escapement seldom exceeds this range (Figure 8 [Exhibit 8]: PFMC 2023). This stands in stark contrast to the fall-run doubling goal of 750,000 naturally produced salmon. At an average harvest rate of 60%, this would equate to an escapement goal of approximately 300,000 naturally produced salmon. Total escapement including both hatchery and naturally produced individuals has rarely reached or exceeded this level which is more than double the escapement goal to which harvest is managed. Of note, the Phase 2 SED identifies that most fish harvested commercially during 1979-2014 were from hatchery production. The same would be expected to be reflected in the spawning escapement and thus the total escapement values in Figure 8 are even further from the goal. Hatchery fish dominate escapement to both hatchery and natural areas. While harvested fish “count” towards production they do not return to contribute to the next generation thereby short-circuiting potential gains in production. An illustration of this impact is shown in Table 1 [Exhibit 9]. This example assumes that in each year twice as many adults are produced as there were parent spawners. Initial spawner abundance of 125,000 approximates the minimum management target used to regulate harvest of 122,000. In the first scenario, harvest rates are set to 50% and each year the doubling of production is entirely reset and not realized due to harvest. In the second scenario harvest	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		rates are initially set to only 25% to allow more adults to return and seed the next generation, re-building the population. Not only does the population grow, but more importantly, over a short time both production and escapement quickly grow allowing the potential to increase the harvest rate while still maintaining high production. In addition to competing harvest and recovery goals, inaccurate predictions of salmon abundance and lack of in-season management for salmon in the California ocean have resulted in lower abundance and higher harvest rates than projected. Most recently, PFMC predicted that nearly 400,000 Sacramento River fall-run Chinook (SRFC) were available in the ocean, and that based on fishing regulations and quotas that nearly 200,000 would escape to the spawning grounds in 2022. Abundance was severely overestimated with the actual abundance estimated at only about 250,000 salmon as compared to the 400,000 predicted. This inaccurate preseason forecast led to 75% of SRFC being harvested in 2022, the highest rate since 2004. Inaccurate forecasts continue to hamper effective management, and abundance has been overestimated in more than 75% of years since 2005 (Figure 9 [Exhibit 10]; PFMC 2023). As a result of lower abundance and a high harvest rate, SRFC escapement was only 61,850 in 2022, the third lowest over more than 50 years, and only about half of the annual target of 122,000 hatchery and natural area spawners. It was estimated earlier this year that SRFC abundance in the ocean in 2023 was only about 170,000 leading to the closure of the California commercial and recreational salmon fishery this year – the second occurrence in only 15 years. Over the last four years, between 79-85% of the Pacific Coast commercial Chinook landings by weight were landed in the three southern-most California port areas – Fort Bragg, San Francisco, and Monterey. Prior to 2019, the average annual share landed in the three southern-most California port areas was approximately 40%. On average over the last four years (2019-2022), between 79-85% of the Pacific Coast commercial Chinook landings by weight	

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		were landed in the three southern-most California port areas – Fort Bragg, San Francisco, and Monterey (Figure 10 [Exhibit 11]; PFMC 2023). In 2022, across the entire Pacific Coast (excluding Alaska), the highest landings shares by weight were recorded at San Francisco (53%), Monterey (18%), and Fort Bragg (8%), followed by several ports in Oregon and Washington. Prior to 2019, the average annual share landed in in the three southern-most California port areas was approximately 40%, with San Francisco producing approximately 25% of the total coastwide landings. While harvest was maintained at relatively low and stable levels in Oregon and Washington, landings in California more than tripled during a time overlapping with and immediately following the overfished status designation for SRFC.	
213	35	[Exhibit 8: Graph titled Figure 8. Sacramento River adult fall-run Chinook salmon escapement 1970-2022]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	36	[Exhibit 9: Two tables titled Table 1. Hypothetical example of the impact of ocean harvest on salmon population]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	37	[Exhibit 10: Graph titled Figure 9. Percent difference from PFMC average annual preseason forecast relative to the actual SI observed, 1985-2022]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	38	Exhibit 11: Graph titled Figure 10. Pounds of salmon landed by the commercial troll ocean fishery 2006-2022]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
213	39	Predation The Phase 2 SED falsely claims that the “extent of predation by non-native fish on native population remains largely unknown.” While the precise impacts of predation do remain unknown, largely due to a lack of study and even past efforts by the state to delay or block studies, predation by non-native species has long been known to be a major impediment to juvenile salmon survival and population recovery (CDFG 2011, NMFS 2014) and	The text in Section 4.4.1, Fishes, of the final Staff Report has been revised to clarify the knowledge gaps related to fish predators. The 2023 draft Staff Report acknowledges predation as an issue for native fish species in multiple locations throughout the report. In Section 4.4.1, the 2023 draft Staff Report cites CDFG (2011) to illustrate the large effect that nonnative predation exhibits on salmonids in the Sacramento River. Additionally, Section 7.21.1.3, Predatory Fish Control, discusses strategies that could be implemented to target reductions in predatory fishes

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		was identified as a major issue in the 1995 WQCP. The Phase 2 SED, however, cites that the impacts are unknown “since multiple stressors negatively affect native fish and predation is only one of these factors.” This logic implies that the impacts of predation can never be quantified. Extending this logic, how can the Board claim to know the extent of the impacts of flows on FRCS abundance? According to the Board’s logic the paragraph in the Phase 2 SED at page 4-23 could be re-written by replacing predation with flow as shown below: The extent of the impact of flow on FRCS abundance remains largely unknown since multiple stressors negatively affect FRCS. Flow is only one of these factors. Other factors include severe habitat alteration and loss, predation, and homogenized genetics. Stressors interact and may act in conjunction with each other, so it is difficult to determine how much each stressor affects fish in isolation. This is entirely contradictory to the Board’s approach with a sole focus on flow. Further it is notable that the “other factors” listed by the Phase 2 SED include only flow related factors: “warm water, lower turbidity, contaminants, and low flow.” Major non-flow factors such as severe habitat alteration and impacts of homogenized genetics did not even make the list. How is it that altered hydrology creates more competitively favorable conditions for non-natives than natives, but alteration, simplification, transformation and loss of more than 95% of historical habitat does not? Flow will not make historically available habitats behind levees accessible.	and/or elimination or modification of habitat for predatory fishes at locations of high predation risk. To address knowledge gaps surrounding the quantification of predation by nonnative fishes on native fish populations, the need for monitoring of large fishes is described in the 2023 draft Staff Report in Section 5.6.1.3, Proposed Changes to Monitoring, Assessment, Special Studies, and Reporting. A discussion of other, non-flow related factors that negatively affect native fish populations, such as habitat loss and the impacts of hatchery origin fish, can be found in Chapter 4, Other Aquatic Ecosystem Stressors. The impacts of both habitat loss and low freshwater flows are discussed in Section 4.2, Physical Habitat Loss or Alteration. Also included is a description of a reconciliation strategy for the Delta, which acknowledges that a return to historical conditions is not possible, yet actions are needed to create better conditions to support native species, including habitat restoration actions. The 2023 draft Staff Report includes a discussion of why flow may be a better solution for native species recovery than predator removal in Section 4.4.1, directly following the quotes included by the commentor. The scientific basis for the flow objectives and a summary of flow impacts on fall-run Chinook salmon can be found in Section 3.2, Flow and the Ecosystem, and in Section 3.4.5, Flow Effects on Salmonids. These sections demonstrate that the scientific certainty in flow benefits for salmonids is much greater than the certainty in predator removal benefits. In addition, Section 5.4.3, Cold Water Habitat, discusses how the construction of dams and other habitat alterations has eliminated or substantially reduced access to cold water habitat in higher altitudes to the detriment of salmonid populations. The proposed cold water habitat objective is intended in part to address existing and potential future temperature management concerns on the tributaries for salmonids and other native species. The narrative objective provides flexibility for non-flow temperature control measures that should be evaluated including installation and improvements in TCDs, cold water

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			bypasses, passage, riparian reforestation, operational changes, and other improvements.
213	40	Restoration of natural hydrologic cycles alone is unlikely to benefit native fishes without concurrent management of invasives, especially predators (Tyus and Saunders 2000 and Probst et al., 2008 as cited in Grossman et al., 2013). “Given that the majority of fish predators in the Delta are invasive, native salmonids may have a reduced ability to avoid predation (Grossman et al., 2013).” A review panel concluded that “high and likely highly variable impacts of predation appear to affect survival rates more than the river flow” in the San Joaquin River and Delta (Hankin et al., 2010). Rather than managing non-native predator populations directly, actions such as trucking hatchery fish to the Delta have been relied upon to reduce predation losses. Consequently, straying rates and relative survival of hatchery FRCS increased while naturally produced fish remained subject the perils of rearing and migration, further exacerbating the influence of hatchery production on the population.	The 2023 draft Staff Report considers and cites relevant conclusions from Grossman et al. (2013) in Section 4.4.1, Fishes. ^Grossman et al. (2013) does not state that restoration of natural hydrologic cycles alone is unlikely to benefit native fishes in “all” cases. Instead, they use the word “some”: “in some cases restoration of natural hydrologic cycles alone is unlikely to benefit native fishes without concurrent management of invasives, especially predators.” (Grossman et al. 2013). However, later they acknowledge that it is not clear what proportion of juvenile mortality can be attributed to fish predation and that even if fish predation is the proximate cause of mortality, the ultimate cause could be unfavorable environmental conditions that increase susceptibility to all sources of mortality including predation. The report also describes how the importance of a natural flow regime for native species is widely accepted. The commenter cites Hankin et al. 2010 but the proper citation is Dauble et al. (2010). The full quote from the Dauble et al. 2010 paper partially cited by the commentor states that “The complexities of Delta hydraulics in a strongly tidal environment, and high and likely highly variable impacts of predation, appear to affect survival rates more than the river flow, by itself, and greatly complicate the assessment of effects of flow on survival rates of smolts.” Thus, Dauble et al. 2010 does not conclude that predation alone affects survival more than river flow. Later in the same paragraph, Dauble et al. (2010) states that “the evidence supports a conclusion that increased flows generally have a positive effect on survival and that it is desirable, to the extent feasible, to reduce or eliminate downstream passage through the Old River channel. The panel understands, of course, that flow, exports, and the placement of barriers in the Delta are the variables affecting survival that are most easily managed.” The 2023 draft Staff Report does not suggest that flow alone is the sole factor which harms native species, rather in Chapter 4, Other Aquatic Ecosystem Stressors, the 2023 draft Staff Report recognizes the importance of other non-flow related factors,

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			such as reduced habitat, pollutants, nonnative invasive and predatory species, and abiotic factors. Section 5.5, Habitat Restoration and Other Complementary Ecosystem Measures, outlines recommended non-flow actions that may help address some of the other stressors described in Chapter 4. Section 4.5.2, Hatcheries, includes a discussion of the effects of hatchery fish straying. Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion of non-flow measures.
213	41	The Phase 2 SED generally dismisses removals of non-natives as a potential management tool citing to a few limited studies and launches into the unfounded claim that increasing flows may be a better solution for native fish recovery than removals. However, the Phase 2 SED then identifies an end to salvaging non-natives at the CVP and SWP as a potentially cost-effective way to manage abundance of non-natives without negative impacts to native organisms. This is contradictory in that not salvaging is a form of removal and the SED dismisses removals as an ineffective management tool to make it appear that flow is the only option for predator control.	The 2023 draft Staff Report considers predator removal studies in Section 4.4.1, Fishes, and suggests that predator removal may not be as effective in the Bay-Delta system due to the large number of competing fish predators. Citing Sabal et al. 2016 to illustrate infrastructure which may function as predator hotspots, the 2023 draft Staff Report indicates that the removal of infrastructure which serves as predator hotspots may be a more effective predator control method. The 2023 draft Staff Report does not fully dismiss predator removal as an effective management tool. Instead, it cites studies demonstrating that predator removals have not increased salmon survival long-term and that removing a single predator species can lead to replacement by competing species. These conclusions are not contradictory to a statement that stopping the salvage of nonnative fishes may be a cost-effective way to reduce the population size of nonnatives without having a negative effect on native organisms. In addition, the 2023 draft Staff Report states that additional studies are needed to fully examine the consequences associated with nonnative fish salvage at CVP and SWP facilities. Section 7.21.1.3, Predatory Fish Control, defines removal methods and discusses strategies that could be implemented to target reductions in predatory fishes and/or elimination or modification of habitat for predatory fishes at locations of high predation risk. These methods are analyzed as other ecosystem projects and complementary non-flow measures that can enhance the benefits of increased flows in the system. The statements in Section 4.4.1 of the 2023 draft Staff Report that increased flows may be better solutions for native species recovery than predator removal are supported by the discussion and literature citations in that section.

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213	42	Another cost-effective way to manage non-natives without negative impacts, modifying fishing regulations, has been proposed in the past but is missing from the Phase 2 SED. Perhaps modifying fishing regulations did not make the list because, as noted in the Phase 2 SED, striped bass and largemouth bass are considered recreationally or commercially important. As part of a 2011 settlement with the Coalition for a Sustainable Delta, CDFW proposed changes to striped bass fishing regulations to reduce predation on listed species and was to develop an adaptive management plan to research and monitor the overall effects on striped bass abundance. With significant pressure from striped bass fishing groups, the California Fish and Game Commission denied the changes proposed by agency biologists in favor of keeping striped bass protections (CFGC 2012). No action was taken over the following 10 years until a petition was brought before CDFW to consider adopting a slot limit to protect striped bass and create a trophy striped bass fishery. Clearly the state has made no reasonable efforts to address the predation issue and has been considering as recently as the past year, management efforts that would promote non-natives and further jeopardize FRCS and other native species.	As described in the 2023 draft Staff Report, fishery management actions are largely the purview of other agencies, such as CDFW, California Fish and Game Commission, Pacific Fishery Management Council, USFWS, and NMFS. Further discussion of fishery management actions and the appropriate responsible state and federal agencies can be found in Section 5.5.4, Fishery Management Actions. In response to the proposed striped bass fishery regulation referenced by the commenter, Moyle and Bennet (2010) from the University of California, Davis, wrote a letter to the Fish and Game Commission challenging the supposed benefits of decreased predation. In this letter, they concluded that the key to promoting natives and diminishing nonnatives was to return the Delta to its natural, variable, estuarine condition. Reducing predator populations would be unlikely to make a difference and efforts would be better directed towards reducing predation opportunities rather than focusing on reducing predators themselves. The 2023 draft Staff Report acknowledges the need for a combined effort of habitat improvement and predator reduction, which is why the 2023 draft Staff Report identifies predator reduction methods as a possible complementary action to increased flow.
213	43	The Phase 2 SED's failure to address predation and actions that should be supported is not at aligned with language of the 2018 WQCP which includes the following provisions to reduce the impacts of non-native fishes: Reduce Predation and Competition by Non-Native Fish: The DFW, NMFS, USFWS, FERC, FERC licensees, local water districts, conservation groups, landowners, water users and other appropriate entities should reduce impacts that non-native predators and competitors have on native fish and modify habitats which currently favor nonnative fish over native fish in the LSJR and its tributaries to favor native fish. Actions include but are not limited to the following: a) Study and report the effects that predators and non-native fish have native fish.	The quote provided by the commenter from the 2018 Bay-Delta Plan is within a section on San Joaquin River Non-Flow Actions. The 2023 draft Staff Report describes Sacramento/Delta Updates to the Bay-Delta Plan that would not substantially modify this text or other provisions added during the Lower San Joaquin River Updates to the Bay-Delta Plan in 2018. The Lower San Joaquin River Updates to the Bay-Delta Plan are being implemented through a separate process. Please see Common Response 1.2, Water Quality Control Planning Process, for more information on the relationship of this project with the Lower San Joaquin River Updates to the Bay-Delta Plan. The 2023 draft Staff Report considers the importance of predation as an ecosystem stressor that acts in concert with low flows to the detriment of salmonids. Please see response to comments 213-39, 213-40, 213-41, and 213-42 for additional information on 2023 draft Staff Report content that addresses

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		b) Identify gravel pits, scour pools, ponds, weirs, diversion dams, and other structures or areas that harbor significant numbers of non-native fish and predatory fish that may currently reduce native fish survival. c) Modify priority structures and areas to reduce predation and non-native fish effects and to improve native fish success. d) Evaluate and implement changes to fishing regulations to reduce the impact that non-native competitor and predator fish have on native fish. If the state is truly committed to reducing predation and competition by non-native fishes, and implementing changes to fishing regulations is identified as one of the two methods by which this is to be achieved (along with habitat modification) why has the only action in the past 5 years been to consider changing regulations in the opposite direction? In the absence of action on the predation issue, how will 55% UIF increase escapement of Central Valley fall-run Chinook salmon? The Phase 2 SED should be amended to address the issues raised in this letter.	predation and the role of fishery management agencies in implementing fishery regulations. The scientific basis for the benefits of increased flow on fall-run Chinook salmon can be found in Section 3.2, Flow and the Ecosystem, and in Section 3.4.5, Flow Effects on Salmonids. As described in the 2023 draft Staff Report, flow measures should be implemented in conjunction with non-flow measures, such as habitat restoration and management of nonnative species. For additional information on the scientific basis for fish protections in the Staff Report and the use of best available science, please refer to Common Response 3.1, Fish Protection. For information on the separation of the Lower San Joaquin River and the Sacramento/Delta Updates to the Bay-Delta Plan, please see Common Response 1.2, Water Quality Control Planning Process, and responses to comments 213-1 through 213-6. For information on the drought alternative, please see Common Response 7.24, Alternatives Analysis, and responses to comments 213-6 through 213-9. For information on the scientific basis, please see Common Response 3.1, Fish Protection, and responses to comments 213-11 through 213-22. For information on certain non-flow stressors, please see Common Response 3.1, Fish Protection, and responses to comments 213-23 through 213-42.
214	1	Members of my family have lived and done business in California since the 1880s. My great grandfather, Ernest Smith Moulton, came west on the railroad from the Chicago area to Riverside. Along with the Ferris family, he helped to found the City and lead its business community. He started by acquiring land and growing citrus, facilitated the export of citrus on the railroad, the formation of Sunkist growers and retired as President of the Bank of Riverside. His son, Robert Moulton, founded in Los Angeles in 1914 what became the largest US family-owned municipal bond business. Moulton and Company helped finance the infrastructure of Los Angeles until the 1970s. During WWII, he worked as a "dollar a year" man. He led 300,000 volunteers in the Southern California war bonds drive, raising \$5B in four years. For both these businessmen and their descendants, fresh water is well understood to be crucial to long term success of the	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		economy of California. In 2024, our rivers and the Bay-Delta is an ecosystem in crisis. The reasons are simple. We seem to have forgotten that we depend on nature first, healthy watersheds first and diverse species first. We seem to have forgotten that fish and fresh-water life are true indicators of our success in managing the gift we have inherited in the state of California. For many years, the claims on the state's water have outstripped the actual water available. What is the reason, then, that big agricultural uses must have 80% of the state's water and that some few massive almond and hay farmers are holding the state's ecosystems hostage to their profits? Why should we let those interests, who are behind the delay of the science-based restoration of flows to the Delta, capture the Governor's attention with their proposed "Voluntary Agreements"? There is no good reason for this happening. It is due to shortsighted political ambition. Those of us who have been here for generations sincerely hope that the California Water Board will reject the VA ruse and carry out its mandate to all of the people of the state, by voting for the restoration of the Bay-Delta ecosystem. You cannot get more fish with less water.	
215	1	In the Draft Staff Report, the State Water Board describes potential alternatives to amending the Bay-Delta Plan Update including the State Water Board's proposed Plan amendment, which is a 55 percent numeric unimpaired flow objective ("55% UIF Objective"). Woodbridge is concerned about the efficacy of the 55% UIF Objective for the protection of native fish and wildlife, and its potentially devastating impact on California's water supply.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
215	2	The case for not adopting the 55% UIF Objective is particularly strong for the watershed of the Mokelumne River. On the Mokelumne River, the 55% UTF Objective would be a purported solution in search of a nonexistent problem. Woodbridge has for many years worked together with other agencies to increase and manage flows in the Mokelumne River for the benefit of salmon. Those efforts have resulted in record-breaking salmon returns in 2023 of over 28,000 fish. It is a tremendous success story. While there is much about the 55% UIF Objective and its potential impacts that is not addressed or is unclear from the Draft Staff	A primary goal of the Plan amendments is to improve conditions in the Sacramento/Delta watershed. The State Water Board recognizes on-going fisheries efforts in some tributaries and has built in flexibilities in the Plan to integrate these efforts to the extent possible. Provisions for adaptive implementation of the numeric inflow requirements are provided to optimize flows to benefit native fish and wildlife while also minimizing water supply impacts, and for the numeric inflow requirements to be implemented in a coordinated fashion with the cold water habitat and inflow-based Delta outflow requirements. Please

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		Report, what is apparent is that it would severely disrupt the operation of upstream reservoirs on the Mokelumne River, and could jeopardize the availability of cold water needed to maintain appropriate temperatures for salmon below the Camanche Dam. In essence, the 55% UIF Objective threatens to break what is working. For the Mokelumne River, at least, the State Water Board should not adopt the 55% UIF Objective.	refer to Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for discussion regarding implementation of the cold water habitat objective, which would protect anadromous fish in the Mokelumne River, and for discussion of long-term operational strategies that would reduce effects on the Mokelumne River and upper watersheds. Please see Common Response 1.3, Revised Proposed Plan Amendments, for information on the regulatory pathway implementation of the inflow objective, including water supply adjustments.
215	3	The Draft Staff Report also includes an alternative that would impose measures embodied in what are called the Voluntary Agreements (the "VA Alternative"). Under the VA Alternative the East Bay Municipal Utility District ("EBMUD") and other agencies would contribute additional flow and other resources to further improve conditions for native fish and wildlife. Woodbridge is considering participation in the agreement for the Mokelumne River. As between the 55% UIF Objective and the VA Alternative, Woodbridge submits the VA Alternative is the much superior choice.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
215	4	Woodbridge provides critical water supply for Agricultural and Municipal uses in San Joaquin County Woodbridge is a California irrigation district formed in 1924 that provides surface water to approximately 63 square miles of land within San Joaquin County. Woodbridge's service area is located west of the City of Lodi and north of the City of Stockton. Woodbridge is located downstream of the Camanche Dam and diverts its water primarily from the Mokelumne River at the Woodbridge Diversion Dam under pre-1914 and post-1914 appropriative water rights. EBMUD's Pardee and Camanche reservoirs are upstream from Woodbridge's diversion on the Mokelumne River. Woodbridge and EBMUD are parties to an agreement under which EBMUD is obligated to ensure that 39,000 acre-feet in dry years and 60,000 acre-feet in wet years, is available for annual diversion by Woodbridge. In wet years, Woodbridge diverts more than these quantities under its licensed appropriative rights. Over the last 20 years, Woodbridge has diverted an average of 72,000 acre-feet annually from the Mokelumne River. Woodbridge supplies water to approximately 13,000 acres of	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Additionally, see Common Response 7.12.2, Groundwater and Sustainable Groundwater Management Act, regarding groundwater impact and consideration of the Sustainable Groundwater Management Act.

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		farmland, which produces crops including grapes, corn, alfalfa, tomatoes and walnuts. Farmers in Woodbridge's service area use surface water and groundwater. With advancements in irrigation technology resulting in the use of less water for Woodbridge's agricultural customers, Woodbridge is now also providing surface water for municipal use to the City of Lodi and the City of Stockton. Woodbridge has developed and maintains a network of water storage and delivery infrastructure on the Mokelumne River to efficiently provide water to its agricultural and municipal clients. Woodbridge's infrastructure includes the Woodbridge Diversion Dam that impounds Lodi Lake and a system of canals and pipelines to deliver water. Woodbridge protects fish from accessing the canal system with a state-of-the-art fish screen. Woodbridge is in a critically over-drafted groundwater basin, so the district's continued access to surface water supply is essential to achieving sustainability in the basin. Additionally, Woodbridge formed a groundwater sustainability agency ("GSA") that is working with fifteen other GSAs to implement the Eastern San Joaquin Groundwater Subbasin Groundwater Sustainability Plan. Woodbridge's diversions help sustain water levels in the District's service area to reduce pressure on groundwater levels. The Cities of Lodi and Stockton's groundwater sustainability plans also rely on Woodbridge's surface water deliveries to offset reductions in their groundwater pumping.	
215	5	Woodbridge has made substantial investments to help recover the Salmon population on the Mokelumne River. Some twenty years ago, Woodbridge adopted and has ever since implemented the Lower Mokelumne River Restoration Program ("Restoration Program"). The Restoration Program implements elements from resource management plans developed by CALFED, the United States Fish and Wildlife Service and the California Department of Fish and Wildlife. The same State and Federal agencies peer-reviewed the design documents and plans, and peer review was also conducted by the Bureau of Reclamation, the Army Corps of Engineers, the National Marine Fisheries Service, the California Division of Safety of Dams and the Regional Water Quality Control Board. The goal of the Restoration Program is to increase	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		fall-run chinook salmon and steelhead populations, enhance aquatic habitat and restore riparian ecosystem integrity and diversity. The program improved fish passage at the Woodbridge Diversion Dam while maintaining Woodbridge's ability to divert water pursuant to its water rights. In 2003, Woodbridge replaced the prior Woodbridge Dam with an improved design to benefit fish. The new dam includes three Obermeyer Gates, three state-of-the-art fish ladders, fish monitoring systems and fish screens at Woodbridge's canal diversion to improve conditions for fish passage. The Woodbridge Diversion Dam controls the surface level of Lodi Lake using a supervisory control and data acquisition ("SCAD A") system to maintain predetermined upstream and downstream flows. The design attracts fish to the ladders, and the fish ladders operate when water levels in the lake are both high and low. The main fish ladder is used when the reservoir is full, the low-level ladder is used when the reservoir is low, and flow is 20 cubic feet per second or less, and the pool and chute ladder operate under low-level reservoir conditions. The Woodbridge Diversion Dam includes a fish-counting station and viewing area. The fish monitoring system utilizes a live digital monitoring system to remotely determine the size and sex of every returning adult salmon. Salmon and steelhead of all life stages and approximately 50 other fish species use the fish ladder for passage. Fish counts for returning salmon are made at Woodbridge's Diversion Dam. In 2008, Woodbridge improved the screen at its diversion upstream from the Dam. Woodbridge's Fish Screen was completed in 2008 as part of the Restoration Program and is located just off-stream in Woodbridge's diversion canal. Fish that approach the 100-foot by 10-foot V-shaped screen are channeled into a 30-inch bypass pipeline that deposits the fish downstream of the Diversion Dam. All aspects of the Fish Screen are designed to meet the criteria of the California Department of Fish and Wildlife, National Marine Fisheries Service and United States Fish and Wildlife Service. As part of the Restoration Program, Woodbridge has also dedicated 27.96 acres of	

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		permanent mitigation area adjacent to Lodi Lake for new wetlands, upland areas for giant garter snakes and a riparian forest providing riverine shading and habitat. The Restoration Program is an ongoing program that contemplates additional projects as other projects are completed. New projects could include new riparian forests, wetlands, fry-rearing areas and screening of unscreened diversions that would help extend the salmon successes on the Mokelumne River. These non-flow measures will provide new important benefits to the Mokelumne River and the quality of water in the Delta. Woodbridge has incurred substantial financial obligations to pay for these infrastructure improvements, a total of approximately \$20 million for the Dam and Diversion improvements combined. Woodbridge paid for the improvements through public financing. Landowners within Woodbridge are repaying the costs of these financings through fees collected by Woodbridge, with approximately half the capital obligation still owed.	
215	6	Woodbridge has contributed to and helps to manage flows in the Mokelumne River benefiting Salmon Among the purposes of the proposed Bay-Delta Plan Update is to increase inflow into the Delta from all Delta tributaries to help meet flow-dependent objectives in the Delta. As described in the Draft Staff Report, in Water Rights Decision 1641 ("Decision 1641 ") the State Water Board assigned primary responsibility for meeting water quality objectives in the Bay-Delta Plan to the operators of the Central Valley Project and the State Water Project. Under Decision 1641, most water users in the Delta watershed are not subject to conditions requiring them to	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		contribute to meeting Bay-Delta Plan water quality objectives. Woodbridge is one of the exceptions to that general rule. In Decision 1641, as Woodbridge's contribution to meeting water quality objectives, Woodbridge's licenses were amended to preclude it from diverting certain flows. (D- 1641 at pp. 56-64; 177-180.) Woodbridge agreed to those changes, which thereafter have limited its ability to divert water over and above the quantities EBMUD is contractually obligated to provide that Woodbridge could otherwise have diverted under its licensed rights. As is explained in Decision 1641, EBMUD entered a Joint Settlement Agreement with the U.S. Fish & Wildlife Service and the California Department of Fish and Wildlife in a Federal Energy Regulatory Commission to establish conditions to benefit fish in the Lower Mokelumne River. (D-1641 at 56.) The agreement included measures requiring an increase of flows to benefit fish. For its part, Woodbridge agreed not to divert those additional flows, to meet "expected flows" below its Diversion Dam. (Id. At 57.) One of the tools used on the Mokelumne River is pulse flows, surges of water in the river timed to benefit fish. Pulse flows are used to provide important signals for fish migrating from the San Francisco Bay-Delta up the Mokelumne River in the fall and the juvenile fish migrating downriver in the spring. To create the pulse flows, EBMUD makes additional releases of water from Camanche Reservoir to supplement base flows. To magnify the rate of the pulse flow, Woodbridge temporarily stores the additional water in Lodi Lake and then makes a rapid release of the accumulated water through the Woodbridge Diversion Dam to create a surge of water moving down the river into the Delta. The pulse sends a signal to salmon in the Delta to move up the Mokelumne River. Pulse flows are directly correlated with the increased and historic numbers of adult salmon returning to the Mokelumne River. This precise management of water for the benefit of fish is only possible because of the substantial investments Woodbridge has made in its infrastructure.	
215	7	Salmon Restoration on the Mokelumne River has been a huge success Woodbridge's efforts to improve and upgrade its	As indicated in the table included in Woodbridge's letter (pp. 6-7), the annual in-river Chinook salmon population size remained

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		infrastructure and its management of flows in cooperation with EBMUD contribute to the healthy ecosystem in the Mokelumne River currently supporting the migration of thousands of salmon. As of January 2, 2024, the fish monitoring system counted 28,665 Chinook salmon for the fall-run season, which ran from September 2023 and continues into January 2024. The Mokelumne River salmon redd survey that was conducted in December 2023 brought the season total to 4,555 instream Chinook salmon redds. These 2023 numbers represent record-breaking returns for chinook salmon in the Mokelumne River and can be attributed to Woodbridge's successful planning and cooperation with partners on the Mokelumne River. The Draft Staff Report outlines the Anadromous Fish Restoration Program ("AFRP") Narrative Salmon Protection Objective as being double the natural salmon production (i.e., salmon not produced in hatcheries) from population calculated for 1967 to 1991. (Draft Staff Report, Appx. G2, p. 5-4.) The salmon population objective for the Mokelumne River is 6,600 salmon. (Ibid.) The Draft Staff Report states that Calfishb.org shows the hatchery proportion of returning salmon to be between 64 percent and 94 percent between 2010 and 2019. (Id. At p. 2- 11.) Without knowing the percentage of natural versus hatchery production in this year's Chinook salmon run, based on the range from calftsh.org, the natural production as of January 2, 2024, would be between 10,319 on the high end (representing 36 percent natural, 64 percent hatchery) and 1,719 on the low end (representing 6 percent natural and 94 percent hatchery. Given that the AFRP's doubling goal for the Mokelumne River is 6,600, it is very possible that the Mokelumne River might have already hit its doubling goal in the most recent fall-run salmon season. In any case, the salmon population on the Mokelumne River has been increasing in recent years. The total population of fall-run salmon in the Mokelumne River since 1990, as recorded by the California Department of Fish and Wildlife, is shown in the chart below [Exhibit 1] : EBMUD began monitoring the fall-run chinook salmon in 1990 using video at the Woodbridge Division Dam and weekly redd surveys. By November 2023, EBMUD was able to announce that	below the AFRP doubling goal, except in 2013 and 2018. The salmon escapement numbers in the Mokelumne River fluctuate substantially, potentially due to the inherent nature of anadromous fish populations that depend on environmental conditions, including in-stream flow and ocean conditions. In addition, the high number of 2023-24 fall-run Chinook salmon escapement in Mokelumne River (18,817 in-river) could be attributed, in part, to the salmon fishing closure in 2023. Indicators of viability of native fish species include population abundance, spatial extent, distribution, productivity, and genetic and life history diversity. The AFRP's salmon doubling goal represents the population abundance component of population viability. In addition, genetic and life history diversity of the Mokelumne River salmon have been degraded due to the hatchery practices and the dominance of hatchery-origin fish returning to the river. Flow conditions that mimic a more natural hydrograph, along with improved hatchery practices, would enhance the life history diversity and genetic diversity of fall-run Chinook salmon on the Mokelumne River.

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		the 2023-24 fall run of Chinook salmon was the most successful run in over 80 years. (EBMUD, Salmon return to Mokelumne River in record numbers, Nov. 16, 2023.)	
215	8	[Exhibit 1: Table titled (Cal. Dept. of Fish & Wildlife, Grand Tab, Chinook Salmon Escapement – Fall Run, Mokelumne River, compiled on June 26, 2023]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
215	9	The 55% Unimpaired Flow Objective would harm both Salmon and Water Users on the Mokelumne River The Draft Staff Report's analysis of water supply impacts to users of Mokelumne River water from implementation of the 55% UIF Objective is very coarse. Among other things, it does not account for actual water rights priorities. Appendix A-1 describes the assumptions in the Sac W AM model that are used to assess the impacts of the unimpaired flow objective. Regarding cutbacks, it explains: "When cutbacks to EBMUD occur that are greater than 25 percent, cutbacks also are triggered for lower Mokelumne diversions. Lower Mokelumne diversions are cut on an annual basis by 25 percent less than the cutbacks by EBMUD. This assumption acknowledges the seniority of downstream users; however, it does [not] explicitly represent the water rights of each user in the watershed." (Draft Staff Report, Appx. A1, p. A 1-17.) Because the Sac W AM model does not reflect actual water rights priorities and agreements, it is not an accurate representation of how shortages would impact various water users including Woodbridge.	Please refer to Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply regarding the scope, scale, and application of SacWAM.
215	10	Further, the Draft Staff Report lacks any plan for implementing the 55% UIF Objective together with the cold-water objective. The 55% UIF Objective would deplete cold water in storage absent further changes to reservoir operations, changes that will likely have further water supply impacts. The Draft Staff Report does not explain how upstream reservoirs can be reoperated to meet the 55% UIF Objective without causing significant temperature impacts downstream. According to the modeling results, the end of April and end of September storage in Camanche Reservoir, Pardee Reservoir and other upstream reservoirs would be substantially reduced. (Draft Staff Report, Appx. A1, pp. A1-229-230, 280-281, 291-292, 298-299.) In an above-normal year, under the 55% UIF Objective, May storage in	Please see response to comment 215-2. Flexibility in the form of adaptive implementation is provided in part to mitigate water supply impacts if tailored solutions are available that are equally or more protective for fish. CEQA impact determinations are the most conservative, but in many instances, can be reduced or avoided with tailored operations. The State Water Board provides these flexibilities with the intent that water diverters and reservoir owner/operators utilize these provisions because they often have a good understanding of their unique circumstances on a specific tributary. The environmental analyses evaluate a complete range of impacts in the event that water users do not utilize adaptive implementation, as well as the potential impacts from implementation of adaptive

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		Camanche would be reduced by 29%. (Draft Staff Report, Table AI-381, p. AI-350.) These reductions would likely deplete cold water on which salmon rearing in the channel of the Mokelumne River depend, and significantly diminish the availability of cold water in the late summer and early fall. There is no description of what further changes would be made to reservoir operations to prevent that effect. Without a description of how the unimpaired flow objective will be implemented without causing temperature effects for salmon, it is impossible to reasonably determine potential water supply impacts.	implementation. A full range of flow scenarios with cold water storage targets are analyzed in Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems, as well as physical habitat restoration and other ecosystem projects that may be pursued in Section 7.21, Habitat Restoration and Other Ecosystem Projects.
215	11	While the Draft Staff Report does not well describe likely impacts, it is clear that prohibiting the diversion of 55 percent of the Mokelumne River's unimpaired flow would severely constrain supplies. According to Table AI-12, under the 55% UIF Objective, EBMUD would see an 80 percent maximum cutback, and lower Mokelumne water users would see a 55 percent maximum cutback. (Draft Staff Report, Appx. AI, p. AI-18.) For the Eastside Tributaries Region, that includes Woodbridge, the Draft Staff Report states that " [o]n average, under the 55 scenario, agricultural use of surface water supply would decrease by 23 percent and municipal and industrial use, by 18 percent." (Draft Staff Report, p. 6-64.) For EBMUD's use in the Bay Area, the Draft Staff Report estimates "in the 55 scenario, estimated annual average supply reductions from the Mokelumne Aqueduct are 95 TAF (45 percent)." (Id at p. 6-69.)	The comment discusses the potential impacts that the unimpaired flow alternatives would have on Mokelumne River water users but does not raise a significant environmental issue with the draft Staff Report. Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
215	12	Water users experiencing a loss of surface supply may seek to compensate by increased groundwater pumping. The Sac W AM simulations "assumed no changes to groundwater pumping or supply." (Draft Staff Report, p. 6-63.) In fact, with the application of SGMA, in an over-drafted basin the availability of groundwater is more likely to decline. As the Draft Staff Report notes: "The Eastern San Joaquin subbasin, which underlies much of the valley floor promotion of the Delta eastside tributaries region, is identified as critically over-drafted by the SGMA 2019 Basin Prioritization. This makes additional pumping to offset reduced surface supply less likely unless groundwater basins are actively recharged and sustainably managed. Several substantial areas of depressed groundwater elevations (cone of depression or	Section 6.5, Changes in Groundwater Supply, includes a short discussion of groundwater in the SacWAM domain that characterizes groundwater use in the study area as well as a more qualitative description of changes that could occur to groundwater supply with the implementation of the proposed Plan amendments. Please refer to Section 7.12.2, Groundwater, for environmental setting, potential impacts, and mitigation measures for groundwater effects that may result from changes in hydrology and changes in water supply, including pumping. This section provides regional descriptions of the potential for changes in groundwater pumping and changes in incidental and intentional groundwater recharge, and the resulting changes in groundwater levels that could occur as water users respond to

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		localized overdraft) already exist in the Delta eastside tributaries region, centered between Elk Grove and Stockton." (Id. at p. 6-99.)	the proposed Plan amendments using the SacWAM and SWAP models to produce results for groundwater hydrology at the regional level.
215	13	Woodbridge's current schedule and quantity of diversions work for Woodbridge's beneficial uses and for the fish. EB MUD releases water from the Camanche Dam for Woodbridge while fall-run adult salmon are swimming up the Mokelumne River and juvenile salmon are swimming down the Mokelumne River to the ocean. Thus, the current release schedule and amounts provide important carriage water benefits. Reducing and disrupting the carriage water between Camanche Dam and the Woodbridge Diversion Dam by 55 percent would result in extreme negative impacts on the Mokelumne River fishery.	The inflow requirements would not require a reduction in carriage water between Camanche Dam and Woodbridge by 55 percent; rather, 55 percent of unimpaired flow would be required to remain in the river. This would provide for flow conditions in the Sacramento/Delta regions to support successful spawning, rearing, migration, and other life history stages of native fish and wildlife—including the magnitude, frequency, timing, duration, and rate of change of flow conditions to which native species are adapted. However, the changes in hydrology could result in potentially significant temperature impacts at certain times and in certain locations. The narrative cold water habitat objective is intended to prevent redirected temperature effects of inflow requirements and improve overall cold water habitat conditions over time. Please see the impact analysis in Staff Report Section 7.6.2, Aquatic Biological Resources, for more information. Additionally, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. In addition to the proposed Plan amendments, which remain part of the project as the regulatory pathway, the revised proposed Plan amendments include water supply adjustments and relaxations to carryover storage requirements for existing water right holders at the outset of plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs.
215	14	The Voluntary Agreements approach is the better alternative Woodbridge has worked closely with EBMUD over several decades on improving management and conditions for fish and wildlife on the Mokelumne River. Woodbridge understands that EBMUD has been working with the State of California to develop an approach to provide additional flows in the Mokelumne River to support the ecosystem while also providing for necessary water deliveries. Specifically, they are discussing a Voluntary Agreement for the Mokelumne River that includes physical habitat restoration and flow contributions that would result from modified operations. (Draft Staff Report, p. 9-10.) Woodbridge is considering joining and supporting the proposed	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		Voluntary Agreement for the Mokelumne River. In any case, Woodbridge submits that the Voluntary Agreement approach would be a better approach than adoption of the proposed Plan amendments or any of the numeric unimpaired flow alternatives.	
215	15	Conclusion The Mokelumne River is a success story for Salmon, one that Woodbridge is proud to have significantly contributed in partnership with EBMUD, the State of California and Federal agencies. Adopting an unimpaired flow approach for the Mokelumne River would jeopardize that success. The Voluntary Agreements proposal is a better alternative that would help preserve the progress already made on improving the salmon population in the Mokelumne River.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
216	1	I have been a part of Winter Island on the lower Delta. I was fortunate enough to grow up spending many days a year recreating through fishing, hunting, skiing and many other activities. The great appreciation I have for the natural world is anchored in those days on the Delta as a child. I am now trying to raise my kids to have the same appreciation both for their well-being and in hopes of them wanting to try and preserve it in the decades to come. With the drastic reduction of fish in the Delta, the massive increase in invasive vegetation and other problems plaguing the waterways it has gotten much more difficult to get my kids and their friends excited about the area. Please increase the water flows to a sustainable level and take the steps necessary to get the Delta healthy again. The only way to restore and sustain Central Valley salmon runs is to require flow and temperature protections that enable them to survive.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
217	1	JANUARY 2024 Policy paper FIVE GUIDING PRINCIPLES FOR EFFECTIVE VOLUNTARY AGREEMENTS	The following section addresses each of the five guiding principles individually by their identifying number in the comment letter. Principle 1. The VA pathway is one of two implementation pathways included in the revised proposed Plan amendments. The VA pathway would apply to VA water rights and the regulatory pathway would apply to all other water rights in the

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		A Case Study on VAs for Water and Habitat in California's Bay-Delta Watershed Berkeley Law Center for Law, Energy, & the Environment Introduction California has increasingly emphasized efforts to develop voluntary agreements (VAs) with water users as a means of achieving regulatory goals in certain watersheds. In theory, a VA can combine the protectiveness of a regulatory backstop with the creativity and flexibility of a negotiated deal to produce outcomes as good as, or better than, those achievable through strict application of regulatory requirements alone. However, reality has not always measured up to this ideal. This policy paper uses the Bay-Delta watershed as a case study to inform five principles to guide the appropriate use and evaluation of VAs. In recent years, California has placed increasing emphasis on efforts to develop voluntary agreements (VAs) with water users as a means of achieving regulatory goals in certain watersheds. The highest profile example is the pursuit of VAs to achieve biological goals in the San Francisco Bay and Sacramento-San Joaquin Delta watershed (Bay-Delta watershed), where the magnitude of water diversions has contributed to long-term ecosystem decline. For more than 50 years, state regulators have struggled to set, update, and implement flow and other water quality standards needed to protect fish and wildlife uses in the watershed [Footnote 1:Figure 1 summarizes some of this history. See also, e.g., Holly Doremus and A. Dan Tarlock, "Can the Clean Water Act Succeed as an Ecosystem Protection Law?" 4(2) G. W. Journal of Energy & Environmental Law 46, at 53–62 (2013), available at URL: https://faculty.uml.edu/sgallagher/Clean_Water_Act_case_study.pdf; State Water Resources Control Board, Central Valley Regional Water Quality Control Board, and San Francisco Bay Regional Water Quality Control Board, Strategic Workplan for Activities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, at 62–77 (July 2008) [hereinafter Strategic	Sacramento/Delta watershed. The VA pathway is regulatory and would have regulatory effect. If a VA party or parties is not complying with the VA commitments as articulated in the Bay-Delta Plan, the participation of their water rights in the VAs may be terminated and they may be required to comply with the regulatory pathway. The State Water Board will regularly assess VA compliance and effectiveness during annual and periodic reviews. More information can be found in the discussion of the continuation, modification, or termination of the VAs in Common Response 1.3, Revised Proposed Plan Amendments. Principle 2. Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion on the reasonable protection of fish and wildlife beneficial uses. Principle 3. The revised proposed Plan amendments includes provisions for the development of biological goals that would be used to inform the continued update and implementation of the Bay-Delta Plan, including adaptive implementation, the effectiveness of Bay-Delta Plan and its implementation; the Bay Delta Monitoring and Evaluation Program, and future changes to the Bay-Delta Plan and its implementation. In addition, the VA parties would be required to develop targets that would describe the expected values of the quantitative measurable outcome(s) and associated variables for the assessment of the outcomes of the VAs. Principle 4. The expected benefits of the VAs were evaluated in the Scientific Basis Report Supplement. In addition, the revised proposed Plan amendments include a definition of best available science, specific science and monitoring requirements for the VA pathway, and oversight by the State Water Board through annual and periodic reviews. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the Bay-Delta Monitoring and Evaluation Program, VA supplemental science and monitoring, and annual and periodic reviews. Also see Common Response 3.1, Fish Protection, for information on the use of best available science. Principle 5. Please see the response to Principles 1 and 2 above. In addition, Appendix B.1 of the revised proposed Plan

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		Workplan], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/strategic_plan/docs/baydelta_workplan_final.pdf. Over the last decade, California’s political leadership has consistently promoted VAs as a solution, often investing substantial time and effort in negotiations while relegating efforts to build a strong regulatory foundation for VAs to the back burner [Footnote 2: The State Water Resources Control Board (State Water Board) is responsible for establishing flow and other water quality standards to support beneficial uses in the San Francisco Bay / Sacramento-San Joaquin Delta Estuary (Bay-Delta) watershed in the Bay-Delta Water Quality Control Plan (Bay-Delta Plan). State Water Resources Control Board, Water Quality Control Plan for the San Francisco Bay / Sacramento-San Joaquin Delta Estuary (December 12, 2018) [hereinafter 2018 Bay-Delta Plan], available at URL: https://www.waterboards.ca.gov/plans_policies/docs/2018wqc.pdf. As the State Water Board has worked to update the Bay-Delta Plan, state leadership has emphasized VAs as a key desired means of implementing the plan’s biological goals. See California Natural Resources Agency, California Department of Food & Agriculture, and California Environmental Protection Agency, California Water Action Plan at 12 (2014), available at URL: https://resources.ca.gov/CNRALegacyFiles/docs/california_water_action_plan/2014_California_Water_Action_Plan.pdf (discussing “Achiev[ing] Ecological Goals through Integrated Regulatory and Voluntary Efforts, in the context of the Bay-Delta); Office of Governor Edmund G. Brown Jr., Principles for Voluntary Agreements at 1 (May 2017), available at URL: https://resources.ca.gov/CNRALegacyFiles/wp-content/uploads/2016/01/SCAP2517051616370-NVnew.pdf (stating that “[t]he purpose of the Voluntary Agreements is to help achieve implementation of the State Water Resources Control Board’s water quality objectives in the Water Quality Control Plan to benefit fish and wildlife resources while protecting reliable water supply for agriculture, drinking water, hydropower, and other competing beneficial uses”); California Natural Resources Agency, California Environmental Protection Agency, and California Department of Food & Agriculture, California Water Resilience Portfolio at 16–17 (July 2020), available at URL:	

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		Website/Files/Initiatives/Water-Resilience/Final_California-Water-Resilience-Portfolio-2020_ADA3_v2_ay11-opt.pdf (explaining that “Governor Newsom . . . directed state agencies to work with a broad range of water agencies and environmental conservation groups to develop voluntary agreements to implement the State Water Resources Control Board’s Bay-Delta Water Quality Control Plan”).]. However well-intentioned, one result has been the deferral of long-overdue action to update the Bay-Delta Water Quality Control Plan. Fortunately, the state is now moving forward with reviewing alternatives to update the plan, including a memorandum of understanding (MOU) regarding proposed VAs. This policy paper is designed to help regulatory agencies, potential parties to VAs, and the interested public assess proposals for VAs and forge a viable path toward achieving critical regulatory goals. VAs are negotiated agreements that establish pathways for regulated entities to meet regulatory requirements through alternative means [Footnote 3: In some cases, voluntary agreements or other types of settlements can obviate or delay regulation. As discussed below, the update of the Bay-Delta water quality control plan cannot be replaced and is very overdue.]. For example, a VA proposed as an alternative to directly meeting a specific instream flow standard might specify habitat restoration and other non-flow measures in exchange for less stringent flow requirements if that combination of commitments achieves what would otherwise be achieved by flow alone. In theory, a VA can combine the protectiveness of a regulatory backstop with the creativity and flexibility of a negotiated deal to produce outcomes as good as, or better than, those achievable through strict application of regulatory requirements alone. VAs may be able to achieve those outcomes more quickly and without the protracted conflict and litigation that can accompany more traditional means of implementing regulatory requirements—such as placing conditions on particular water rights, which can entail protracted evidentiary hearings [Footnote 4: See sources cited infra note 44 and associated text.]. That, at least, is the ideal. In California, however, the reality has not always measured up to the ideal. As our case study of the	“Delay” Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. “Insufficient oversight and accountability” The revised proposed Plan amendments include provisions for annual and periodic review of the Plan as a whole, as well as the VA pathway specifically, which includes the possibility to modify or terminate the VAs before year 8. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on annual and periodic reviews and the continuation, modification, or termination of the VAs. In addition, the regulatory pathway of the revised proposed Plan amendments includes provisions for local cooperative solutions (referred to as voluntary implementation plans in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the Staff Report), which would allow for water users to propose implementation plans that comply with the flow range and other requirements of the regulatory pathway. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on local cooperative solutions and the VA pathway.

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		Bay-Delta watershed discusses, state political leadership, some water users, and some state agencies have heralded the VA process, [Footnote 5: See, e.g., California Natural Resources Agency, News Release: “State, Federal Agencies Announce Agreement with Local Water Suppliers to Improve the Health of Rivers and Landscapes: MOU a Key Step in Years-Long Effort to Help Recover Salmon While Protecting Water Reliability” (March 29, 2022), available at URL: https://resources.ca.gov/Newsroom/Page-Content/News-List/Agreement-with-Local-Water-Suppliers-to-Improve-the-Health-of-Riversand-Landscapes.] but progress remains unclear. As we will detail, after more than twelve years of the state prioritizing VA development, it is uncertain if adequate agreements, and an adequate regulatory backstop for those agreements, will emerge. The state has repeatedly paused long-needed updates to flow requirements for the Bay-Delta watershed while the VA process played out [Footnote 6: See “Sacramento/Delta Update to Bay-Delta Plan,” State Water Resources Control Board [hereinafter Phase II Updates Webpage], URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/comp_review.html (website, last visited December 21, 2023). The “Prior Events and Actions” section of this webpage lists most public facing developments related to Phase II Bay-Delta Plan updates.]. In addition, the agreements proposed to date measure expected environmental outcomes from the wrong baseline. The VAs measure progress relative to 2019 protection levels [Footnote 7: See infra notes 131 to 135 and associated text.] instead of relative to the improved outcomes scientists expect would be achieved with updated flow requirements [Footnote 8: See State Water Resources Control Board, Development of Flow Criteria for the Sacramento San Joaquin Delta Ecosystem at 5, including footnote 3 (2010) [hereinafter Delta Flow Criteria Report], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf (discussing the timing, magnitude, frequency, duration, and rate of change of flows needed to protect public trust resources in the Delta ecosystem, as required by Cal. Water Code § 85086, introduced by the Delta Reform Act of 2009); State Water Resources Control Board, Technical Report on the Scientific Basis	

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		for Alternative San Joaquin River Flow and Southern Delta Salinity Objectives at 1-3, 3-1 to 3-63 (2012) [hereinafter Phase I Scientific Basis Report], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/docs/scientific_report.pdf (describing the scientific basis for San Joaquin River flows “needed to support and maintain the natural production of SJR fall-run Chinook salmon, identifying juvenile rearing in the tributary streams and migration through the Delta as the most critical life history stages”); State Water Resources Control Board, Scientific Basis Report in Support of New and Modified Requirements for Inflows from the Sacramento River and its Tributaries and Eastside Tributaries to the Delta, Delta Outflows, Cold Water Habitat, and Interior Delta Flows at 5-1 to 5-50 (October 2017) [hereinafter Phase II Scientific Basis Report], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2022/201710-bdphaseIIsciencereport.pdf (describing recommended new and revised flow requirements for the Sacramento River, its tributaries, and Eastside Delta tributaries, and the Delta and the methods used to develop them); State Water Resources Control Board, Framework for the Sacramento/Delta Update to the Bay-Delta Plan (July 2018) [hereinafter Phase II Framework Report], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/sed/sac_delta_framework_070618%20.pdf.] The VAs also suggest waiting another eight years to see if their approach works before the State Water Board can take remedial action, rather than requiring review and course correction on an annual or biannual basis. These problems have real consequences. During the long process of prioritizing VA development, native fish populations have continued to decline, and, for reasons we explain below, the declines could continue under the proposed VA approach. In sum, leading with VAs as a solution for balancing human and environmental needs for water in the Bay-Delta watershed—rather than first, or simultaneously, pursuing a regulatory pathway to achieve key biological goals—is a perilous strategy that risks continued environmental degradation and legal	

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		noncompliance. Using the Bay-Delta watershed as a case study, this policy paper defines five simple and interrelated principles to guide the appropriate use of VAs [Footnote 9:Other documents have outlined principles for or guidance on critical elements of Bay-Delta VAs. See Principles for Voluntary Agreements, supra note 2, at 1; Letter from Thomas Howard, Executive Director, State Water Resources Control Board, to Karla Nemeth, Deputy Secretary for Water Policy, California Natural Resources Agency (February 22,2016) [hereinafter Howard Letter], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/bay_delta/howardltr_02222016.pdf (“providing guidance on elements of voluntary agreements that will help inform the State Water Board’s evaluation of whether an agreement will assist in implementing proposed amendments to Bay-Delta Water Quality Control Plan”).]. 1. The state must establish a strong regulatory foundation for VAs. VAs are a potential tool for implementing regulatory requirements. VAs cannot replace—and only have meaning in the context of—regulatory standards developed in accordance with federal and state law. 2. VAs must achieve comparable environmental outcomes to the outcomes default regulatory requirements are expected to produce. Outcomes expected from the default implementation pathway—not the pre-implementation status quo—are the baseline against which VA adequacy should be assessed. 3. VAs must articulate clear, specific biological goals and measures of success. 4. VAs and actions taken under them must be well-supported by the best available scientific information. 5. VAs must include robust and transparent accountability mechanisms. Adhering to these principles will help close the gaps between the	

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		asserted potential and the actual performance of VAs. While these principles derive from the Bay-Delta case study, VAs are proposed and pursued in many other contexts in California and elsewhere, and we expect these principles to apply in many situations. This policy paper is organized as follows. First, we summarize the basic legal and conceptual background underpinning VAs. Second, we introduce a case study of VA development in California's Bay-Delta watershed. Third, we describe five principles for effective VAs, informed by this case study. Finally, we emphasize why state decision makers and stakeholders must carefully attend to these principles when developing and implementing VAs, or risk failure and severe environmental consequences	
217	3	[Exhibit 1: Photo captioned Salmon spawn in the Feather River gravel restoration project area, October 2014]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
217	4	Voluntary agreements VAs are used in many contexts and have the potential to produce better outcomes than strict application of regulatory requirements alone. However, California's experience with VAs has been mixed. Years of effort have not yet produced VAs capable of achieving essential, legally required improvements in the Bay-Delta watershed. Many environmental- and natural-resources-law subfields use negotiated agreements to implement regulatory frameworks [Footnote 10: See generally Dave Owen, "The Negotiable Implementation of Environmental Law," 75 Stanford Law Review 137 (2023), available at URL: https://www.stanfordlawreview.org/print/article/the-negotiableimplementation-of-environmental-law/]. For example, in public lands management, [Footnote 11: See generally Julia M. Wondolleck and Stephen Yaffee, Making Collaboration Work: Lessons from Innovation in Natural Resources Management (2000)]. Hydroelectric project relicensing, [Footnote 12: Aaron Levine, Taylor Curtis, and Laura Shields, Negotiating Terms and	Please see the response to comment 217-1.

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		Conditions: An Overview of the Federal Energy Regulatory Commission Hydropower Settlement Agreement Process (2018), available at URL: https://www.nrel.gov/docs/fy18osti/71093.pdf.] and Endangered Species Act permitting, [Footnote 13: See Owen, supra note 10, at 166–67.] to name just a few, compliance regimes are often the products of negotiations. These negotiated efforts can be controversial; critics have often alleged that negotiated outcomes can become unmoored from the guidelines set by underlying statutory law. [Footnote 14: See, e.g., Annecoos Wiersema, “A Train Without Tracks: Rethinking the Place of Law and Goals in Environmental and Natural Resources Law,” 38 Environmental Law 1239 (2008).]. But there is also widespread agreement that negotiations can sometimes produce better results, both for the environment and for regulated entities, while helping to build relationships that lay the foundation for additional beneficial collaborations in the future [Footnote 15: See Owen, supra note 10, at 185–92]. This positive potential may exist—sometimes—even when negotiated outcomes do not produce full legal compliance. If the realistic alternative to a negotiated outcome is non-implementation of the law, or if a negotiated outcome allows better environmental solutions than by-the-book implementation would produce, somewhat noncompliant arrangements can produce at least a modest win for all sides [Footnote 16: See Daniel A. Farber, “Taking Slippage Seriously: Noncompliance and Creative Compliance in Environmental Law,” 23 Harvard Environmental Law Review 297, at 305-06 (1999); Owen, supra note 10, at 191 (describing situations in which the alternative to negotiation is rubber-stamping of regulated entities’ preferences)]. Some efforts to improve California water management have sought to take advantage of this positive potential. The Yuba Accord, approved in 2008 to resolve litigation over 2003 instream flow requirements established to protect fish in the lower Yuba River, is often cited as a success story, [Footnote 17: See, e.g., Jake Abbott, “Story of the Year: A decade later for historic Yuba River Accord, Water officials reflect on game-changing agreement,” The Appeal- Democrat (January 2, 2019,	

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		updated January 4, 2019), available at URL: https://www.appeal-democrat.com/news/story-of-the-year-a-decade-later-forhistoric-yuba-river-accord/article_7618960a-0d92-11e9-9611-33508b7dbf4d.html. The Accord included three related agreements: (1) a Fisheries Agreement establishing instream flow requirements that vary depending on time of year and water year type, (2) a Water Purchase Agreement creating a long-term water transfer program to shift water to other water users and to Sacramento-San Joaquin Delta environmental flows, and (3) Conjunctive Use Agreements to improve local farmers' water supply reliability by coordinating groundwater and surface water use and management. See State Water Resources Control Board, Corrected Water Rights Order 2008-0014, at 4–5 (May 20, 2008), available at URL: https://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/orders/2008/wro2008_0014corrected.pdf; Water Education Foundation, The Lower Yuba River Accord: From Controversy to Consensus, at 4, 10–22 (2009), available at URL: https://www.yubawater.org/DocumentCenter/View/84/Lower-Yuba-River-Accord-Overview-PDF. The Accord also included a River Management Team composed of local, federal, and state agencies and NGO representatives to conduct studies and monitor results. See Corrected Water Rights Order 2008-0014, supra this note at 7–8. It is also notable that the Accord came together and took place during litigation after the State Water Board set regulatory flows, not before. See id. at 1–2.] although questions about its adequacy—and the adequacy of its implementation—linger. [Footnote 18: See, e.g., Alex Wigglesworth, “Newsom touts \$60-million plan for ‘fishway’ along Yuba River; critics say it falls short,” Los Angeles Times (May 17, 2023), available at URL: https://www.latimes.com/california/story/2023-05-17/newsom-touts-plan-for-60-millionfishway-along-yuba-river; Chris Shutes, “The View from under the Bus: Newsom Administration and Fish Agencies Sell Out Yuba River Flow for Fish Passage,” California Sportfishing Protection Alliance (May 20, 2023), URL: https://calsport.org/news/theview-from-under-the-bus-newsom-administrationand-fish-agencies-sell-out-yuba-river-flow-for-fishpassage/]. In another example, California’s State Water Resources Control Board (State Water Board or	

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		Board) facilitated VAs as an alternative compliance mechanism for water right curtailments during the recent drought, resulting in the development of “local cooperative solutions” for maintaining drought minimum instream flow requirements and “water sharing agreements” that did not strictly adhere to water right seniority rules. [Footnote 19: See 23 Cal. Code Regs. §§ 875(f), 877.4, 878.2, 878.4; see also “Voluntary Water Sharing Program,” State Water Resources Control Board, https://www.waterboards.ca.gov/drought/russian_river/voluntary_program.html (website, last visited December 21, 2023); “Local Cooperative Solutions (LCSs) under 2021–2022 Scott-Shasta Drought Emergency Regulations,” State Water Resources Control Board, URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/scott_shasta_rivers/ilcs.html (website, last visited December 21, 2023)]. Perhaps most prominently, the 1994 Bay-Delta Accord was an historic multi-party agreement that tried, successfully in the short run but unsuccessfully in the long run, to resolve conflicts over Bay-Delta water management and restore the watershed’s ecosystems [Footnote 20: See Jody Freeman & Daniel A. Farber, “Modular Environmental Regulation,” 54 Duke Law Journal 795, at 837–866 (2005) (describing the Bay-Delta Accord and related agreements); Dave Owen, “Law, Environmental Dynamism, Reliability: The Rise and Fall of CALFED,” 37 Environmental Law 1145, at 1202–08 (2007) (describing the rise and fall of the institutional arrangements envisioned in the agreements)]. But, with the limited exception of the early years after the Bay-Delta Accord and the Yuba Accord, VAs have been promising primarily in concept in California’s largest, highest profile, and arguably most important watershed. Despite years of apparent effort on the part of the state and other stakeholders, complex and politically challenging discussions have not yet yielded fully developed or adequate VAs capable of achieving key regulatory goals in the Bay-Delta watershed.	
217	5	[Exhibit 2: Photo captioned Dutch Slough Tidal Marsh Restoration Project site, April 2021]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.

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217	6	Case Study: Pursuit of VAs in the Bay-Delta Watershed For more than half a century, California has struggled to set and implement water quality requirements that adequately protect native fish populations in the Bay-Delta watershed. We summarize this history, focusing on the period since the State Water Board initiated the current round of phased Bay-Delta Plan updates. The state has frequently prioritized VA development over establishing an effective regulatory backstop, although it has resumed that work and is currently evaluating an MOU proposal for VAs and other alternatives. We discuss issues with the currently proposed VAs and their implications. The Water Quality Control Plan for the San Francisco Bay / Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan) is the overarching blueprint that identifies what flow and other water quality requirements need to be met for the Bay-Delta watershed and that guides individual implementation actions. The Box on the next page provides an overview of the legal and regulatory context for water quality control planning and implementation in California. For many decades, California has struggled to set and implement water quality requirements that adequately protect beneficial uses of water in the Bay-Delta watershed. Extensive litigation and occasional settlements have punctuated sporadic efforts by the State Water Board to undertake badly needed updates to Bay-Delta water quality requirements. [Footnote 21: See, e.g., Phase II Scientific Basis Report, supra note 8, at 1-2, 1-4 to 1-24 (describing the purpose, need, and other critical background for updates to flow standards for the “Phase II” portions of the Bay-Delta watershed); Phase I Scientific Basis Report, supra note 8, at 3-1 to 3-63 (describing the purpose, need, and other critical background for updates to flow standards for the “Phase I” portions of the Bay-Delta watershed); Delta Flow Criteria Report, supra note 8; Sacramento River, San Joaquin River, and San Francisco Bay and Delta, CA; Water Quality Standards for Surface Water; Proposed Rule, 59 Fed. Reg. 810–871 (proposed January 6, 1994) (to be codified at 40 C.F.R. part 131) [hereinafter 1994 Proposed Rule], available at URL: https://www.govinfo.gov/content/pkg/FR-1994-01-	Please see the response to comment 217-1.

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		06/html/94-120.html (describing in detail the history of water quality control planning for the Bay-Delta watershed, the decline of the watershed's ecosystems, and EPA's view of the inadequacy of flow and other standards to protect fish and wildlife uses); Doremus and Tarlock, <i>supra</i> note 1 at 53–62; see also Nell Green Nysten, Michael Kiparsky, Dave Owen, Holly Doremus, and Michael Hanemann, Addressing Institutional Vulnerabilities in California's Drought Water Allocation, Part 1: Water Rights Administration and Oversight During Major Statewide Droughts, 1976–2016, at 13, B-13 to B-16 (2018), California's Fourth Climate Change Assessment, California Natural Resources Agency, CCCA4-CNRA-2018-009, available at URL: https://www.energy.ca.gov/sites/default/files/2019-12/Water_CCCA4-CNRA-2018-009_ada.pdf]. Figure 1 [Exhibit 3] shows a timeline of these efforts. Decades of contested and inadequate action have coincided with declining ecosystem health and continuing uncertainty for all Bay-Delta water users, regardless of their specific interests and priorities. In practice, developing and implementing a plan that adequately protects Bay-Delta ecosystems and in-Delta water users has been challenging. For many waterways within the watershed, the state has not developed instream flow requirements, [Footnote 22: See "Existing Flow Requirements," State Water Resources Control Board, URL: https://www.waterboards.ca.gov/water_issues/programs/cannabis/existing_flow_requirements.html (website, last visited December 21, 2023) (presenting an interactive map that shows many Bay-Delta waterways with no instream flow standards).] which means that water diversion and use in these areas are unlikely to adequately account for instream flow needs. For other Bay-Delta waterways, flow requirements exist, but they have not been adequate to support designated beneficial uses (see the Box on the next page). Some of the most widely recognized impacts have been to fisheries. Existing flow requirements have not stabilized or recovered populations of native species—which are indicative of healthy ecosystems, [Footnote 23: See, e.g., Phase I Scientific Basis Report, <i>supra</i> note 8, at 3-40 to 3-60; Phase II Scientific Basis Report, <i>supra</i> note 8, at 1-2 to 1-5; Peter B. Moyle, Larry R. Brown, John R. Durand, and	

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		James A. Hobbs, "Delta Smelt: Life History and Decline of a Once-Abundant Species in the San Francisco Estuary," 14(2) San Francisco Estuary and Watershed Science Article 7 (2016), available at URL: https://doi.org/10.15447/sfews.2016v14iss2art6 .] and which commercial fishers, tribes, and subsistence fishers rely on for income, sustenance, and cultural practices [Footnote 24: See sources cited supra note 21; see also Environmental Law Clinic at Stanford Law School on behalf of Shingle Springs Band of Miwok Indians, Winnemem Wintu Tribe, Little Manila Rising, Restore the Delta, and Save California Salmon, Title VI Complaint and Petition for Rulemaking for Promulgation of Bay-Delta Water Quality Standards Before the United States Environmental Protection Agency (December 16, 2022), available at URL: https://www.restorethedelta.org/wp-content/uploads/2022-12-16-Bay-Delta-Complaint-and-Petition.pdf .]	
217	7	Meanwhile, proposals to develop or strengthen flow requirements have often met with intense opposition from water users, many of whom fear that more robust flow standards will reduce their access to water [Footnote 25: See e.g., Association of California Water Agencies, California Farm Water Coalition, and Northern California Water Association, Bay-Delta Plan Update Talking Points (October 2018), available at URL: https://norcalwater.org/wp-content/uploads/Bay-Delta-Plan-Update-Talking-Points.pdf (stating: "The State's proposed unimpaired flow approach would have significant impacts on farms, California communities, and the environment. An unimpaired flow approach would significantly limit drinking water supplies for cities and rural communities, as well as irrigation water supplies for farms and wildlife refuges."); Letter re: Sacramento Valley Water Users' Comment Letter – Bay-Delta Plan Supplemental Notice of Preparation – Comprehensive Review, to Jeanine Townsend, Clerk to the Board, State Water Resources Control Board, from Andrew M. Hitchings, Somach Simmons & Dunn, et al. on behalf of more than 20 clients, at 6–12 (April 25, 2012), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/comments_042512/andrew_hitchings.pdf]. Understandably, these concerns are often based upon longstanding economic reliance on the agricultural	Please see the response to comment 217-1.

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		production, urban economic development, and other benefits of historic diversions. Many water rights holders have disputed the State Water Board's authority to subject their water rights to restrictions that protect environmental resources, including when implementing basic water right curtailments during times of water shortage [Footnote 26: See, e.g., <i>Stanford Vina Ranch Irrigation Company v. State of California</i>, 50 Cal. App. 5th 976, at 1002–03 (2020), rehearing denied (July 6, 2020), as modified (July 8, 2020), review denied (Sept. 23, 2020), cert. denied, 209 L. Ed. 2d 128, 141 S. Ct. 1387 (2021); <i>Light v. State Water Resources Control Board</i>, 226 Cal. App. 4th 1463, at 1478 (2014), as modified on denial of rehearing (July 11, 2014); <i>California v. United States</i>, 438 U.S. 645, at 645–646 (1978); <i>United States v. State Water Resources Control Board (Racanelli)</i>, 182 Cal. App. 3d 82, at 98, 119–120 (1986).]. This dynamic has persisted for many decades. Over these decades, water quality and ecosystem conditions in San Francisco Bay, the Sacramento-San Joaquin Delta, and the broader Bay-Delta watershed have continued to decline—with some species, such as Delta smelt and certain salmon runs, on or even over the verge of collapse [Footnote 27: See, e.g., sources cited supra notes 8 and 21; Peter Moyle, “The Failed Recovery Plan for the Delta and Delta Smelt,” <i>California WaterBlog</i> (May 29, 2022), URL: https://californiawaterblog.com/2022/05/29/thefailed-recovery-plan-for-the-delta-and-delta-smelt/ (and the sources cited therein).]—and water users have faced growing uncertainty about future water access [Footnote 28: See, e.g., Delta Independent Science Board, <i>Review of Water Supply Reliability Estimation Related to the Sacramento-San Joaquin Delta</i> (2022), available at URL: https://deltacouncil.ca.gov/pdf/isb/products/2022-06-16-isb-water-supply-reliabilityreview.pdf; John R. Durand, Fabian Bombardelli, William E. Fleenor, Yumiko Henneberry, Jon Herman, Carson Jeffres, C., Michelle Leinfelder-Miles, Jay R. Lund, Robert Lusardi, Amber D. Manfree, Josué Medellín-Azuara, Brett Milligan, and Peter B. Moyle, “Drought and the Sacramento-San Joaquin Delta, 2012–2016: Environmental Review and Lessons,” 18(2) <i>San Francisco Estuary and Watershed Science</i>, Article 2 (2020), available at URL: http://dx.doi.org/10.15447/sfews.2020v18iss2art2.].	

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217	8	Legal and regulatory context for water quality control planning and implementation in California Under the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act, state regulators must develop water quality control plans for watersheds around the state [Footnote 29: Cal. Water Code §§ 13170, 13240–13249; 33 U.S.C. §§ 1313. Primary responsibility for developing water quality control plans generally lies with California's nine Regional Water Quality Control Boards. Cal. Water Code §§ 13001, 13240. However, the State Water Board can also directly adopt plans. Cal. Water Code §§ 13170, 13245. The State Water Board has taken responsibility for the Bay-Delta Plan both because the plan impacts geographies and beneficial uses spanning multiple regions and because the plan is implemented heavily through conditions on water rights, which only the State Water Board has jurisdiction over.]. The plans must: 1. identify existing and desired uses of water ("designated uses" in federal terminology, "beneficial uses" [Footnote 30: The "beneficial uses" that are designated for water quality purposes and are protected by water quality control plans overlap with, but are not identical to, what California defines as "beneficial uses" for water rights purposes. See "Water Rights: Public Trust Resources," State Water Resources Control Board, URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/public_trust_resources/#beneficial (website, last visited December 21, 2023).] in state terminology) for particular waterways, such as domestic or municipal supply, agricultural supply, supporting fisheries, and recreation; 2. establish water quality standards sufficient to ensure the reasonable protection of identified uses ("water quality criteria" in federal terminology, "water quality objectives" in state terminology); and 3. establish a program of implementation to achieve those standards [Footnote 31: Cal. Water Code §§ 13050(f), (h), (j), 13241, 13242; 33 U.S.C. §§ 1313(c)–(i).]. An antidegradation policy undergirds both identified uses and	Please see the response to comment 217-1.

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		water quality standards [Footnote 32: See 40 C.F.R. § 131.12; State Water Resources Control Board Resolution 68-16 (Oct. 24, 1968), available at URL: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf]. The overall goals are to maintain and improve water quality and maximize waters' beneficial uses [Footnote 33: See, e.g., 33 U.S.C. 1251; Cal. Water Code § 13000.]. California recognizes flows as an important aspect of and contributor to water quality [Footnote 34: Phase II Scientific Basis Report, supra note 8, at 1-6 (explaining that some water quality standards to protect designated beneficial uses "are expressed as flows" and others "are largely achieved through flows")]. When establishing flow and other water quality standards, California regulators must consider a range of factors, including economic considerations [Footnote 35: Cal. Water Code § 13241.]. Federal and state law require the state to implement water quality control plans and, most importantly, the water quality standards they establish [Footnote 36: For example, state law requires the program of implementation for a water quality control plan to describe "the nature of actions. . . necessary to achieve" water quality objectives, "[a] time schedule for the actions to be taken," and the "surveillance to be undertaken to determine compliance with objectives." Cal. Water Code § 13242.]. Among the state's implementation tools are water quality permitting, [Footnote 37: See, e.g., "National Pollutant Discharge Elimination System (NPDES) – Wastewater," State Water Resources Control Board, URL: https://www.waterboards.ca.gov/water_issues/programs/npdes/ (website, last visited December 21, 2023); "Waste Discharge Requirements Program," State Water Resources Control Board, URL: https://www.waterboards.ca.gov/water_issues/programs/waste_discharge_requirements/ (last visited December 21, 2023).] adopting broadly applicable regulations regarding water diversion and use, and water rights permitting. We focus here on the latter two tools. Because diverting water from waterways can affect water quality, the state must implement water quality control plans when it authorizes, reviews, and manages water rights [Footnote 38: The California Legislature has tasked the	

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		State Water Board with “provid[ing] for the orderly and efficient administration of the water resources of the state,” including the “coordinated consideration of water rights, water quality, and safe and reliable drinking water.” Cal. Water Code § 174.]. The state’s authority and obligation to do so is bolstered by California’s reasonable use [Footnote 39: See Cal. Const. art. X, § 2; Cal. Water Code §§ 100; 174, 275, 1058; Stanford Vina Irrigation Co. v. State of California, 50 Cal. App. 5th 976, 1000–1004 (2020); Light v. State Water Resources Control Board, 226 Cal. App. 4th 1463, 1486–88 (2014), as modified on denial of rehearing (July 11, 2014), review denied (Oct. 1, 2014); Millview County Water District. v. State Water Resources Control Board, 229 Cal. App. 4th 879, 893–94 (2014), as modified on denial of rehearing (Oct. 14, 2014); see also Imperial Irrigation District v. State Water Resources Control Board, 186 Cal. App. 3d 1160 (1986).] and public trust [Footnote 40: See National Audubon Society v. Superior Court, 33 Cal. 3d 419, at 446–47 (1983).] doctrines, which establish limitations inherent in all water rights. Although it has been argued that California regulators could use regulations to implement the flow standards established in water quality control plans, they generally have not done so [Footnote 41: See Nell Green Nysten, Dave Owen, Jennifer Harder, Michael Kiparsky, and Michael Hanemann, Managing Water Scarcity: A Framework for Fair and Effective Water Right Curtailment in California at 37–42, 49–52, 78–79 (2023), available at URL: law.berkeley.edu/curtailments (summarizing the State Water Boards use of emergency curtailment regulations to protect public trust flows during recent droughts and discussing relevant due process requirements)]. Instead, they have implemented such requirements primarily by incorporating conditions designed to protect water quality (such as flow, temperature, and salinity requirements) into specific water right permits and licenses [Footnote 42: See, e.g., United States v. State Water Resources Control Board (Racanelli), 182 Cal. App. 3d 82, at 125–126 (1986) (stating that “the principal enforcement mechanism available to the Board is its regulation of water rights to control diversions which cause degradation of water quality”); State Water Resources Control Board, Water Quality Control Plan for the San Francisco Bay/Sacramento-San	

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		Joaquin Delta Estuary at 7, 27–29 (May 1995), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/wq_control_plans/1995wqcp/docs/1995wqcp_b.pdf (stating that “this plan will be implemented principally through changes in water rights” and describing various water rights related implementation measures).]. These conditions may constrain the timing, amount, and/or location of water diversions [Footnote 43: See, e.g., Green Nylen et al, supra note 41, at 36–37 (discussing (a) Standard Term 91, which prohibits diversions under affected water right permits and licenses when def “supplemental Project water” is being released to meet Delta water quality requirements and (b) amendments to the Los Angeles Department of Water and Power’s licenses to divert and use water from Mono Lake tributaries to protect public trust flows).]. The process of conditioning water rights to implement water quality objectives can be lengthy [Footnote 44: See id. (describing a 4-year process to implement Term 91 in the Bay-Delta watershed and an 8-year process for amending the Los Angeles Department of Water and Power’s licenses in the Mono Lake watershed to reflect the terms of a 2013 settlement agreement).] and has sometimes been followed by years of litigation [Footnote 45: For example, in 2001 and 2003, the State Water Board amended several water right permits and licenses to revise minimum flow requirements to better protect fishery resources in the lower Yuba River. See State Water Resources Control Board, Revised Water Rights Decision 1644 (July 16, 2003), available at URL: https://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1644revised.pdf). Affected water right holders and environmental groups then sued to challenge the decisions. See Corrected Water Rights Order 2008-0014, supra note 17, at 4–5 (describing the history of State Water Board actions and related litigation); see also State Water Resources Control Board v. Superior Court, 97 Cal. App. 4th 907, 912 (2002). In 2007, the parties—with the exception of the State Water Board—settled much of the litigation through the Lower Yuba River Accord (Yuba Accord). Corrected Water Rights Order 2008-0014, supra note 17, at 5–6; see also note 17, supra, and associated text. In May, 2008, the State Water Board approved the Yuba County Water Agency’s April 27, 2007, petition to modify its water right permits to	

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		implement the Yuba Accord. Corrected Water Rights Order 2008-0014, supra note 17, at 12, 63.].	
217	9	[Exhibit 3: Graphic titled Figure 1. Timeline of key actions the State Water Board took to adopt, update, or implement the Bay-Delta Plan from 1967 to 2023 and some related actions by other entities]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
217	10	The state has long supported the development of multi-party VAs as a way of resolving this conflict [Footnote 46: See, e.g., Doremus and Tarlock, supra note 1 at 59–62 (summarizing the history of water quality planning and implementation for the Bay-Delta watershed, including the collaborative effort, known as Cal-Fed, between state and federal water operators and state and federal environmental protection agencies that were spurred by EPA disapproving the 1991 Bay-Delta Plan and resulting in the Bay-Delta Accord, as well as the subsequent Delta Stewardship Council and separate Bay Delta Conservation Planning effort); “Felicia Marcus on the California Delta: Convergence or Collision?” Maven’s Notebook (March 26, 2013), URL: https://mavensnotebook.com/2013/03/26/mavens-minutes-felicia-marcus-on-the-californiadelta-convergence-or-collision-2/ (discussing the Bay Delta Accord, Delta Stewardship Council and the Delta Plan, the State Water Board’s Bay-Delta water quality planning process, agreements for water users to use less water developing in the context of dialog around the Bay Delta Conservation Plan, “local solutions” like collaboration between environmental groups and the rice industry to provide bird habitat in the Sacramento Valley, and the role of each in creating “a web of solutions”); Freeman and Farber, supra note 20, at 851–52 (describing negotiations that occurred as part of the Cal-Fed process for the Bay-Delta watershed).]. The latest round of emphasis on Vas began in 2011, in the midst of phased updates to the Bay-Delta Plan [Footnote 47: See Letter to Gerald H. Meral, Deputy Secretary, Bay Delta Conservation Plan, California Natural Resources Agency, from Thomas Howard, Executive Director, State Water Resources Control Board (Dec. 19, 2011), available at URL: https://baydelta.files.wordpress.com/2012/01/swrcb-to-meral_12-19-2011.pdf (stating “I would like to emphasize that the State Water Board encourages water users to work with fishery agencies and other stakeholders to bring agreements on	Please see the response to comment 217-1.

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		flows and habitat improvements to the Board to include as part of its regulatory process”); Cariad Hayes Thronson, “Flow Deal: Peace Treaty or Trojan Horse?” San Francisco Estuary Magazine (June 2022), available at URL: https://archive.estuarynews.org/flow-deal-peacetreaty-or-trojan-horse/ (mentioning that “talks began back in 2012”); California Water Action Plan, supra note 2 at 12; see also State Water Resources Control Board, Supplemental Notice of Preparation and Notice of Scoping Meeting for Environmental Documentation for the Update and Implementation of the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary: Comprehensive Review at 3–4 (January 24, 2012) [hereinafter 2012 Scoping Notice], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/environmental_review/docs/notice_baydeltaplancompreview.pdf (“In considering potential changes to the Bay-Delta Plan, the State Water Board will be reviewing changes that should be made to water quality objectives and the program of implementation to protect beneficial uses in the Bay-Delta in the immediate future under existing conditions and in the longer term with and without changes to the environment that may occur as the result of current planning efforts such as the BDCP. Specifically, the State Water Board will be considering whether certain water quality objectives should be phased in over time and under what conditions that phasing should occur, in addition to what type of contingencies should be provided in the program of implementation if expected habitat improvement and other activities do not occur or do not have the expected results.”).]. Efforts to negotiate the current proposed Vas began in earnest in 2017 [Footnote 48: See Memorandum of Understanding Advancing a Term Sheet for the Voluntary Agreements to Update and Implement the Bay-Delta Water Quality Control Plan, and Other Related Actions, March 29, 2022, with Addition of Signatory Parties, November 10, 2022, at 1–2 [hereinafter MOU and Term Sheet], available at URL: https://resources.ca.gov/-/media/CNRA-Website/Files/NewsRoom/email-items/VoluntaryAgreementMOUTermSheet20220329_SIGNED-20220811.pdf]. The potential benefits of this alternative approach are enticing.	

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		In particular, Vas can include some measures, like habitat-restoration commitments, that the State Water Board appears to have been reticent to impose upon water-rights holders outside of more project-focused regulatory actions, like Clean Water Act section 401 water quality certifications [Footnote 49: Section 401 applies to activities that require a federal license or permit and that may result in a discharge to waters of the United States, such as hydroelectric projects. Section 401 explicitly allows the State Water Board to set conditions on the federal license or permit to ensure that the applicant will comply with effluent limitations and other requirements under the federal Clean Water Act, as well as “any other appropriate requirement of State law.” 33 U.S.C. § 1341(d). The State Water Board has frequently included requirements for habitat restoration alongside instream flow requirements as conditions in section 401 water quality certifications. See, e.g., State Water Resources Control Board, Water Quality Certification for Turlock Irrigation District and Modesto Irrigation District, Don Pedro Hydroelectric Project and La Grange Hydroelectric Project, Federal Energy Regulatory Commission Project Nos. 2299 and 14581, at 68–77 (January 15, 2021), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/water_quality_cert/docs/401_cert/dplg_fwqc.pdf.] or enforcement settlements. Fish and other aquatic species need water, and the magnitude and nature of water flows are crucial determinants of population health. But other variables, such as temperature, floodplain interconnection, food availability, and invasive species interactions also influence overall habitat quality and species outcomes. Although higher flows can positively affect these other variables, they can also be influenced in other ways [Footnote 50: The State Water Board’s Scientific Basis Reports and plan update documents all support the importance of increased flow, in part for its influence on habitat but also for its benefits to temperature, fish passage, and other factors. See, e.g., sources cited supra note 8. Multiple stressors affect fish populations, including low flow, poor habitat conditions, low food availability, and predation, all of which can be influenced by flow alone, but positive effects can be accelerated or aided by other actions. See, e.g., Ellen Hanak, Caitrin Phillips, Jay Lund, John Durand, Jeffrey Mount, and Peter Moyle, Scientist and Stakeholder Views on the Delta Ecosystem	

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		(April, 2013) Public Policy Institute of California, available at URL: https://www.ppic.org/wp-content/uploads/content/pubs/report/R_413EHR.pdf. For example, higher flows into waterways at relevant times can reduce water temperature, increase flow speed, and facilitate habitat creation on the banks—all of which help native species. Avoiding high temperatures is critical for salmon, which need to expend far more energy in warmer water and then need more food to deal with their exhausting treks upriver as adults to spawn and downriver as smolts getting out to sea. See State Water Resources Control Board, Draft Staff Report/Substitute Environmental Document in Support of Potential Updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary for the Sacramento River and Its Tributaries Delta Eastside Tributaries and Delta at 3-6 (September 2023) [hereinafter Draft Staff Report], available at URL:https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/staff_report.html. Their weakened state causes mortality and also sets them up as easy prey for invasive predators. See id. At 4-1, 4-4, 4-21 to 4-23. However, habitat changes mobilized by higher flows can give salmon a place to hide from predators and find cooler shaded water, and generate food production. See id. Other efforts to restore habitat can also help create conditions that help native fish and discourage predators, potentially faster than water flow alone. Id. However, “non-flow” restoration actions cannot fully substitute for adequate flows. Id. At 4-1.]. And while traditional regulatory actions can target flow, [Footnote 51: There is a robust history of setting flow standards to protect a variety of beneficial uses of a given waterway, such as fisheries and agriculture, including by protecting water quality from excess salinity. In the Bay-Delta context, the state has emphasized flow because it has definite jurisdiction over flow to protect public trust resources (see National Audubon Society v. Superior Court, 33 Cal. 3d 419, at 446–47 (1983)) and because flow influences other stressors. See sources cited supra notes 8, 21, and 32 and associated text.] they have tended to less directly influence other measures, like habitat restoration, that can improve conditions for aquatic species. However, such measures could be included as part of VA agreements, in combination with adequate flow. For that reason,	

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		carefully crafted Vas could—in theory—deliver better or faster positive outcomes for ecosystems while also reducing instream flow needs, thus lessening impacts on water users. When time is of the essence for collapsing ecosystems, agreements negotiated by a broad range of stakeholders may eliminate the need for time-consuming adjudicatory water rights proceedings or prolonged litigation, at least by VA signatories, potentially providing a more effective path to near-term improvement of conditions for fish and aquatic ecosystems. Furthermore, the process of collaborating to develop and implement Vas could, in theory, build relationships and trust, laying the groundwork for more timely and effective problem solving in the future.	
217	11	PHASED UPDATES TO THE BAY-DELTA PLAN, 2009–2023 In 2009—more than 14 years ago—the State Water Board initiated the current round of Bay-Delta Plan updates, using a phased approach [Footnote 52: See State Water Resources Control Board, Notice of Preparation and of Scoping Meeting for Environmental Documentation for the Update and Implementation of the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary: Southern Delta Salinity and San Joaquin River Flows at 2 (Feb. 13, 2009), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/environmental_review/docs/nop2009feb13.pdf]. Phase I would focus on southern Delta salinity and San Joaquin River flows, while Phase II would address the Sacramento River and the Delta and its tributaries. To inform these updates, Board staff released a “flow criteria” report in 2010, as the Legislature called for in the 2009 Delta Reform Act [Footnote 53: See infra note 137.]. That report identified what instream flows would be needed to protect public trust resources in the Bay-Delta watershed [Footnote 54: See Delta Flow Criteria Report, supra note 8, at 9–10.]. To better reflect the functions of a natural hydrograph, the report recommended expressing flow requirements, when possible, as a percentage of unimpaired flow (i.e., what flow would be without water diversions and dams) [Footnote 55: Id. at 96, 131–133. A key purpose of trying to mimic the natural hydrograph is to recreate at least some of the conditions under which the native	Please see the response to comment 217-1.

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		species evolved. See id. at 1, 5, 37, 41–42, 50.]. Since then, the State Water Board’s work on Plan amendments has been fraught with delays, proceeding in irregular fits and starts. The expected completion date slipped from 2012 (in 2009) [Footnote 56: In 2008, the State Water Board laid out a workplan for developing and adopting updates to the 2006 Bay-Delta Plan by early 2012. See Strategic Workplan, supra note 1, at 17, 68, 77.] to 2013, [Footnote 57: See Letter to Gerald H. Meral, Deputy Secretary, Bay Delta Conservation Plan, California Natural Resources Agency, from Thomas Howard, Executive Director, State Water Resources Control Board (Dec. 19, 2011), available at URL: https://baydelta.files.wordpress.com/2012/01/swrcb-to-meral_12-19-2011.pdf; see also State Water Resources Control Board, Fact Sheet: Water Quality Planning Efforts in the Bay-Delta at 1 (May 16, 2012), available at URL:https://www.waterboards.ca.gov/publications_forms/publications/factsheets/docs/baydelta_sjr.pdf.] 2014, [Footnote 58: Chris Austin, “A Status Report on the State Water Board’s Bay-Delta Plan,” Maven’s Notebook (April 18, 2013), URL: https://mavensnotebook.com/2013/04/18/a-status-report-on-the-state-water-boards-bay-deltaplan/.] 2018 (in 2016), [Footnote 59: Chris Austin, “Legislative Hearing: Pending Delta Decisions and Their Potential Economic and Other Impacts on San Francisco and the Bay Area, Part 1,” Maven’s Notebook (March 29, 2016), URL: https://mavensnotebook.com/2016/03/29/legislativehearing-pending-delta-decisions-and-their-potentialeconomic-and-other-impacts-on-san-francisco-and-the-bay-area-part-1/.] and is currently estimated as late 2024 [Footnote 60: See State Water Resources Control Board, Environmental Justice Focused Listening Session on State Water Board Efforts to Update and Implement the Bay-Delta Plan, at slide 17 (Mar. 27, 2023), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/ABBR-EJ-Listening-Session-Presentation_March_27.pdf.] State political leadership has repeatedly requested more time for VA negotiations, contributing significantly to the slipping timelines. In effect, the state has given VA negotiations precedence over building the	

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		regulatory structure needed to create a backstop and provide crucial context for effective Vas. As we will describe below, the Board finally adopted Phase I amendments in December 2018 and is now taking steps toward implementing them. However, the Board has not yet adopted Phase II amendments, which have been delayed further as state leadership continues to prioritize Vas, although progress has resumed with the State Water Board's current regulatory process. We summarize key developments for the two phases of Bay-Delta Plan updates below. Figure 2 [Exhibit 4] shows the rough geographic extent of the areas addressed in each phase.	
217	12	[Exhibit 4: Graphic titled Figure 2. Geographic areas addressed by Phase I and Phase II updates to the Bay-Delta Plan] Figure 2. Geographic areas addressed by Phase I and Phase II updates to the Bay-Delta Plan [Footnote 61: This map draws from the following sources: California Department of Water Resources, California Water Plan Layered Map (2013), available at URL: https://cadwr.app.box.com/s/no9baf6yzzc31umoans94asjzp7dpjy5; State Water Resources Control Board, Staff Workshop Presentation: Draft Staff Report for Sacramento/Delta Update to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) slides 9 and 10 (October 19, 2023), URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/overview-of-staff-report-20231019-workshop.pdf.]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
217	13	Phase I: Lower San Joaquin River and Southern Delta In early 2012, the State Water Board staff released a peer-reviewed scientific basis report for Phase I Bay-Delta Plan updates focused on Lower San Joaquin River flows and southern Delta salinity [Footnote 62: Phase I Scientific Basis Report, supra note 8.]. The Board also flagged its intent to complete Phase I updates later that year [Footnote 63: See State Water Resources Control Board, Staff Presentation: Update on the Current Review of the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Its Implementation, slides 2–3 (Feb. 21, 2012), available at URL:	Please see the response to comment 217-1.

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		https://www.waterboards.ca.gov/board_info/minutes/2012/feb/022112_5stfprsnr.pdf]. The scientific basis report identified the need for keeping more flow instream to protect water quality and ecosystem uses [Footnote 64: See Phase I Scientific Basis Report, supra note 8, at 3-1.]. In December 2012, the Board released proposed changes to the Bay-Delta Plan and related draft environmental documentation for public comment [Footnote 65: See “Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the Bay-Delta: San Joaquin River Flows and Southern Delta Water Quality,” State Water Resources Control Board, URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2012_sed/index.shtml (website, last visited December 21, 2023)]. In early 2016, the State Water Board encouraged stakeholders to propose flow- and habitat-related VAs for the protection of fish and wildlife beneficial uses [Footnote 66: See Howard Letter, supra note 9, at 2.]. The Board asked for proposals before the end of 2016 and outlined eleven critical elements it would look for in any VA [Footnote 67: Id.]. In September 2016, the Board released revised draft amendment language and environmental documentation, and it conducted extensive public engagement around these drafts in late 2016 and early 2017 [Footnote 68: See “Draft Revised Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the Bay-Delta: San Joaquin River Flows and Southern Delta Water Quality,” State Water Resources Control Board, URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/index.shtml (website, last visited December 21, 2023); State Water Resources Control Board, Fact Sheet: Revised Draft Substitute Environmental Document for Flow Objectives on the Lower San Joaquin River and Salinity Objectives for the Southern Delta (October 18, 2016), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/docs/ph1_fact.pdf; see also State Water Resources	

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		Control Board, Resolution No. 2018-0059: Adoption of Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Final Substitute Environmental Document (December 12, 2018) [hereinafter 2018 Resolution], available at URL: https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2018/rs2018_0059.pdf at 2–3.]. These draft materials explicitly encouraged water stakeholders to propose voluntary agreements (with a mix of flow and non-flow actions) as alternative means of implementing Bay-Delta Plan amendments intended to protect fish and wildlife uses [Footnote 69: See, e.g., State Water Resources Control Board, Recirculated Draft: Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay–Sacramento San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality, Appendix K: Revised Water Quality Control Plan at 28, 36–39 (Sept. 2016), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/docs/appx_k.pdf; State Water Resources Control Board, Summary of Proposed Updates to the Bay-Delta Water Quality Control Plan at 2, 7 (September 15, 2016), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2016_sed/docs/prp_update_sum.pdf]. A few months later, in May 2017, Governor Brown’s office issued a set of “Principles for Voluntary Agreements” in the Bay-Delta watershed [Footnote 70: See Principles for Voluntary Agreements, <i>supra</i> note 2.]. That year, state, federal, and local government parties and others began extensive efforts to negotiate VAs [Footnote 71: See MOU and Term Sheet, <i>supra</i> note 48, at 1–2.]. In early July 2018, the State Water Board released proposed final Phase I Bay- Delta Plan amendments and environmental documentation and announced that it would consider adopting them at its August 21–22 public meeting [Footnote 72: State Water Resources Control Board, Notice of Public Meeting and Consideration of Adoption of Proposed Amendments to the Water Quality Control Plan for the San Francisco	

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		Bay/Sacramento–San Joaquin Delta Estuary and Final Substitute Environmental Document (July 6, 2018), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2018_sed/docs/notice_baydelta_plan.pdf; see also 2018 Resolution, supra note 68, at 3.]. On August 15, 2018, the California Natural Resources Agency contacted the State Water Board to request a 30-minute speaking slot at the meeting for the Departments of Water Resources and Fish and Wildlife to present on methods for evaluating “the relative benefits of flow and non-flow actions to protect native salmonid fish species in the San Joaquin Basin,” flagging that the presentation was relevant to the VAs the Departments expected to submit soon [Footnote 73: Letter from John Laird, Secretary for Natural Resources, to Felicia Marcus, Chair, and Members of the State Water Resources Control Board, re: August 21, 2018 Meeting, Agenda Item 4: Consideration of a Proposed Resolution to Adopt Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento San Joaquin Delta Estuary and Adopt the Final Substitute Environmental Document (August 15, 2018), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2018_sed/docs/natural_resources_laird_ltr_081518.pdf]. The letter also asked the Board to continue its final decision on the Phase I amendments until a future meeting [Footnote 74: Id.]. The Board granted these requests, eventually continuing final action on the amendments twice to accommodate the Brown Administration’s requests for more time to nail down VAs [Footnote 75: See State Water Resources Control Board, News Advisory: State Water Resources Control Board Continues Meeting to Consider Updated Flow Objectives for the San Joaquin River (Aug. 22, 2018), available at URL: https://www.waterboards.ca.gov/press_room/press_releases/2018/pr082218_bay_delta_update_hearings_news_advisory.pdf; (announcing that the State Water Board would delay consideration of proposed Bay-Delta Plan amendments until its November 7 meeting); Letter to Felicia Marcus, Chair, State Water Resources Control Board, from Edmund G. Brown Jr., Governor, and Gavin Newsom, Lieutenant Governor and Governorelect (Nov. 6, 2018), available at URL:	

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		https://www.waterboards.ca.gov/docs/20181106_brown_news_om_ltr.pdf (requesting postponement a second time); State Water Resources Control Board, News Advisory: State Water Resources Control Board Delays Final Decision on Updated Flow Objectives for the San Joaquin River (Nov. 7, 2018), available at URL: https://www.waterboards.ca.gov/press_room/press_releases/2018/pr110718_bay-delta_plan_continuance.pdf (“After considering a request received yesterday from Governor Edmund G. Brown Jr. and Lieutenant Governor Gavin Newsom, the State Water Resources Control Board today voted to postpone further consideration of updated flow requirements for the Lower San Joaquin River until Dec. 11 in order to allow voluntary agreement talks to yield results.”).]. After this further delay to encourage VA development, the State Water Board finally adopted Phase I amendments to the Bay-Delta Plan in December 2018. The 2018 Plan included new and increased flow, salinity, and other water quality requirements to protect fish and wildlife beneficial uses for the Lower San Joaquin River and three tributaries, including a new requirement to “[m]aintain 40% of unimpaired flow, with an allowed adaptive range between 30% – 50%, inclusive, from each of the Stanislaus, Tuolumne, and Merced Rivers from February through June” while retaining adequate water in storage to protect other necessary flows in the fall [Footnote 76: 2018 Bay-Delta Plan, supra note 2, at 5, 15–16; see also 2018 Resolution, supra note 68.]. The Plan allows for adaptively managing the required percentage of unimpaired flow as a total volume—or block—of water, whether via a VA or without one [Footnote 77: See 2018 Bay-Delta Plan, supra note 2, at 25–27, 32; Summary of Proposed Updates to the Bay-Delta Water Quality Control Plan, supra note 69, at 3–5; see also Sarah M. Yarnell, Geoffrey E. Petts, John C. Schmidt, Alison A. Whipple, Erin E. Beller, Clifford N. Dahm, Peter Goodwin, and Joshua Viers, “Functional Flows in Modified Riverscapes: Hydrographs, Habitats and Opportunities,” 65(10) BioScience 963, at 966 (2015), available at URL: https://doi.org/10.1093/biosci/biv102 (describing how “functional flows” can be crafted to mimic the hydrograph at appropriate times and places to gain greater efficiency and impact).]. In its resolution adopting the updated Plan, the State	

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		Water Board expressed the desire for a completed “watershed-wide” VA proposal “no later than March 1, 2019,” with the intention of voting on the proposal “as early as possible after December 1, 2019.” [Footnote 78: 2018 Resolution, supra note 68, at 7.]. Since then, efforts to implement the 2018 flow amendments have progressed slowly and intermittently. In 2019, the State Water Board released draft reports on initial compliance measures for unimpaired flows [Footnote 79: State Water Resources Control Board, Initial Lower San Joaquin River Flow Compliance Measures (September 2019), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/compliance_measures/initial_compliance_method_document_final.pdf.] and initial biological goals for salmon in the San Joaquin River system [Footnote 80: State Water Resources Control Board, Draft Initial Biological Goals for the Lower San Joaquin River (September 2019), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/biological_goals/draft_biological_goals.pdf.] In mid-2022, the State Water Board invited certain stakeholder representatives to join a Stanislaus, Tuolumne, and Merced Working Group [Footnote 81: Letter from Eileen Sobek, Executive Director, State Water Resources Control Board, re: Opportunity to Participate in the Initial Stanislaus, Tuolumne, and Merced Working Group (June 13, 2022), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/20220613-stm-invitation.pdf.]; released a revised draft initial biological goals report [Footnote 82: State Water Resources Control Board, Second Revised Notice of Availability of Revised Draft Initial Biological Goals for Lower San Joaquin River Flow Objectives for Public Review and Comment and Notice of Workshop to Receive Recommendations from Stanislaus, Tuolumne, and Merced (Stm) Working Group and Public Comment (July 22, 2022), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/biological_goals/20220722-biogoals-noa-secondrevised.pdf.]; and held a scoping meeting for potential implementing regulations [Footnote 83: See State Water Resources Control Board, Revised Notice of Preparation and California Environmental Quality Act Scoping Meeting for a	

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		Proposed Regulation to Implement Lower San Joaquin River Flows and Southern Delta Salinity Objectives in the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta (Aug. 8, 2022), available at URL: https://www.waterboards.ca.gov/public_notices/notices/revise_d_notice_ceqa_baydelta_nop.pdf]. A proposed VA for the Tuolumne River was submitted to the Board in November 2022 [Footnote 84: The proposed VA was submitted as a revision / addition to the Phase II-focused March 2022 MOU and Term Sheet package. See MOU and Term Sheet, supra note 48, at page 31–36 of pdf.]. The Board held a separate scoping meeting for possible amendment of the Bay-Delta Plan to incorporate the Tuolumne River VA in May 2023 [Footnote 85: State Water Resources Control Board, Notice of Preparation of Environmental Documentation and Scoping Meeting: Possible Amendment of the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary to Incorporate Tuolumne River Voluntary Agreement (Aug. 8, 2022), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/notice-noptuolumneva-041123.pdf]. Finally, in September 2023, the State Water Board approved the final initial biological goals for the lower San Joaquin River, which will inform Bay-Delta Plan implementation and future Plan updates [Footnote 86: State Water Resources Control Board, Final Initial Biological Goals for the Lower San Joaquin River (September 2023), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/2023-09-06-finalinitial-biological-goals-reso.pdf].	
217	14	Phase II: Sacramento River and Delta The State Water Board's Phase II efforts have focused on developing new Bay-Delta Plan requirements for the Sacramento River and Delta, including requirements for Delta outflows; inflows for the Sacramento River; its tributaries, and three eastside tributaries to the Delta; cold water habitat; and interior	Please see the response to comment 217-1.

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		Delta flows [Footnote 87: See Phase II Updates Webpage, supra note 6.]. The Board initiated Phase II updates in early 2012 [Footnote 88: See 2012 Scoping Notice, supra note 47, at 2–4.] and held a series of informational workshops that fall [Footnote 89: See ICF International, Comprehensive (Phase 2) Review and Update to the Bay-Delta Plan: Final Bay- Delta Plan Workshops Summary Report at 1 (June 2013), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/docs/bdwrkshprpt070813.pdf]. In 2014, the Delta Stewardship Council’s Delta Science Program conducted two workshops, at the State Water Board’s request, “to help resolve . . . key scientific uncertainties and disagreements” relevant to Bay-Delta Plan updates [Footnote 90: See Letter from Peter Goodwin, Lead Scientist, Delta Science Program, Delta Stewardship Council, to Les Grober, Assistant Deputy Director Division of Water Rights, State Water Resources Control Board, re: Workshop on Delta Outflows and Related Stressors– Panel Summary Report (May 15, 2014), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/delta_outflows_summary_report.pdf; Letter from Peter Goodwin, Lead Scientist, Delta Science Program, Delta Stewardship Council, to Les Grober, Assistant Deputy Director Division of Water Rights, State Water Resources Control Board, re: Workshop on Interior Delta Flows and Related Stressors –Panel Summary Report (August 6, 2014), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/delta_science_report2014july.pdf]. These workshops helped inform a 2016 draft scientific basis report, which the Board revised and finalized in October 2017. As with the Phase I update’s peer-reviewed scientific basis report, leaving more instream flow at critical times of year was deemed necessary for water quality and ecosystem purposes [Footnote 91: See Phase II Scientific Basis Report, supra note 8; see also State Water Resources Control Board, Fact Sheet: Phase II Update of the Bay-Delta Plan: Inflows to the Sacramento River and Delta and Tributaries, Delta Outflows, Cold Water Habitat and Interior Delta Flows (October 4, 2017), available at URL:	

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		https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/201710_phaseII_factsheet.pdf]. In mid-2018, Board staff released a “Framework” for Phase II updates [Footnote 92: Phase II Framework Report, supra note 8.]. The Framework provided background information, a summary of proposed Phase II changes to Bay-Delta Plan water quality requirements, an overview of public comments, and an outline of next steps. Among other potential changes, it proposed: (a) new narrative requirements for flow and cold-water habitat; (b) numeric inflow objectives based on a range of 45–65% of unimpaired flow, with a starting point of 55%, while maintaining adequate cold water in storage for other times of year; [Footnote 93: See id. at 2, 24–28.] and (c) new narrative and numeric Delta outflow objectives based on inflow to the Delta and the existing biological opinions and incidental take permits (and potential future changes to them). The proposed implementation options included both a “default path” and a “voluntary path” that would allow flows lower in the percentage range under a VA if those flows would achieve applicable narrative objectives and “the same level of resource protection” as 55% of unimpaired flow through a combination of flow and non-flow measures [Footnote 94: See id. at 2–3, 15, 21.]. As with the Phase I plan amendments, that volume of water could be used and adaptively managed as a block of water if a group of water users, agency experts, and stakeholders came together to do so, and this option would be available even without an overall VA [Footnote 95: See id. at 25–26.]. From mid-2018 to early 2023, Phase II updates were largely paused while efforts to develop VAs proceeded. The 2018 Framework document suggests that Board staff did not anticipate this lull. Instead, the document described the State Water Board as “in the process of preparing proposed [Phase II] changes to the Bay-Delta Plan” and “a supporting draft Staff Report,” flagging that both would be released for public comment “later this year.” [Footnote 96: Id. at 1, 35.] However, there was subsequently little public activity related to Phase II updates for almost 5 years [Footnote 97: The State Water Board completed a substantial 2019 update to the Sacramento Water Allocation Model (known as SacWAM). See Phase II Updates	

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		Webpage, supra note 6.]. The State Water Board restarted its public-facing Phase II efforts after a group of diverters and state agencies proposed VAs for the Sacramento River and Delta in late 2022 [Footnote 98: See MOU and Term Sheet, supra note 48.]. In January 2023, Board staff released a draft scientific basis report supplement (developed in collaboration with staff from the Department of Water Resources and Department of Fish and Wildlife) assessing the proposed Vas [Footnote 99: State Water Resources Control Board, California Department of Water Resources, California Department of Fish and Wildlife, Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements for the Sacramento River, Delta, and Tributaries Update to the San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan (January 2023) [hereinafter Draft Supplement Report], available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/202301-bd-draftsbrsupp.pdf]. The Board also alerted the public about a workshop and opportunity to comment on the new document [Footnote 100: State Water Resources Control Board, Notice of Opportunity for Public Comment and Board Workshop on Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements for the Sacramento River, Delta, and Tributaries Update to the San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan (January 5, 2023), available at URL:https://www.waterboards.ca.gov/public_notices/comments/docs/2023/notice_va_sbr.pdf. A final Draft Supplement Report includes revisions based on public comment and is currently undergoing peer review. See State Water Resources Control Board, California Department of Water Resources, and California Department of Fish and Wildlife, Final Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements for the Sacramento River, Delta, and Tributaries Update to the San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan at ES-1(September 2023), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staffreport/app-g2.pdf]. The supplement presented the results of quantitative modeling and	

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		qualitative analysis to “document the science supporting the anticipated benefits of the proposed Vas in support of their consideration” as part of Phase II Plan updates [Footnote 101: Draft Supplement Report, supra note 99, at ES-1.]. It is currently being peer reviewed after revision based on public comments [Footnote 102: See “Bay Delta Plan Update: a deep dive into the staff report for the Sacramento Delta update: How do the Voluntary Agreements stack up?,” Maven’s Notebook (November 14, 2023), URL: https://mavensnotebook.com/2023/11/14/bay-delta-plan-a-deep-dive-into-the-staff-report-for-the-for-the-sacramento-deltaupdate-how-do-the-voluntary-agreements-stack-up/]. In spring 2023, the State Water Board held two “Environmental Justice Focused Listening Sessions” and a “Tribal Listening Session” to inform Bay-Delta Plan updates and implementation [Footnote 103: See “Bay-Delta Watershed,” State Water Resources Control Board, https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/ (website, last visited December 21, 2023)]. In September 2023, the Board released a “Draft Staff Report / Substitute Environmental Document” [Footnote 104: Draft Staff Report, supra note 50.] to evaluate potential Phase II Bay-Delta Plan updates. The Draft Staff Report evaluates the potential environmental and economic impacts of alternatives for Phase II updates. Board staff held two workshops to provide an overview of the Draft Staff Report and discuss the modeling contained within it during October and November 2023 [Footnote 105: State Water Resources Control Board, Revised Notice of Availability and Opportunity for Public Comment, Hearing, and Staff Workshops on Draft Staff Report in Support of Potential Sacramento/Delta Updates to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (November 14, 2023), available at URL: https://www.waterboards.ca.gov/board_info/calendar/docs/2023/revisednotice_sacdeltastffrpt_111423.pdf]. Over three days in November and December 2023, the Board then held a hearing to receive oral public feedback on the Draft Staff Report [Footnote 106: Id.]. As of late 2023, Board staff anticipated releasing specific draft language for Phase II Plan amendments in early to mid 2024, with the Board considering adoption sometime in late 2024 [Footnote 107: See State Water Resources	

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		Control Board, Presentation: Public Hearing: Sacramento/Delta Update to the Bay-Delta Water Quality Control Plan (Bay-Delta Plan) at slide 24 (November 17, 2003), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/2023117_hearing_staff_presentation.pdf].	
217	15	THE PROPOSED VAs In March 2022, a group of water diverters and state agencies signed on to an MOU to support a term sheet outlining a proposed framework for potential VAs [Footnote 108: See MOU and Term Sheet, supra note 48.]. Most aspects of the term sheet relate to waterways targeted for Phase II updates [Footnote 109: The Board is considering the included Tuolumne River proposal separately. See, e.g., State Water Resources Control Board, Frequently Asked Questions: Draft Staff Report in Support of the Sacramento/Delta Update to the Bay-Delta Water Quality Control Plan at 6 (September 28, 2023), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-rpt-faq.pdf.] Instead of amending the Bay-Delta Plan to add new numeric water quality objectives for flow, the documents ask the State Water Board to add only a new narrative objective regarding native fish population viability [Footnote 110: See Term Sheet, supra note 48, at 1–3.]. The documents also propose to allow the signatories to implement this objective, and an existing narrative salmon objective, by voluntarily providing certain flows above a 2019 “baseline” [Footnote 111: Id. At 5.] and carrying out habitat restoration measures that are “additive to physical conditions and regulatory requirements existing as of December 2018.” [Footnote 112: See MOU, supra note 48, at 3–4 and Appendices 1 and 2; Term Sheet, supra note 48, at 5.]. They propose adaptive management, guided by a Science Program, strategic planning, a Systemwide Governance Committee, and an initial 8-year term [Footnote 113: See Term Sheet, supra note 48, at 7–8, 13–16.]. The VAs as currently proposed would restore significantly less flow than the State Water Board’s flow criteria and scientific basis reports indicate is necessary.	Please see the response to comment 217-1.

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		The term sheet assumes that the Board would include an “additional pathway” in the implementation plan for the two narrative objectives for non-parties to the Vas [Footnote 114: Term Sheet, supra note 48, at 2–3.]. Additional diverters signed on to the MOU through November 2022, adding revisions to the term sheet that represented additional “contributions of flow, habitat, and/or funding.” [Footnote 115: MOU, supra note 48, at 5.]. The final signatories added Phase I related term sheet amendments that addressed the Tuolumne River [Footnote 116: See MOU and Term Sheet, supra note 48.]. Signatories from environmental groups, tribes, or other key parties (such as in-Delta water users) are conspicuously absent [Footnote 117: This is in contrast to other heralded accords such as the Bay-Delta Accord or the Yuba Accord. See, e.g., sources cited supra notes 17, 20, 45, and 46 and accompanying text.]. Some were included in early negotiations, [Footnote 118: See, e.g., Trout Unlimited, The Nature Conservancy, The Bay Institute, Environmental Defense Fund, Defenders of Wildlife, and American Rivers, Memorandum to Jared Blumenfeld, Secretary, California Environmental Protection Agency, and Wade Crowfoot, Secretary, California Natural Resources Agency, re: Submission of Project Description/Planning Agreement for Voluntary Agreements (March 5, 2019), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/bay_delta/troutunlimitedetal_ltr03052019.pdf.] but by the later stages, many of those who were invited had left or felt marginalized in what they perceived as an unfair process, and still others were not included [Footnote 119: See, e.g. “Voluntary Agreements FAQ: Who Drafted the Agreements?” California Natural Resources Agency, URL: https://resources.ca.gov/Initiatives/Voluntary-Agreements-Page/VA-FAQ (website, last visited December 21, 2023) (“Representatives of environmental and fishing groups have been invited to participate in this process and previously provided critical input to the governance component of the plan. Several representatives participated in the first several years of negotiations and interested parties have been invited to participate in the shared governance and coordinated	

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		implementation.”); Cover Letter for Voluntary Agreement Submittal by the Department of Water Resources and Department of Fish and Wildlife (Mar. 1, 2019), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/bay_delta/va_cover_ltr.pdf (signed by representatives of more than 40 “interested parties,” including multiple environmental nonprofit organizations); Environmental Law Clinic at Stanford Law School on Behalf of Winnemem Wintu Tribe, Shingle Springs Band of Miwok Indians, Save California Salmon, Little Manila Rising, and Restore the Delta, Petition for Rulemaking to Review and Revise Bay-Delta Water Quality Standards Before the California State Water Resources Control Board at 36–39 (March 14, 2022), available at URL: https://www.restorethedelta.org/wp-content/uploads/2022-05-24-Petition-for-Rulemaking-FINAL.pdf (describing “Tribes, community and environmental organizations, and Delta residents in communities most directly impacted by the ecological crises” as “wholly shut out of the conversation” and stating that “[c]onfidentiality agreements further shield the negotiations from public input and shroud them in secrecy”); see also Ian James, “California says \$2.6-billion pact can protect delta amid drought. Critics disagree,” LA Times (April 1, 2022), available at URL: https://www.latimes.com/california/story/2022-04-01/a-2-6-billiondrought-deal-is-drawing-fire-in-california (reporting that, “[i]mmmediately after the plan’s announcement on Tuesday, environmental advocates and salmon conservationists condemned it as a set of backroom deals negotiated out of the public eye that wouldn’t provide nearly enough water for threatened fish or the overall health of the watershed”); Doug Obegi, “Who (and What) Are Excluded from Backroom Bay-Delta ‘Deal,’” NRDC (April 4, 2022), URL: https://www.nrdc.org/experts/doug-obegi/about-deal-bay-delta. The State Water Board is now considering the proposed Vas as one of several possible pathways “for updating and implementing” the Bay-Delta Plan [Footnote 120: Draft Staff Report, supra note 50, at 1-3.].	

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217	16	STATE WATER BOARD ANALYSIS OF THE PROPOSED VAs In 2023, to aid the Board’s consideration, Board Staff released two reports that analyzed the potential impacts of the proposed VAs on flow, salmonid habitat, and salmonid populations. The first, the VA-focused supplement to the 2017 draft scientific basis report, concluded that, “[q]ualitatively, the synergy of flow and non-flow habitat restoration assets proposed in the VAs is expected to improve conditions for salmonids and estuarine species toward achieving the proposed new narrative viable native fish population objective and existing salmon protection objective.” [Footnote 121: Draft Supplement Report, supra note 99, at 7-2.] The report analyzed expected improvements relative to a pre-2019 baseline [Footnote 122: See id. at 1-4.] The supplement emphasized that “the actual outcomes of the VAs are not certain at this time,” due to “uncertainty arising from assumptions and simplifications,” including uncertainty surrounding what specific management actions would actually be taken and what the impacts of those actions would be. Subsequently, the Draft Staff Report in support of potential Phase II Bay-Delta Plan updates evaluated the environmental and economic impacts of, and potential mitigation measures for, several alternatives for updating and implementing the Plan, including the proposed VAs [Footnote 123: See Draft Staff Report, supra note 50, at 1-17 to 1-18.]. These alternatives include both a number of “stand-alone” options—the proposed VAs, several different variations on the flow scenarios in the 2018 Framework, and a no-action option—and three “modular alternatives.” Impacts were analyzed relative to an updated baseline, which was intended to represent the recent operations of the state and federal water projects [Footnote 124: See id., at 1-16, 6-5.]. Notably, the report does not directly compare the VA and non-VA alternatives. Instead, it evaluates the proposed VAs in a separate chapter. The report explains this choice as a product of the late addition of the proposed VAs alternative in the more than ten-year process of developing the Draft Staff Report [Footnote 125: See id., at 1-5.].	Please see the response to comment 217-1.

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		Detailed analysis of these reports—or the proposed VAs themselves—is beyond the scope of this policy paper. However, the final versions of the reports will inform the State Water Board’s future decisions about how to adequately protect Bay-Delta ecosystems and in-Delta water users. We hope that Board staff, the Board itself, Bay-Delta stakeholders, and the general public consider the principles and recommendations we discuss here when assessing the analysis and conclusions in these reports, the adequacy of the proposed VAs, and the State Water Board’s response.	
217	17	ISSUES WITH THE PROPOSED VAs AND THE VA PROCESS Unclear role in Bay-Delta Plan updates and implementation Crucially, the relationship between the proposed VAs and the State Water Board’s obligation to adopt an adequate water quality control plan for the Bay-Delta watershed—including both water quality objectives that will ensure reasonable protection of fish and wildlife uses and a separate program of implementation for them—is unclear. The proposed VAs are expressly premised on scrapping the idea of establishing numeric flow objectives as part of Phase II Bay-Delta Plan updates in favor of purely narrative objectives. Under the scenario VA proponents have put forward, all numeric flow requirements would be relegated to specific pathways in the program of implementation for the proposed narrative objectives. The flow and non-flow measures volunteered by parties to VAs would form one implementation pathway, and any other numeric flow requirements would be included in an “additional” implementation pathway applicable only to entities not covered by a VA [Footnote 126: See Term Sheet, supra note 48, at 3.]. Recently, the State Water Board’s characterization of the potential role of VAs in Bay-Delta Plan development and implementation appears to have shifted. The 2023 draft scientific basis report supplement—which Board	Please see the response to comment 217-1.

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		staff developed in collaboration with staff from two state agency signatories to the MOU—describes the MOU and term sheet as proposing “an alternative pathway to update and implement the Bay-Delta Plan” to “achieve reasonable protection of fish and wildlife beneficial uses.” [Footnote 127: See Draft Supplement Report, supra note 99, at ES-1, 1-1 to 1-2.] The 2023 Draft Staff Report specifically states that the regulatory pathway outlined in the proposed Voluntary Agreements is largely consistent with the proposed Plan amendments except that instead of being included in the water quality objectives, the inflow, inflow-based Delta outflow, and cold water habitat provisions of the proposed Plan amendments would be included in the program of implementation and could become applicable in the future if the Vas are not continued [Footnote 128: Draft Staff Report, supra note 50, at 1-3 to 1-4.]. By contrast, in prior years, the State Water Board characterized Vas as means of establishing alternative implementation pathways—not creating complete substitutes—for new flow-based water quality objectives. The 2018 Bay-Delta Plan (which incorporated Phase I amendments) explicitly requires VA signatories to maintain at least the lower end of the unimpaired flow range established as part of new numeric water quality objectives, stating that if Vas “include non-flow actions recommended in this Plan or by DFW, the non-flow measures may support a change in the required percent of unimpaired flow, within the range prescribed by the flow objectives, or other adaptive adjustments otherwise allowed in this program of implementation.” [Footnote 129: See 2018 Bay-Delta Plan, supra note 2, at 32.]. The 2018 Framework for Phase II updates characterized the role of Vas in a similar way [Footnote 130: See Phase II Framework Report, supra note 8, at 2 (“The proposed program of implementation would allow voluntary agreements with nonflow measures to be lower in the range – so long as the measures provide the same level of resource protection as 55%, and that the agreement is still within the range of 45-65%”).]. The reasons for this dramatic shift are not clear, nor are the implications of relegating numeric flow requirements to the program of implementation for meeting narrative objectives. The	

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		State Water Board needs to thoroughly examine and illuminate both before it considers adopting the proposed Vas' model.	
217	18	Wrong baseline for assessment The proposed VAs rely on a different baseline than the State Water Board has used to date for analyzing Bay-Delta Plan updates. The MOU and term sheet describe the VAs' potential benefits relative to the 2019 regulatory landscape. That baseline includes Revised Water Right Decision 1641 (issued in 1999 and revised in 2000) and the flows required by a pair of 2019 Biological Opinions [Footnote 131: National Marine Fisheries Service, Biological Opinion on Long-term Operation of the Central Valley Project and the State Water Project (October 21, 2019), available at URL: https://repository.library.noaa.gov/view/noaa/22046; U.S. Fish and Wildlife Service, Biological Opinion for the Reinitiation of Consultation on the Coordinated Operations of the Central Valley Project and the State Water Project (October 21, 2019).] issued by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. Those opinions address the impacts of State Water Project and Central Valley Project operations on delta smelt, certain salmonids, and other listed species [Footnote 132: The Term Sheet states that "[t]he VA flows...will be additive to the Delta outflows required by Revised Water Rights Decision 1641...and resulting from the 2019 Biological Opinions...." Term Sheet, supra note 48, at 5.]. Notably, the state has challenged the 2019 biological opinions, arguing that they are insufficiently protective and legally deficient [Footnote 133: See Pacific Coast Federation of Fishermen's Associations v. Raimondo, No. 120CV00426JLTEPG, 2023 WL 2228173, at *1, 1 n. 1 (E.D. Cal. Feb. 24, 2023); see also Ryan Sabalow, Dale Kasler, Jimmy Tobias, and Emily Holden, "Trump's California water plan troubled federal biologists. They were sidelined," The Guardian (February 13, 2021), available at URL: https://www.theguardian.com/environment/2021/feb/13/california-water-trump-administration-endangeredspecies.]. Instead, the State Water Board has analyzed the potential impacts of the proposed VA actions against somewhat more protective baselines. The January 2023 draft scientific basis	Please see the response to comment 217-1.

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		report supplement used a pre-2019 baseline that includes Revised Decision 1641 and the flows required under the prior (2008 and 2009) biological opinions [Footnote 134: See Draft Supplement Report, supra note 99, at 1-4. The pre-2019 baseline enables more direct comparison with the state’s analysis of the expected impacts of potential “changes to the Bay-Delta Plan to protect native fish and wildlife in the Sacramento River, Delta, and associated tributaries” in the 2017 Phase II Scientific Basis Report. Id.; see also Phase II Scientific Basis Report, supra note 8.]. The September 2023 Draft Staff Report analyzed impacts relative to a baseline based on aspects of recent state and federal water project operation that Board staff considered likely to continue absent Bay-Delta Plan updates [Footnote 135: Draft Staff Report, supra note 50, at 6-5.]. While assessing the potential impacts of potential alternatives relative to a status quo baseline can be helpful, that comparison alone is insufficient, in practice, to give a reasonable person a sense of the competing issues at play. The reason the State Water Board has been pursuing updates to Bay-Delta water quality requirements is that it—and the US EPA—have repeatedly determined the status quo is unacceptable and “insufficient to protect fish and wildlife,” [Footnote 136: Phase II Scientific Basis Report, supra note 8, at 1-2 to 1-5 (explaining that “[t]he best available science . . . Indicates that these [existing] requirements are insufficient to protect fish and wildlife” and “address only portions of the watershed”); see also generally 1994 Proposed Rule, supra note 21; Water Quality Standards for Surface Waters of the Sacramento and San Joaquin Rivers, and San Francisco Bay and Delta, California; Final Rule, 60 Fed. Reg. 4663–4709, available at URL: https://www.govinfo.gov/content/pkg/FR-1995-01-24/html/95-817.htm.] as has the state legislature [Footnote 137: See, e.g., Cal. Water Code § 85086 (introduced by the Delta Reform Act of 2009, and requiring the State Water Board to “develop new flow criteria for the Delta ecosystem necessary to protect public trust resources...within nine months”).]. A conclusion that an alternative would result in improvements over the status quo is not a conclusion that those improvements would provide adequate protection for Bay-Delta ecosystems. Therefore, a more appropriate baseline for assessing VA adequacy is the comparison between likely VA outcomes and	

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		the outcomes expected from the default implementation pathways for the 2018 Phase I amendments and proposed Phase II amendments, which are more likely to adequately protect Bay-Delta ecosystems (based on the findings 2010 flow criteria report and the Phase I and II scientific basis reports [Footnote 138: See note 8, supra.]).	
217	19	Insufficient detail to constitute an actionable alternative After more than six years of concerted effort, negotiators have come up with a proposed framework for VAs that is promising but not fully developed, leaving significant unanswered questions. Important aspects of the proposed VAs either lack sufficient detail to enable informed assessment or are difficult to interpret. In addition, the MOU and term sheet are not an actionable agreement to implement Bay-Delta water quality requirements. Rather, they essentially represent an agreement to develop a more detailed agreement if the State Water Board decides to adopt the approach they propose. And yet, the Board is being asked to consider this “agreement to agree” as an alternative to overdue regulatory action. For example: They identify general roles for a governance program and provide that “VA Parties will formally establish...entities to govern implementation of the VAs unless a comparable governance entity already exists.” [Footnote 139: See Term sheet, supra note 48, at 13–14.]	Please see the response to comment 217-1.
217	20	After more than six years of concerted effort, negotiators have come up with a proposed framework for VAs that is promising but not fully developed, leaving significant unanswered questions. Important aspects of the proposed VAs either lack sufficient detail to enable informed assessment or are difficult to interpret. In addition, the MOU and term sheet are not an actionable agreement to implement Bay-Delta water quality requirements. Rather, they essentially represent an agreement to develop a more detailed agreement if the State Water Board decides to adopt the approach they propose. And yet, the Board is being asked to consider this “agreement to agree” as an alternative to overdue regulatory action. For example:	Please see the response to comment 217-1.

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		They task the signatories with developing multi-year strategic plans that require State Water Board approval but include few details about what the plans should contain or the basis for assessing plan adequacy [Footnote 140: See id.].	
217	21	After more than six years of concerted effort, negotiators have come up with a proposed framework for VAs that is promising but not fully developed, leaving significant unanswered questions. Important aspects of the proposed VAs either lack sufficient detail to enable informed assessment or are difficult to interpret. In addition, the MOU and term sheet are not an actionable agreement to implement Bay-Delta water quality requirements. Rather, they essentially represent an agreement to develop a more detailed agreement if the State Water Board decides to adopt the approach they propose. And yet, the Board is being asked to consider this “agreement to agree” as an alternative to overdue regulatory action. For example: Provisions for adaptive management (see The Conundrum of Adaptive Management) of flow and habitat restoration measures are described only in broad-brush strokes and hinge on a “comprehensive” science program and “strategic plan for implementation” that have not yet been fleshed out. The gaps include to-be-determined metrics, experiments, hypotheses, transparency mechanisms, and monitoring regimes to assess whether VA commitments are being met and achieving intended outcomes [Footnote 141: See id. at 2, 3, 14–16 and Appendix 4.].	Please see the response to comment 217-1.
217	22	After more than six years of concerted effort, negotiators have come up with a proposed framework for VAs that is promising but not fully developed, leaving significant unanswered questions. Important aspects of the proposed VAs either lack sufficient detail to enable informed assessment or are difficult to interpret. In addition, the MOU and term sheet are not an actionable agreement to implement Bay-Delta water quality requirements. Rather, they essentially represent an agreement to develop a more detailed agreement if the State Water Board decides to adopt the approach they propose. And yet, the Board is being asked to consider this “agreement to agree” as an alternative to overdue regulatory action. For example:	Please see the response to comment 217-1.

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		Proposed “new flow contributions” are dependent on multiple contingencies [Footnote 142: See MOU and Term sheet, supra note 48, Appendix 1.] (and do not appear, based on peer-reviewed science, to be sufficiently additive to the current flow regime) [Footnote 143: See generally sources cited supra notes 8 and 21].	
217	23	After more than six years of concerted effort, negotiators have come up with a proposed framework for VAs that is promising but not fully developed, leaving significant unanswered questions. Important aspects of the proposed VAs either lack sufficient detail to enable informed assessment or are difficult to interpret. In addition, the MOU and term sheet are not an actionable agreement to implement Bay-Delta water quality requirements. Rather, they essentially represent an agreement to develop a more detailed agreement if the State Water Board decides to adopt the approach they propose. And yet, the Board is being asked to consider this “agreement to agree” as an alternative to overdue regulatory action. For example: Proposed habitat restoration contributions are described only in terms of total acres of habitat type per subwatershed. The proposed VAs also assume the state will set up a new 8-person “restoration unit” to “track, permit[,] and implement” restoration. Restored habitat is not an interchangeable commodity; overall ecosystem benefits and benefits to specific protected species will vary depending on the location, type, and quality of habitat restored. Therefore, if decisions about restoration actions, and monitoring and analysis of their effects, are not explicitly tied to VA goals, there is greater potential for disconnects between effort and outcomes.	Please see the response to comment 217-1.
217	24	After more than six years of concerted effort, negotiators have come up with a proposed framework for VAs that is promising but not fully developed, leaving significant unanswered questions. Important aspects of the proposed VAs either lack sufficient detail to enable informed assessment or are difficult to interpret. In addition, the MOU and term sheet are not an actionable agreement to implement Bay-Delta water quality requirements. Rather, they essentially represent an agreement to develop a more detailed agreement if the State Water Board decides to adopt the approach they propose. And yet, the Board	Please see the response to Comment 217-1.

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		is being asked to consider this “agreement to agree” as an alternative to overdue regulatory action. For example: Funding details are incomplete. Much of the funding proposed to implement the VAs would come, not from the diverter signatories (who pledged to contribute a total of ~\$650 million), but from vaguely described state or federal sources (~\$3.2 billion) [Footnote 145: See MOU and Term sheet, supra note 48, Appendix 3 tables and additional and alternative commitments on pages 24 and 33 of the PDF].	
217	25	Delay Most concerning is what has not happened in advance of, or at least in parallel with, the Bay-Delta VA process. To date, the state’s understandable interest in encouraging VAs has taken precedence over its responsibility to timely develop and implement Bay-Delta Plan amendments that adequately protect fish and wildlife. More than twelve years into the state’s current emphasis on VAs, and more than fourteen years after initiating Phase I Bay-Delta Plan updates, the State Water Board has not yet implemented the Phase I amendments it adopted five years ago. And more than a decade after initiating Phase II updates, it is finally in the process of developing draft language for Phase II amendments (see Figure 1 [Exhibit 3]). In the meantime, water quality protections required by state and federal law have yet to be adopted, water diversions continue to occur without adequately accounting for environmental water needs, and inadequately protected ecosystems continue to decline. The state’s failure to meet its regulatory obligations puts those ecosystems, and all who depend on them, in peril. One of the oft-cited benefits of Vas is that they can achieve desired outcomes more quickly than regulatory requirements alone. However, the actual pace of VA development in the Bay-Delta watershed—where, as for many other watersheds, pace matters acutely—has not lived up to this promise. When ecosystems are buckling under severe hydrograph modification, climate change, and a barrage of other stressors, delays in establishing and implementing adequate flow requirements risk	Please see the response to comment 217-1.

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		permanent ecosystem harm, including extinction. In effect, however well-intended, the protracted VA negotiations and related State Water Board processes have functioned as long-term waivers of the increased regulatory protections the Board and others have long agreed are necessary.	
217	26	Insufficient oversight and accountability The proposed VAs include minimal milestones for assessing progress and insufficient opportunities for Board oversight and intervention, beyond enforcing the flow and non-flow measures that rely on its Water Code authorities [Footnote: 146 Term sheet, supra note 48, at page 7 (“The State Water Board will have authority to enforce the flow and non-flow measures relying on Water Code authorities, as provided in the Government Code Section 11415.60 Agreements.”)]. According to the term sheet, the VAs would be effective for eight years, with a Board-initiated evaluation process during the sixth year to determine what changes to the VA program of implementation would be needed after year eight [Footnote 147: MOU and Term sheet, supra note 48, at 43–44 of the pdf.]. Although it will take time to see the impacts of habitat restoration, waiting eight years to, in essence, “see if it works,” is a long time to postpone thorough assessment and potential adjustment in a situation in which ecosystems are at risk, and where there is ample scientific basis for increasing flows.	Please see the response to comment 217-1.
217	27	It is also inconsistent with the Clean Water Act’s directive to review water quality control plans and requirements every three years [Footnote 148: See 33 U.S.C. § 1313(c)(1).] and with the state Porter-Cologne Act’s direction to protect beneficial uses through water quality control plans [Footnote 149: See California Water Code §§ 13000, 13140, 13170, 13240–13247; see also State Water Resources Control Board, Porter-Cologne Water Quality Control Act: Water Code Division 7 and Related Sections (As amended, including Statutes 2022), available at URL: https://www.waterboards.ca.gov/laws_regulations/docs/porter_cologne.pdd]. A more robust system of transparent check-in and review procedures, annually or biannually with the ability to course-correct consistent with independent scientific review, would be essential to enabling the implementation of a VA while	Please see the response to comment 217-1.

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		not removing the state's ability to maintain adequate oversight [Footnote 150: See, e.g., Cal. Water Code § 13242; Corrected Water Rights Order 2008-0014, supra note 17, at 4–5, 20–22 (State Water Board Yuba decision).].	
217	28	IMPLICATIONS The issues outlined above are serious and undermine the potential to reach effective and durable agreements that meet regulatory goals for the Bay-Delta watershed. The good news is that these issues could be addressed by improvements in the agreements and completion of the Bay-Delta Plan regulatory proceedings, as well as clarification of, and transparency in, the relationship between the two. The next section outlines five principles that should guide this shift.	Please see the response to comment 217-1.
217	29	[Exhibit 5: Photo captioned Low water conditions at Lake McClure, a reservoir on the Merced River, a tributary of the San Joaquin River, in February 2014]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
217	30	Five Guiding Principles for VAs We offer five principles to guide the appropriate use and evaluation of VAs. While the Bay-Delta case study informed these principles, we expect them to be relevant whenever VAs are being considered as an option for implementing regulatory requirements designed to achieve biological goals. VAs can—and must—meet basic standards. The discussion below explains five simple and interrelated principles that should guide both the process and substance of VAs. Taken together, these principles support our main point: VAs cannot substitute for regulatory requirements. On the contrary, negotiation of successful, durable VAs depends directly on the existence of a strong regulatory foundation to drive agreement and assure implementation. PRINCIPLE 1: THE STATE MUST ESTABLISH A STRONG REGULATORY FOUNDATION FOR VAs. For VAs to be viable, the State Water Board needs to set the stage with strong regulation, either in advance of or in parallel with VA	Please see the response to comment 217-1.

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		development. There are four main reasons why. First, this isn't a matter of legal discretion. In the context of water quality control plans, the State Water Board has a clear legal obligation to develop and implement water quality requirements sufficient to reasonably protect beneficial uses of water for a waterway, specifically including fish and wildlife uses [Footnote 151: See United States v. State Water Resources Control Board (Racanelli), 182 Cal. App. 3d 82, at 98, 119–120 (1986) (“Once the Board establishes water quality objectives which ensure reasonable protection of beneficial uses (§ 13241), the Board has the added responsibility to complete the water quality control plan by preparing an implementation program to achieve the water quality objectives.”). The Racanelli decision held that the 1978 Bay-Delta Plan (and the water right amendments the State Water Board simultaneously adopted through Water Rights Decision 1485 to implement it) focused too narrowly on protecting Delta water users’ water rights only from the effects of construction and operation of the State Water Project and federal Central Valley Project and therefore failed to reasonably protect water uses in the Delta. Id. At 115–116, 119–120 (By “combining the water quality and water rights functions in a single proceeding . . . , the Board compromised its important water quality role by defining its scope too narrowly in terms of [what it could accomplish by applying requirements to a particular set of] enforceable water rights. In fact, however, the Board’s water quality obligations are not so limited.”).]. Vas cannot obviate this requirement. Additionally, California case law makes clear that Vas cannot simply “implement alternate flow objectives . . . In lieu of the flow objectives actually provided for in the . . . [p]lan” or delay implementing objectives in a way that effectively amends the plan without following applicable procedural requirements [Footnote 152: State Water Resources Control Board Cases, 136 Cal. App. 4th 674, at 726–35 (2006)].]. That does not mean Vas lack a potential role. One example of a way Vas could be used comes from past practice: in its Phase I Bay-Delta Plan amendments, the State Water Board attempted to lay the groundwork for potential Vas by allowing for Vas to be incorporated through subsequent Plan amendments, which would satisfy state environmental review requirements.	

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		Alternatively, the state could incorporate elements of an early VA into later water quality standards—if those elements meet the requirements of governing law. In either situation, however, an existing regulatory foundation must provide context for Vas. Vas can complement, but cannot fully substitute for, that foundation. REGULATION VS. VAS: A FALSE DICHOTOMY Regulatory requirements can provide a firm foundation for creative, win-win solutions. They can be written to explicitly allow implementation by alternative means though Vas that meet specific criteria. In this way, Vas can be encouraged while simultaneously developing a strong regulatory backstop of default requirements for those not party to a VA—and that will be triggered for VA parties if a VA fails to deliver promised outcomes.	
217	31	Second, regulatory requirements establish the basis for measuring the adequacy of VAs. Water quality requirements in a water quality control plan, and the outcomes they seek to achieve, define the yardsticks needed to determine the appropriateness and assess the performance of any implementation approach. A VA can bind signatories to an alternative means of achieving regulatory goals so long as it will produce equal or better results than the default implementation pathway. Crucially, it does not—and cannot—replace the need for default regulatory requirements that serve as a backstop and provide important context for Vas	Please see the response to comment 217-1.
217	32	Third, the absence of a strong regulatory foundation undercuts water users' incentives to reach agreement. A basic premise of negotiation is the need for all parties to understand their alternative(s) to a negotiated solution [Footnote 153: Roger Fisher, William L. Ury, and Bruce Patton, Getting to Yes: Negotiating Agreement Without Giving In (2011).]. This means being able to answer the question “what happens if negotiation does not produce a mutually acceptable agreement?” and to compare the answer explicitly to any option for agreement. If that default regulatory framework does not exist or is outdated—which may happen if the state has put all its eggs in the VA basket—then the state’s primary alternative to an agreement is maintaining the problematic status quo while	Please see the response to comment 217-1.

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		starting the process of developing direct regulation, which could add even more years' delay to action. The state's alternative to a negotiated solution changes dramatically when there is an updated and robust regulatory framework already in place or developed in parallel [Footnote 154: See id. (describing the importance of a strong Best Alternative to a Negotiated Agreement as a foundational element of negotiation strategy)]. For entities that benefit from the status quo, conversely, the absence of a strong regulatory framework means the alternative to an agreement is continuing to negotiate indefinitely, with the current under-protective regime left in place.	
217	33	Fourth, some entities in a watershed will not be party to a VA. A default implementation pathway for regulatory requirements is needed to ensure that those who are not bound by VAs contribute their fair share to meeting the goals specified by regulation and, theoretically, embodied by VAs.	Please see the response to comment 217-1.
217	34	PRINCIPLE 2: VAs MUST ACHIEVE COMPARABLE ENVIRONMENTAL OUTCOMES TO THE OUTCOMES DEFAULT REGULATORY REQUIREMENTS ARE EXPECTED TO PRODUCE. The whole point of a VA is to produce win-win outcomes. That includes providing better outcomes for water users, perhaps through mechanisms that are lower cost or allow more flexibility in the timing or amount of diversions than the default implementation pathway would. But most crucially, it means providing at least comparable protection for aquatic ecosystems and water quality as the default implementation pathway. Otherwise, the VA would unacceptably reduce legally required protections.	Please see the response to comment 217-1.
217	35	Relatedly, the level of protection that would be provided by the default implementation pathway for particular regulatory requirements cannot be viewed as the state's initial negotiating position, to be bargained downward in the course of negotiations. Instead, it is the state's baseline responsibility to ensure that VAs, too, achieve at least that level of protection. The state's obligations to set and then achieve baseline levels of environmental protection through water quality control planning and implementation come from explicit statutory mandates, not from negotiable aspirations [Footnote 155: See State Water Resources Control Board Cases, 136 Cal. App. 4th	Please see the response to comment 217-1.

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		674, at 690, 726–727 (2006) (concluding that the State Water Board “was not entitled to implement alternate flow objectives agreed to by various interested parties in lieu of the flow objectives actually provided for in the 1995 Bay–Delta Plan” under Cal. Water Code § 13050(j), and that the State Water Board must include “the time schedule for the actions to be taken to achieve objectives in a water quality control plan . . . as part of the plan itself,” as required by Cal. Water Code § 13242).]. Therefore, the outcomes expected from the default implementation pathway for water quality requirements (not the pre-implementation status quo) are the baseline to which outcomes under VAs should be compared. The state should not be—indeed, legally cannot be—talked down to some lesser level of protection than its water quality control plan requires [Footnote 156: See <i>United States v. State Water Resources Control Board</i>, 182 Cal. App. 3d 82 (1986) (describing mandatory elements of water quality control plans and the authority that flows from those plans)]. It can simply offer the opportunity to present alternative pathways to achieve that baseline level of protection. This principle comes with an important caveat: sometimes comparative baselines are uncertain because governing law does not determine exactly what the default outcome should be. That lack of determinacy may arise because the law itself is uncertain or because regulators have some discretion in applying that law to uncertain and contested sets of facts [Footnote 157: See generally <i>Owen</i>, supra note 10 (describing sources of negotiation space in environmental law implementation)]. As a practical matter, it also may arise because an implementing agency is unsure of its ability to achieve what governing law seems to require [Footnote 158: See generally <i>Farber</i>, supra note 16 (describing the frequency of “slippage” between legal requirements and actual outcomes)]. In the former circumstance—and, perhaps, the latter—choosing a baseline for comparison necessarily will require difficult judgment calls. But the fact that some indeterminacy exists is not a reason for using, as a comparative baseline, a set of protections that is widely and correctly seen as insufficient. Instead, indeterminacy provides all the more reason to continue developing the default regulatory approach, since the process will increase clarity about what the	

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		regulation—and any Vas—should achieve, giving all parties a more concrete basis for comparison.	
217	36	PRINCIPLE 3: VAs MUST ARTICULATE CLEAR, SPECIFIC BIOLOGICAL GOALS AND MEASURES OF SUCCESS. To ensure that they achieve equal or better environmental outcomes, VAs need to be structured around clear goals with appropriate performance measures for assessing progress and success. In the Bay-Delta context, these will include specific biological objectives and measurable indicators related to outcomes for native fish populations [Footnote 159: See, e.g., State Water Resources Control Board, Final Initial Biological Goals for the Lower San Joaquin River (September 2023), available at URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/2023-09-06-finalinitial-biological-goals-reso.pdf; see also, e.g., Howard Letter, supra note 9, at 2 (identifying the need for “measurable indicators” for “biological goals and habitat conditions . . . that will be used to evaluate success of the actions in achieving the objective”).]. As the old cliché rightly notes, you can’t manage what you don’t measure. Describing required outcomes in vague and purely qualitative terms—or not defining them at all—does not support effective and accountable action. VAs must clearly identify and distinguish between goals and measures related to specific implementation actions and the overarching goals and outcomes they seek to achieve. In particular, VAs need to be explicit about biological and other environmental outcome goals and measures. Achieving those goals is the state’s legal responsibility, and such achievement must start with understanding and articulating the outcomes to be achieved. For example, meeting acreage requirements for habitat restoration is one useful metric of progress, but in and of itself does not demonstrate that restored habitat is of sufficient quality or that it offers adequate contributions to meeting biological goals for species of concern. By contrast, rising fish populations, increased abundance of native vegetation, and other more specific metrics could more directly indicate positive ecosystem outcomes [Footnote 160: While the current MOU and	Please see the response to comment 217-1.

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		Term Sheet appear to include both types of goals, they skew towards implementation action goals and often lack specificity. For example, the current Term Sheet proposes that the State Water Board adopt a new “Narrative Viability Objective” for native fish populations that mentions “population abundance, spatial extent, distribution, structure, genetic and life history diversity, and productivity” as “indicators of viability,” but leaves selection of specific biological performance measures for the future. Term Sheet, supra note 48, at 1–2 and Appendix 4.]. Defining and measuring goals and progress will not always be easy or straightforward but will always be necessary. Any modern, biologically guided regulatory framework will be complex, with a range of moving parts, and it will be implemented in settings where uncontrollable variables, like patterns of drought, will affect outcomes. Some goals may be best expressed in qualitative terms, but these still need performance measures. Different VAs may respond to this complexity in different ways. Nevertheless, any legitimate VA must be as specific as possible about the goals it will achieve and the ways success will be measured.	
217	37	PRINCIPLE 4: VAs AND ACTIONS TAKEN UNDER THEM MUST BE WELL-SUPPORTED BY THE BEST AVAILABLE SCIENTIFIC INFORMATION. For VAs to be viable, the state and other stakeholders need confidence that they are likely to produce promised results. That means, for example, grounding proposed VAs, and assessment of those VAs, in the best available scientific information [Footnote 161: We use the term “scientific information” broadly here. It encompasses not just the products of peer-reviewed scientific studies, but also other information produced through studies and data-gathering by informed experts, as well as VA monitoring results.] about relevant species and ecosystems and their associated water quality needs. It also means grounding implementation of approved VAs, including adaptive management (see The Conundrum of Adaptive Management, at right), in the generation and analysis of decision-relevant scientific information [Footnote 162: See, e.g., Nell Green Nylen, “To Achieve Biodiversity Goals, the New Forest Service Planning	Please see the response to comment 217-1.

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		Rule Needs Effective Mandates for Best Available Science and Adaptive Management,” 38 Ecology Law Quarterly 241, 280 (2011), available at URL: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2003977 (suggesting that “[a] framework for flexible decision making should, at minimum, include mandates for both application of the best available scientific information and an adaptive management scheme that requires changed practices when management activities fail to [meet biological goals]” and that such a “framework would require analysis and synthesis of currently available and feasibly acquirable information to satisfy the first requirement and ongoing monitoring, data collection, and analysis, combined with frequent management reevaluation, to satisfy the second”); see also, e.g., Holly Doremus, “The Purposes, Effects, and Future of the Endangered Species Act’s Best Available Science Mandate,” 34 Environmental Law 397, 437, 443–444 (2004).]. Relevant scientific information, including information regarding uncertainties, is essential because it is the best basis we have for assessing the likely outcomes of Vas. It also is the best basis for assessing whether approved Vas are producing desired outcomes. The high-stakes decisions surrounding Vas—such as what they should include, whether the State Water Board should approve them, and when implementation actions need to be adjusted—will be made in an environment rich with contested information and differing sets of values. The best available scientific information will necessarily change over the course of VA implementation, as participants and others gather and analyze monitoring data and perform studies to inform VA decision making, and as data advancements occur outside the context of the VA. Thus, it is essential for a VA’s goals, actions, and measures of success to be anchored in the best available scientific evidence and for participants to agree that such evidence will inform assessment of success or failure and decisions on course corrections throughout VA implementation [Footnote 163: Parties to Vas—and other interested parties—are more likely to accept the legitimacy of Vas and VA implementation decisions if political / value judgements are clearly distinguished from scientific information and advice. See Doremus, <i>supra</i> note 162, at 448.].	

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		This is a central role of the State Water Board, informed by independent science entities such as the Delta Stewardship Council's Independent Science Board and Delta Science Board and by peer reviews of the Board's own scientific basis reports. A VA could develop and propose an expert, third-party entity to help review the Vas' work plan and results and advise the State Water Board, but primary responsibility for review should remain with the Board.	
217	38	THE CONUNDRUM OF ADAPTIVE MANAGEMENT To be meaningful, adaptive management must be clearly defined, especially for high-stakes decisions. Appropriately used, adaptive management is a structured and iterative approach that recognizes that ecosystems are dynamic—and difficult to predict and control—and that decision-makers must act in an uncertain environment without perfect information [Footnote 164: Giorgos Kallis, Michael Kiparsky, and Richard Norgaard, "Collaborative governance and adaptive management: Lessons from California's CALFED Water Program," 12 Environmental Science & Policy 631, at 636 (2009), available at URL: https://doi.org/10.1016/j.envsci.2009.07.002]. Accordingly, it incorporates continuous monitoring, evaluation, and adjustment of policies and actions [Footnote 165: Id.]; is anchored around clear ecosystem goals and performance measures; and includes triggers for reevaluating and modifying management practices and contingencies to address problems that arise [Footnote 166: See, e.g., Green Nylen, supra note 162, at 274–275.]. Adaptive management is not management by trial and error or a loose notion that parties will reassess their actions and practices in light of new data—in effect deferring decisions about adjustments to undefined future negotiations [Footnote 167: See Kallis et al., supra note 164, at 636; Green Nylen, supra note 162, at 274.]. In the Bay-Delta context, invoking a weakly defined form of adaptive management would create significant uncertainty about future outcomes and what future actions might be required of VA parties and non-parties, particularly compared to a regulatory framework that clearly defines flow responsibilities.	Please see the response to comment 217-1.

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217	39	PRINCIPLE 5: VAs MUST INCLUDE ROBUST AND TRANSPARENT ACCOUNTABILITY MECHANISMS. Consistent with the first four principles, a VA will only be viable with a strong demonstration, based on the best available information, that it will produce environmental outcomes that are comparable to or better than those reasonably expected from the default implementation pathway for regulatory requirements. But these expectations will necessarily involve assumptions, estimation, and uncertainty, and things will not always work out as intended. Therefore, VAs must include provisions for decision-relevant monitoring, assessment, and adjustment. VAs need to be explicit about which parties are responsible for which actions, how progress will be measured, and who is responsible if overall goals aren't achieved. Embedding explicit timelines and benchmarks, along with consequences for missing them, will be important. In the Bay-Delta example, the State Water Board, and VAs themselves, need to clearly define who is responsible for meeting which flow, habitat restoration, funding, monitoring, and other commitments under a VA as well as meeting interim outcome goals; when those commitments and goals must be met; and what will happen if they are not met. This includes explaining mechanisms for enforcement and other repercussions for VA participants who fail to meet individual commitments.	Please see the response to comment 217-1.
217	40	VAs should also address what happens if their overall goals aren't achieved. They should include a framework for addressing problems that may come to light even when all parties are assiduously carrying out their assigned actions. That framework should designate who will be responsible for implementing what contingency measures on what timeframes. Being very explicit about contingency measures (for example, what happens if restoration actions are not taken, or if restoration actions are taken but milestones for improved ecological metrics are not met) will also give a powerful incentive for participants measures will enable quicker adaptation, allowing all parties to anticipate and plan for possible disappointments.	Please see the response to comment 217-1.

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		To help operationalize accountability, VAs need regular public reports, reviews, and assessments and a clear path for the regulator to intervene when necessary. Adaptive management must incorporate the measurable outcomes and timelines described in the principles above—and do so with explicitly articulated actions triggered by success or failure to meet defined objectives. This contrasts with the six- to eight-year time lag for thorough assessment and adjustment under the proposed Bay-Delta VAs. Such measures will help ensure that VAs do not simply result in years of delay based upon hope and assertions. Instead, clear responsibilities, timelines, and benchmarks, transparently reviewed, will enable needed offramps to deployment of additional resources, rapid imposition of the regulatory backstop, or other appropriate contingency actions.	
217	41	[Exhibit 6: Photo captioned Friant Dam on the San Joaquin River, February 2014]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
217	42	Conclusion VAs have the potential to enable win-win solutions for meeting regulatory requirements. They also offer the promise of a more efficient and immediate path towards protecting California's ecosystems. However, there is a huge difference between attempting to develop VAs and ensuring that VAs actually produce intended benefits—or even achieve the minimum outcomes reasonably expected from the default implementation pathway. Embarking on negotiations around VAs is also a fraught process. If the state pursues that process without an existing effective regulatory backstop, or while developing an inadequate regulatory backstop alongside VAs, the process can undermine and delay the state's ability to fulfill critical legal responsibilities. In this policy paper, we have articulated basic principles that should guide the state's present and future efforts to negotiate	Please see the response to comment 217-1.

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		effective Vas, review VA adequacy, and provide effective oversight. The most important of these principles is that Vas can complement but not replace underlying regulation. Public discourse often misleadingly describes a false choice between regulations or Vas. It is more accurate to say that, to enable Vas, there must be regulatory requirements that allow for the possibility of alternative implementation pathways. In the Bay-Delta watershed, this false dichotomy has contributed to years of delay in updating important water quality requirements while potential Vas were negotiated, with negative repercussions for declining ecosystems and continuing uncertainty for various water users, tribes, the fishing industry, and others. There are better ways forward. Vas can seem like an attractive alternative to regulatory business as usual. But they will only work if the parties commit to a viable structure that combines the desired flexibility with appropriate clarity and limits. The principles described in this policy paper give some direction for developing effective Vas. If state negotiators—or state regulators—ignore these principles or give them short shrift, they will fail to uphold their responsibilities to ensure adequate environmental protection and support effective resource management. The good news is that the principles in this policy paper offer a pathway for success.	
217	43	[Exhibit 7: Photo captioned Red Bluff Diversion Dam on the Sacramento River, August 2012]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
218	1	The history of the Trinity River and more specifically the Trinity River Restoration efforts have been a litany of bad decisions and broken promises. The current state of the Trinity River is dismal with salmon and steelhead returns running between 7.7 and 14.9% of pre-project levels. That's after 23 years of restoration. USBR compliance with the temperature requirement in SWRCB Water Rights Order 90-5 (Order 90- 5) for the Trinity River is given below [Exhibit 1]. In addition, compliance with the North Coast Region Basin Plan is also provided. As you can see, compliance with those two compliance documents is I recently	The Bay-Delta Plan is developed for the Bay-Delta watershed and not the Trinity River. The U.S. Bureau of Reclamation (Reclamation) is responsible for independent federal statutory obligations for the Trinity River and should comply with those obligations. In addition, Reclamation is responsible for compliance with Order 90-5. Water quality objectives contained in the North Coast Basin Plan still apply and have not been waived. The State Water Board may consider its record of compliance with state and federal law in the future as part of the annual and periodic review process in determining whether any additional actions are needed to address any redirected impacts

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		received a letter from Eileen Soback, Executive Director of the State Water Resources Control Board in response to my raising the issue of the failure of the United States Bureau of Reclamation to meet the conditions of Order 90-5. The letter was both enlightening and alarming. In particular her comment that the “do no harm” component of Order 90-5 does not apply to diversion of water to the Central Valley Project (CVP). Although the language of Order 90-5 provides very limited ability for SWRCB to influence management of the Trinity River, it is clear the overall concept that the CVP is exempt from the “do no harm” philosophy is evident throughout the approach to Trinity River management. How else can one explain that while an average of 50% of natural flow has been diverted to the Central Valley over the first 22 years TRRP has been in place, in the Critically Dry years of 2014, 2018, 2021 and 2022 when river temperatures are especially critical for the fishery, diversions from the Trinity River to the CVP were 162%, 68%, 172% and 176%, respectively, of the total river flow for that year. To be clearer, in those 4 Critically Dry years, 578% of the entire annual flow of the Trinity River was diverted to the CVP. This led to extremely low storage in Trinity Lake and exceedances of mandated temperatures in the Trinity River during the critical spawning and holding seasons for those years. As is stated in multiple Trinity River Restoration Program Annual Reports, the United States Bureau of Reclamation (USBR) clearly understands the linkage between Trinity Lake storage and Trinity River temperatures. Unsurprisingly in each of those years, the temperature targets of both the North Coast Region Basin Plan and Order 90-5 were exceeded. Trinity Reservoir is clearly being managed as a water bank for irrigators in the CVP and not as a resource for meeting the restoration of anadromous fishes in the Trinity River. In addition, USBR failed to report temperature exceedances in the Trinity River as required by Order 90-5 for 8 of the past 12 years. If a private entity failed to comply with a SWRCB Order by not submitting timely reports, I believe a Notice of Violation would have been the response. Even if only administrative in nature, an NOV to the USBR was warranted. However, it was the decision of SWRCB not to take this action.	on the Trinity River or to ensure that beneficial uses are protected on the Trinity River. Please see Common Response 1.5, Trinity River, for a discussion of state law, including Order 90-5, as comments on compliance with Order 90-5 are outside the scope of the Bay-Delta Plan updates.

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		This is relevant to this proceeding because an average of over 500,000 acre-feet of Trinity River water is diverted to the CVP through the Sacramento River annually. Addressing the diversion from the Trinity River and overall management of the Trinity River Basin must be included in any Delta Management Plan.	
218	2	[Exhibit 1: Table titled Days Temperature Target Exceeded]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
219	1	ACWA represents more than 470 public water agencies that collectively deliver approximately 90 percent of the water in California for domestic, agricultural, and industrial uses. The Bay-Delta Plan update will have significant water supply and cost impacts to many of ACWA's members and California's water users. ACWA and our member agencies have been actively engaged in the State Water Board's amendments to the Bay-Delta Plan, including the Lower San Joaquin River (LSJR) and Southern Delta update, to support a solution that will improve water supply reliability for the 35 million people and nearly 8 million acres of farmland dependent on the Sacramento-San Joaquin Delta (Delta) watershed and its water supply, while improving habitat for native species. ACWA strongly urges the State Water Board to identify the Agreements to Support Healthy Rivers and Landscapes (Agreements) in the final Staff Report and forthcoming program of implementation as the preferred pathway for the Sacramento/Delta update to the Bay-Delta Plan. The Agreements would establish a holistic and integrated approach to improving the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) ecosystem for fish and wildlife by aligning a broad spectrum of habitat, science, and adaptive management tools. Concurrently, it would help secure water supply reliability for other beneficial uses of water, including California's communities, farms, recreation, and hydropower.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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219	2	In contrast, the proposed Plan amendments, Alternative #2, and Alternative #3 (the unimpaired flow alternatives), would require maintenance of unimpaired flows subject to adaptive ranges. These alternatives are constrained by the strictly regulatory pathway available to the State Water Board of focusing primarily on increased flows for fish that fails to capture the impacts of other non-flow stressors to fish populations, could adversely impact some fish populations by making temperature management on the tributaries more challenging, and would have significant water supply impacts to other beneficial uses of water.	Please see Common Response 1.2, Water Quality Control Planning Process, for information on the consideration of beneficial uses. The Staff Report analyzes the alternatives in the manner required by CEQA, as further discussed in Common Response 7.24, Alternatives Analysis.
219	3	Ensure that the benefits of the Agreements and impacts of the unimpaired flow alternatives are accurately characterized. In comment letters to the State Water Board, public water agencies have identified concerns that the draft Staff Report understates the benefits of the Agreements and adverse impacts of the unimpaired flow alternatives. For example, in the final Draft Scientific Basis Report Supplement (Appendix G2), the State Water Board used a monthly timestep for the hydrology and operations modeling that does not accurately capture the sub-monthly benefits (e.g., rearing habitat) of the Agreements. While the draft Staff Report acknowledges that the intent of the analysis was to use a single modeling tool for the full area of the Bay-Delta Plan update, this approach understates the benefits of the Agreements and makes it difficult to objectively evaluate them relative to the unimpaired flow alternatives. These concerns should be carefully vetted to ensure that the benefits and impacts identified in the draft Staff Report are accurate.	The same modeling approach with the same timestep was used to evaluate the benefits of the VAs and the flow scenarios on salmonid tributary habitat availability. Thus, there should be no barriers to objectively comparing the results. Similarly, the same impact analysis methods were used to evaluate the impacts of the VAs and the flow scenarios. Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, and Chapter 7, Environmental Analysis, of the 2023 draft Staff Report contain the benefit and impact analyses, respectively, for the flow scenarios. Chapter 9, Proposed Voluntary Agreements, of the 2023 draft Staff Report contains the benefit and impact analysis for the VAs. Please see Common Response 3.1, Fish Protection, for information on interpreting the results of the salmonid tributary habitat analysis.
219	4	Evaluate the Agreements as originally proposed. The parties developed the Agreements based on the best available science—with direct engagement from the California Environmental Protection Agency, California Natural Resources Agency, California Department of Water Resources, California Department of Fish and Wildlife, and U.S. Bureau of Reclamation—and they reflect input from numerous aquatic ecosystem and species scientists. Through this collaborative process, the parties carefully packaged the Agreements to meet the requirements for the Bay-Delta Plan update. The proposed	The commenter has not described how they believe that the modular alternatives or other changes to the VAs would subvert their efficacy. The State Water Board is not bound by the VA Memorandum of Understanding. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the VA pathway.

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		incorporation of the modular alternatives is inconsistent with this approach and has the potential to undermine the painstaking balance inherent in the Agreements. Altering the Agreements with the modular alternatives, or other changes, would preemptively subvert their efficacy.	
219	5	Protect all beneficial uses of water. The State Water Board is responsible for updating the Bay-Delta Plan in a manner that establishes water quality objectives that ensure the reasonable protection of all beneficial uses of water, including domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources. In doing so, the State Water Board must consider past, present, and probable future beneficial uses; environmental characteristics; water quality conditions; and economic considerations, among other things. Thus, when setting water quality objectives, the State Water Board must consider "all demands being made and to be made on those waters". ACWA is concerned that the State Water Board is singularly focused on flows for fisheries beneficial uses and the proposed adaptive ranges for the unimpaired flow alternatives would not adequately protect other key beneficial uses, as required by the California Constitution. [Footnote 1: California Constitution. Art 10, §2.] For example, as presented in the draft Staff Report and the December 1, 2023, public hearing, the unimpaired flow alternatives would reduce surface water availability, disrupt reliable hydropower energy generation, and increase reliance on energy generated at fossil-fuel facilities. Reduced reservoir storage would decrease hydropower's ability to support the power grid during high-demand periods. During the summer, when annual demand for energy peaks, power loads can exceed system generation capacity and the loss of hydropower generation flexibility during these periods could result in power outages. The energy that hydropower produces is even more impactful due to its role as a backstop and an on-demand resource for California's robust wind and solar portfolio, as hydropower can provide instant energy in the event of a black	Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion on consideration of beneficial uses. In addition, please see Common Response 1.3, Revised Proposed Plan Amendments, regarding water supply adjustments under the regulatory pathway. For a discussion of summer energy effects, see Section 7.8, Energy, and Common Response 7.8, Energy and Hydropower.

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		start (i.e., the process of restoring electrical power to a grid that has experienced a complete blackout).	
219	6	In contrast, the Agreements provide reasonable protection for all beneficial uses of water and would increase Delta inflow and outflow above the requirements of Water Right Decision 1641 and the 2019 Biological Opinions. By protecting reservoir storages and preserving the ability to implement conjunctive use programs, the Agreements are the best and most balanced alternative for protecting municipal, domestic, and industrial supplies; water affordability; sanitation; fire suppression; agriculture; birds and wildlife along the Pacific Flyway; recreation; hydropower generation and grid reliability; affordable housing; disadvantaged communities; and jobs, businesses, and the state's economy.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.2, Water Quality Control Planning Process, on the consideration of beneficial uses.
219	7	Recognize the benefits of non-flow measures, integrated solutions through a collaborative process, and secured funding. Non-Flow Measures: According to the Delta Stewardship Council's March 15, 2017, letter to the State Water Board regarding the LSJR amendment to the Bay-Delta Plan, "[a] successful Bay-Delta Plan amendment should include both flow and non-flow actions. Because the LSJR ecosystem is substantially modified from its pre-20th century state, providing greater unimpaired flows without non-flow, ecosystem restoration actions may be inadequate and inefficient for the recovery of some native species...To the extent implementation of a combination of flow and non-flow measures is only feasible through voluntary negotiated settlements, we strongly support that approach as long as the outcomes are in keeping with the furtherance of the coequal goals." [Footnote 2: Delta Stewardship Council Comment Letter to the State Water Board. March 2017. RE: Recirculated Draft SED in Support of Potential Changes to the Bay-Delta Plan: San Joaquin River Flows and Southern Delta Water Quality. Page 3.] ACWA strongly agrees that an integrated approach with both functional, natural flow and non-flow actions is necessary for native species recovery. ACWA appreciates that the State Water Board's regulatory authority is limited to requiring increased flows for fish and that many non-flow actions are within the	Please see Common Response 1.2, Water Quality Control Planning Process, for information on the State Water Board's authority to require non-flow measures. Please see Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed Plan Amendments, for information on the non-flow measures included in the regulatory pathway. It is unclear how the restoration activities referenced by the commenter would not be possible under the regulatory pathway.

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		jurisdiction or control of other agencies or water users. However, we have significant concerns that the continued overreliance on only one management tool will be ineffectual in generating the desired ecological outcomes. Science indicates that the correlation between species' response and a given amount of flow yields diminishing returns; [Footnote 3: Tamburello, N., et al. 2019. Durability of environment–recruitment relationships in aquatic ecosystems: insights from long-term monitoring in a highly modified estuary and implications for management. <i>Limnology and Oceanography</i> 64(S1):S223-S39.] [Footnote 4: Kimmerer, W.J. 2002. Effects of freshwater flow on abundance of estuarine organisms: physical effects or trophic linkages? <i>Marine Ecology Progress Series</i> 243:39-55.] unpredictable changes to flow-abundance relationships and the inherent uncertainty in species modeling suggests that decision-makers should not rely on flow alone to restore fish populations. [Footnote 5: Kimmerer, W.J. 2002. Physical, biological, and management responses to variable freshwater flow into the San Francisco Estuary. <i>Estuaries</i> 25(6B):1275-90.] [Footnote 6: Thomson, J.R., et al. 2010. Bayesian change point analysis of abundance trends for pelagic fishes in the upper San Francisco Estuary. <i>Ecological Applications</i>. 20(5):1431-1448.] Applying multiple tools, such as flow and habitat availability synergistically, can increase species' resiliency and promote population persistence, even in low flow years. [Footnote 7: Herbold, B., et al. 2018. Managing for Salmon Resilience in California's Variable and Changing Climate. <i>San Francisco Estuary and Watershed Science</i> 16(2).] Floodplains and tidal wetlands provide multiple ecological benefits (i.e., shallower depths, warmer water, longer water residence times, and increased prey abundance) that improve juvenile salmonid growth rates and survival and improve Delta Smelt foraging success. [Footnote 8: Jeffres, C.A., et al. 2020. Detrital food web contributes to aquatic ecosystem productivity and rapid salmon growth in a managed floodplain. <i>PLoS ONE</i> 15(9): e0216019.] [Footnote 9: Hammock, B.G., et al. 2019. Tidal Wetlands Associated with Foraging Success of Delta Smelt. <i>Estuaries and Coasts</i> 42(3):857-867.] The benefits of these habitats can be maximized when used in conjunction with appropriately timed flow actions, activating these habitat types at specific flow	

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		regimes and enhancing connectivity. The Memorandum of Understanding signatories (parties) are working with state agencies, federal entities, and conservation organizations to implement habitat projects aimed at meeting the environmental targets outlined in the Agreements. Since December 2018, the parties have completed 33 restoration projects to accelerate improvements for fish and wildlife and are evaluating over 500,000 acres of historic floodplain habitat for reactivation feasibility. These actions, which would not be possible with the unimpaired flow alternatives, have already aided in the recovery of salmonids. For example, following restoration on the American River, there has been an observed increase in the number of salmon redds in the river, with the habitat restoration sites supporting 30-50% of all natural spawning after accounting for interannual variability. [Footnote 10: Presentation to the State Water Board. December 1, 2023. Agreements to Support Healthy Rivers and Landscapes. Slide 16.] Similarly, the Mokelumne River recently experienced the most successful fall run of Chinook salmon in 80 years, with over 28,000 fish returning to spawn. This success can largely be attributed to the implementation of the Lower Mokelumne River Joint Settlement Agreement, which employs flow management, habitat restoration, collaborative science, and adaptive management-much like the Agreements.	
219	8	Integrated Solutions Through a Collaborative Process: The Agreements represent an unprecedented watershed-wide coordination effort that provides partnering opportunities with diverse parties, including state and federal agencies, public water agencies, tribes, conservation groups, and willing landowners. These collaborative partnerships are responsible for the successful implementation of the restoration actions discussed herein. The Agreements include a robust governance and shared science programs that will facilitate collaboration, streamline the review of data and hypotheses, direct science needs, and inform decision-making to advance and improve fish and wildlife restoration. The science program would rely on the most current scientific information to guide actions, allowing managers to	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		adapt operations based on real-time conditions and enable broad coordination across watersheds to manage flows for maximal benefits. The Agreements would support rapid adaptive management as decision-makers continue to learn about the interactions between the flow and non-flow measures, which is critical as climate change increases uncertainty and drives extreme conditions. This adaptive management would occur through a structured, open, and transparent process through which the State Water Board will maintain oversight and assess progress.	
219	9	Secured Funding: The Agreements offer a commitment of over \$1.4 billion in secured funding from the State and an additional \$680 million from public water agencies to support water purchases, crop idling, and construction of new habitat, including dedicated resources to monitor and ensure performance. Public water agencies will self-assess fees to support implementation of the Agreements, and water users and the State will make flows available through significant water purchases and voluntary reductions in diversions.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
219	10	Ensure the selected alternative for the Sacramento/Delta update to the Bay-Delta Plan aligns with state goals, priorities, and plans. The selected alternative for the Sacramento/Delta update to the Bay-Delta Plan must align with established state policies, including the coequal goals, sustainable groundwater management, surface water storage expansion, housing development, the Water Resilience Portfolio, and "One Delta, One Science". We believe, based on the benefits outlined in Recommendations #3 and #4 above, that the Agreements are most consistent with the goals, priorities, and plans below.	Please see Common Response 1.1, General Comments, regarding consistency with other laws, policies, and agreements.
219	11	Coequal Goals: Since enactment of the Sacramento-San Joaquin Delta Reform Act of 2009, state law declared the following goals for the Delta: Achieving the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resources and agricultural values of the Delta as an evolving place. ACWA is committed to furthering the coequal goals and supports a comprehensive	Please see Common Response 1.1, General Comments, regarding consistency with other laws, policies, and agreements.

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		approach to ecosystem management. As discussed in Comments #3 and #4, ACWA is concerned that the unimpaired flow alternatives would not achieve the coequal goals to the same extent that the Agreements would.	
219	12	Sustainable Groundwater Management: Since the 2014 enactment of the Sustainable Groundwater Management Act (SGMA), the State has made it clear that its goal is to achieve sustainable management of groundwater basins. In July 2020, Governor Newsom released the Water Resilience Portfolio, which proposed that state agencies facilitate water supply diversification by "help[ing] regions secure groundwater supplies" by "[e]xplor[ing] ways to further streamline groundwater recharge and banking efforts". [Footnote 11: California Natural Resources Agency, California Environmental Protection Agency, and California Department of Food and Agriculture. 2020. California Water Resilience Portfolio: Governor's Executive Order N-10-19. Page 19.] In August 2022, Governor Newsom released California's Water Supply Strategy which aims to "improve the flexibility of current water systems to move water throughout the state", [Footnote 12: California For All et al. California's Water Supply Strategy. Page 12.] outlines the State's intention to "help local water agencies...accelerate the pace and scale of groundwater recharge", [Footnote 13: Ibid. Page 6.] and includes a goal to expand average annual groundwater recharge by at least 500,000 acre-feet. However, the draft Staff Report recognizes that reduced surface water availability under the unimpaired flow alternatives would decrease opportunities for groundwater recharge, presenting challenges for meeting the goals of SGMA, the Water Resilience Portfolio, and the Water Supply Strategy. While the draft Staff Report indicates that water agencies could capture local precipitation, storm water, and flood flows to recharge local aquifers, these actions would incur significant costs with no clear source of funding.	The Staff Report recognizes that identifying opportunities for groundwater recharge may be challenging (see Impact GW-b in Section 7.12.2.3, Impact Analysis). The impact conclusions made in the draft Staff Report do not rely on the implementation of other water management actions and the Staff Report recognizes that the availability of replacement supplies may be limited. Chapter 8, Economic Analysis and Other Considerations, provides information on available federal and state funding programs for agricultural water conservation and water efficiency projects (See Section 8.4.5.2, Available Funding Programs). In addition, Common Response 7.12.2, Groundwater and Sustainable Groundwater Management Act, explains how recent executive orders and the Sacramento/Delta Bay Delta Plan update aligns with implementation of the Sustainable Groundwater Management Act (SGMA), including streamlined permitting for flood water capture for groundwater recharge, and discusses funding assistance programs for groundwater recharge projects.
219	13	Expanding Surface Water Storage: As currently written in the draft Staff Report, the modular alternatives are ill-defined and would have significant impacts to water management operations in California. For example, Alternative 6a would reduce water managers ability to capture water-limiting the efficacy of new water storage projects and significantly reducing the flexibility of	The alternatives are adequately described in Section 7.2, Description of Alternatives, of the Staff Report. The CEQA and economic analysis of alternative 6a can be found in Section 9.9, Modular Alternatives for Proposed VAs, of the 2023 draft Staff Report. As explained in that section, the environmental and economic impacts and effects are not evaluated further because

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		water management operations. California's Water Supply Strategy includes a goal to "[e]xpand water storage capacity above...ground" [Footnote 14: Ibid. Page 5.] and directs the State to "[w]ork with local proponents to complete the seven Proposition 1-supported storage projects and consider funding other viable surface storage projects." [Footnote 15: Ibid. Page 8.]	there would not be a change from baseline, but it could constrain future surface water development and limit future economic growth to some extent. Please see Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed Plan Amendments, for information on the provision to protect the VA flow base from new water supply projects.
219	14	Housing Development: The California Department of Housing and Community Development's 2022 Statewide Housing Plan estimates that the State "must plan for more than 2.5 million new homes over the next eight years, and no less than one million of those homes must meet the needs of lower-income households." [Footnote 16: California Department of Housing and Community Development. 2022. 2022 Statewide Housing Plan. Page 23.] This target is a legal obligation that cities and counties must abide by. New housing development will increase water demand throughout the state, and while the draft Staff Report recognizes that alternative supplies could offset reduced surface water availability under the unimpaired flow alternatives, these alternate sources could take time to develop and are often infeasible or cost prohibitive for many communities.	The 2023 draft Staff Report discloses and evaluates impacts to agriculture in Section 7.4, Agriculture and Forest Resources. Section 7.20, Utilities and Service Systems, considers municipal supply, including whether and how communities that rely in whole or in part on Sacramento/Delta supply would be able to meet municipal demand using other water management actions in response to changes in supply. Chapter 8, Economic Analysis and Other Considerations, includes details on population projections, socioeconomic profiles, and municipal water supply costs. Most municipalities have or are developing alternate water supplies to supplement reduced Sacramento/Delta supplies and ensure adequate water for their communities. Changes in water supply include replacement groundwater pumping, as well as use of other water management actions such as groundwater storage and recovery, water transfers, increased use of recycled water, and water conservation. The 2023 Staff Report acknowledges that in some locations, replacement supply may be difficult. Section 7.20.4, Mitigation Measures, of the 2023 draft Staff Report, provides a range of options that various entities can adopt or utilize to mitigate the potential negative effects of the proposed Plan amendments, including conservation and efficiencies. The mitigation measures may not be applicable to every location or for every action within the State Water Board's authority. Some mitigation measures are largely within the jurisdiction and control of other agencies; accordingly, the State Water Board cannot guarantee that measures will always be adopted or applied to fully mitigate all potential impacts. In addition, the program of implementation provides flexibilities that can help minimize water supply impacts. The revised

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			proposed Plan amendments include water supply adjustments for existing water right holders at the outset of plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs. Finally, plan provisions will allow the State Water Board to develop and implement qualified exceptions to curtailments associated with Bay-Delta Plan implementation for human health and safety needs. Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion on the factors to be considered in establishing water quality objectives, including the need for developing housing.
219	15	Water Resilience Portfolio: In the Water Resilience Portfolio, Governor Newsom "direct[s] state agencies...to develop voluntary agreements", recognizes the Agreements as an alternative to the State Water Board staff's unimpaired flows approach to updating the Bay-Delta Plan, and acknowledges that the Agreements hold "the promise to adaptively manage enhanced flows and habitat to improve conditions for fish and wildlife." [Footnote 17: California Natural Resources Agency et al. 2020. California Water Resilience Portfolio. Page 16.]	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
219	16	One Delta, One Science: The Agreements advance the Delta Stewardship Council's vision of "One Delta, One Science", an open Delta science community that works together to build a common body of scientific knowledge. The Agreements include a collaborative and shared science program that will accelerate the discovery of facts; have the capacity to adapt; and inform future water, societal, and environmental decisions across multiple organizations and programs.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
220	1	I remember commenting at a Cal-Fed public meeting in San Jose just about 25 years ago, with my wife and other concerned friends in attendance. Yet the Bay-Delta has only continued to decline, because no substantive and meaningful changes have been made despite the numerous drought years experienced since then. I was hoping the current efforts would finally give me hope that things would improve, but I have to say the Voluntary Agreements (VAs) as proposed will almost certainly be wholly	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		inadequate. The premise that non-flow measures can restore the Bay-Delta health is just not going to cut it.	
220	2	The State Water Board's 2010 Flow Criteria Report found that 75% of unimpaired flow on the Sacramento River and its tributaries, as well as 75% of unimpaired Delta outflow, that is water flowing into the Bay, would be needed to protect the Bay-Delta ecosystem. Yet, in an average year, only 50% of the natural flow from the basin reaches the Bay. During droughts it often drops to just a third. Not surprisingly this has put the Bay-Delta in a perpetual state of drought, and ecological decline. While Voluntary Agreements are always less contentious, and easier politically, if they don't accomplish the ecological goals, what's the point? And I'm particularly skeptical about these VAs because there are no mechanisms provided to correct course when they will inevitably fail to restore the Bay-Delta health. As a bare minimum, they should include adequate adaptive management provisions. But as they stand now, the VAs seem like little more than yet another delay tactic for incumbent, and incalcitrant, water agencies.	Please see Common Response 1.1, General Comments, for information on the Delta Flow Criteria Report and for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project and Common Response 1.3, Revised Proposed Plan Amendments, for information on the VA pathway.
220	3	We all eat food. We all need agriculture. But that doesn't mean that we have to give agricultural users 80% of the water used in CA, at a price that is too low to provide an incentive to invest in reasonable conservation measures. I think Ag users ought to be paying a price high enough to justify them using all the best practices like drip irrigation. And to keep raising the price as technology improves until the water remaining in the Bay-Delta is sufficient to restore it to health. And this is from someone who fully understands that gravity-fed or not, raw, untreated surface water for Ag purposes should never be as expensive as treated municipal drinking water. But we have clearly under-priced it when 80% of our water goes to one sector, who pays the lowest price, and only accounts for 2% of the state's GDP.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
220	4	More water into the Delta and going out the bay will mean lower water temperatures, which is better for fish and for humans by cutting down on Toxic algae blooms. Surface water is supposed to be part of the Public Trust that belongs to all Californians, not	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project and Common Response 1.2, Water Quality Control Planning Process, for

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		the private plaything of Ag water cartels. The latest report draft fails to adequately right this wrong.	information on public trust. See also Common Response 4.1, Harmful Algal Blooms, for information on harmful algal blooms and Common Response 3.1, Fish Protection, for a discussion of the effects of flow on temperature.
221	1	SCWA joins in the SWRCB staff's concern for the continued viability of the state's fisheries resources, and appreciates the urgency that has driven the Board's action on the Water Quality Control Plan (WQCP) to date. Unfortunately, the unimpaired flow alternative described in the staff report threatens the future viability of fisheries on Putah Creek, while simultaneously imposing disproportionate impacts on water users throughout SCWA's service area. In this scenario, neither fish nor users benefit. SCWA urges the Board to embrace the opportunities afforded by the Agreements to Support Healthy Rivers and Landscapes (the "VA Alternative" as described in the Draft Staff Report) as it moves the WQCP forward into the 21st century. A Proven History of Adaptive Management in the Watershed. The Putah Creek Watershed is an exemplary model of successfully balancing beneficial uses including municipal, agricultural, and environmental needs within the watershed. Adopted in 2000, the Putah Creek Accord was a negotiated settlement after 10 years of litigation. The court ruled in 1996 that more water was needed in the Creek, but that extra water for salmon was not required (due to testimony from scientific experts on both sides of the lawsuit). As the details of the court decision were being determined, the SCWA agreed to settle the litigation and provide additional water for salmon, water that was not required by the court decision. Other aspects of the Accord included formation of an oversight committee, called the Lower Putah Creek Coordinating Committee (LPCCC), and a Streamkeeper position, to be funded by the SCWA. The LPCCC provided a structured public forum for Putah Creek users so that the community could work together towards a common vision, restoring Putah Creek and sharing the creek fairly. The funding of these activities by SCWA is mandated by the Accord (with an index for inflation). In Fiscal Year 2021-22, the Accord mandated that \$262,000 be spent on Putah Creek,	Please see Staff Report Chapter 7, Environmental Analysis, and Chapter 13, Revised Proposed Plan Amendments, for an analysis of the impacts of the regulatory pathway and Staff Report Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, Chapter 4, Other Aquatic Ecosystem Stressors, Chapter 13, and Common Response 3.1, Fish Protection, for the benefits of the regulatory pathway. Please see Common Response 1.2, Water Quality Control Planning Process, on reasonable protection of fish and wildlife. Please also see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		yet SCWA spent over \$1.4 million on Putah Creek activities, well above the level mandated by the Accord. Since 2000, the SCWA has cumulatively spent more than \$10 million on Putah Creek activities, much of that as cost-share for \$15 million in restoration grant projects. In 2014, after decades of absence, fall run Chinook salmon returned to Putah Creek due to the combined efforts of the SCWA and LPCCC. Up to 2,000 fall run Chinook salmon now return to Putah Creek annually. Reports on the restoration activities of Putah Creek are provided to the Court annually and are available from the Court upon request. Putah Creek, like much of California's water system, is effectively and closely managed for multiple competing beneficial uses. As shown in the Putah Creek example, over the past 25 years a modest amount of additional water was needed for the environment, but the 'flows only' approach did not work until 14 years of dedicated and effective restoration projects, enabled the return of Chinook salmon to Putah Creek. Since the adoption of the Accord, SCWA has restored, enhanced, and managed many miles of Putah Creek and its tributaries with much success. The Winters Putah Creek Nature Park (Winters, CA) is a great publicly accessible example of the successful restoration of over 1.5-miles of highly degraded creek channel, where salmon now actively spawn and utilize for the benefit of the environment and local community. The results in Putah Creek are a model for reconciling other degraded streams, as discussed in the article below. https://californiawaterblog.com/2023/07/08/putah-creeks-rebirth-a-model-for-reconciling-otherdegraded-streams/	
221	2	Putah/Cache – De Minimis Watersheds to the Bay-Delta As discussed in more detail below, both the Cache and Putah Creek watersheds were historically not well connected to the main stem Sacramento River and Bay-Delta. Under current conditions, both watersheds enter the western boundary of the Yolo Bypass and are conveyed through a series of water conveyance ditches and drains into the Toe Drain. Downstream of both Cache and Putah Creeks is the DFW owned Lisbon Weir, which provides a partial hydraulic barrier to the Delta, and is used to support water conveyance facilities within the Yolo Bypass Wildlife Refuge. In summary, a one-size fits all approach	The regulatory pathway of the revised proposed Plan amendments includes adaptive management and local cooperative solutions provisions that enable tailoring implementation of the requirements to individual tributaries. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on these provisions. Please see Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, and Chapter 4, Other Aquatic Ecosystem Stressors, of the Staff Report and Common Response 3.1, Fish Protection, for more information on the benefits of the regulatory pathway. The analysis of temperature impacts of the 55 scenario are discussed in Sections 7.6.2, Aquatic Biological

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		simply does not respond to the diversity of conditions in water systems feeding the Delta, including Cache, Putah, and many others. Severity of a “Flows Only” or One-Size Fits All Approach. Though the Putah Creek watershed represents only 1% of the total Delta outflow, it represents a thriving and successful laboratory for habitat and adaptive management efforts that effectively support fisheries and wildlife. SCWA’s 25-year history of implementing the Putah Creek Accord, extensive local and environmental partnership that have informed its adaptive management, are a success story that any update to the WQCP can and should build upon. The Unimpaired Flow (UIF) approach will hamper that coordination, forcing broad-brush solutions on a watershed that has already made great strides toward fisheries recovery, and would do so at the expense of water users, rate payers in disadvantaged communities, and the environment alike. Furthermore, as noted in Appendix A1 (Table A1-10), the 55% UIF approach would reduce municipal and agricultural use in the Putah Creek watershed by 75% and significantly impact Lake Berryessa reservoir operations and simultaneous cold-water storage. The UIF approach would reduce the region’s water supply by 144,000-AF resulting in building moratoriums within the Cities of Benicia, Fairfield, Vallejo, Vacaville, and Suisun City, limiting affordable housing opportunities for severely disadvantaged communities in the region and in direct conflict to the Governor’s efforts in increasing affordable housing. The very significant reductions in water supply would force Solano County agencies to rely more heavily on our Sacramento-San Joaquin Delta water supplies, counterintuitive to the WQCP and Delta Stewardship Council’s Delta Plan. Additionally, during drought-driven and environmental curtailments in the Delta, Vallejo, Vacaville, Fairfield, Suisun City, and Benicia would have no other source of water. Furthermore, 46,000-acres of classified “Prime Agricultural” land that also provides important buffers between the urban communities would be removed from agricultural. The UIF approach places one of the most significant burdens on Solano County, on one of the smallest watersheds (1%) of the Sacramento River Watershed, with little to no additional benefit to the environment, imposing a very detrimental and unmitigated impact on the municipal, agricultural, and	Resources, and 7.12.1, Surface Water, of the Staff Report. Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding implementation of the cold water habitat objective. The analysis of housing impacts of the 55 scenario are discussed in Section 7.16, Population and Housing, of the Staff Report. The analysis of agricultural impacts of the 55 scenario are discussed in Section 7.4, Agriculture and Forest Resources, of the Staff Report and Common Response 7.4, Agricultural Resources. The analysis of municipal water supply impacts of the 55 scenario are discussed in Section 7.20, Utilities and Service Systems, of the Staff Report. Those analyses are fully supported by substantial evidence. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. The revised proposed Plan amendments include water supply adjustments for existing water right holders at the outset of Plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs. In addition, tributary-specific water supply adjustments provide for lower flow requirements on rainfall dominated and municipal supply dominated tributaries, including Putah Creek, that would allow for more frequent reductions in the required flow levels within this range, as well as no new flow requirements during the driest conditions. The revised proposed Plan amendments also provide for a VA pathway for an eight year term with the possibility of extension that reduces the required flow contributions for Solano County Water Agency.

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		recreational users in Napa, Solano, and Yolo Counties. Table 1 below [Exhibit 1] is an example of the immediate water supply reductions that would be imposed in Solano County (as referenced in Table A1-10 of Appendix A1). More specific comments on the Draft Staff Report are provided at the end of this letter [Attachment 1].	
221	3	[Exhibit 1: Table titled Table 1 – 55% UIF Scenario to the Solano Project (Putah Creek Watershed)]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
221	4	For all the reasons outlined in this letter, SCWA urges the Board to consider the Healthy Rivers and Landscapes (VA Alternative), which will allow the Board to support the continuance of successful programs in support of fisheries, such as the one that exists on Putah Creek, and capitalize on local expertise and stakeholders in implementing watershed-specific, carefully tailored solutions to the challenge of declining fisheries. SCWA appreciates the opportunity to comment on the Draft Staff Report, and your consideration of these comments.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
221	5	[ATT 1:] Specific Concerns & Comments on the Draft Staff Report: Chapter 1 (Executive Summary) Impacts to Aesthetics (AES-a and AES-c): The UIF approach would significantly reduce water levels in Lake Berryessa degrading the visual aesthetics of eastern Napa County. In Solano County, significant agricultural areas including many of which are classified as “Prime Agriculture” by the Department of Conservation, would be removed from production. Furthermore, many of these Solano agricultural lands form an aesthetic buffer between the urban communities of Davis, Dixon, Vacaville, Fairfield, Suisun City, and Vallejo in both Yolo and Solano Counties. The Proposed Mitigation in the WQCP does not directly or specifically mitigate these aesthetic impacts in Napa, Solano, or Yolo Counties.	Chapter 6, Changes in Hydrology and Water Supply, Section 6.3.2, Reservoir Storage and Elevation, and Appendix A1, Sacramento Water Allocation Model Methods and Results, of the 2023 draft Staff Report identify potential changes in reservoir storage and elevation. Section 7.3, Aesthetics, considers these outcomes to evaluate the potential effects from changes in reservoir levels on visual resources. The SacWAM results presented in Chapter 6 and Appendix A1 indicate that most of the changes in reservoir elevations resulting from changes in hydrology would be within the historical ranges. Section 7.3 identifies the possibility of potentially significant impacts on aesthetic resources from changes in reservoir levels, particularly due to increases in the severity or duration of lowered reservoir elevations. Because changes at some reservoirs could affect scenic vistas, views of reservoirs, or visual character in some locations, the impact is identified as potentially significant. Reservoir management mitigation measures can be implemented to reduce impacts of changes in reservoir levels and related impacts on aesthetics. Additionally, the 2023 draft Staff Report assumes that an

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			increase in instream flows, as required by the flow scenarios to reasonably protect fish and wildlife, would result in a decrease in water available for other uses, including agricultural irrigation. As discussed in Section 7.4, Agriculture and Forest Resources, a reduction in irrigation water could result in some land being permanently taken out of agricultural production and converted to other uses, and the resulting impact on aesthetics is identified in Section 7.3 as potentially significant. However, not all farmland has to be irrigated, and not all farmland receiving reduced water supplies would be converted to non-agricultural uses because growers have the option to adopt measures to keep land in agricultural production. Mitigation measures are identified in Section 7.3 and Section 7.4 that can reduce or avoid aesthetic impacts associated with agricultural land conversion. Also see Common Response 7.1, General CEQA and Approach to the Analysis, regarding mitigation measures.
221	6	[ATT 1:] Impact to Agriculture (AG-a): As shown above, the UIF approach would result in the loss of over 102-TAF of surface water specifically allocated to agriculture. The result would be an immediate loss of 34,500-acres of irrigated agriculture. Much of this land, particularly within the boundaries of the Solano Irrigation District and Maine Prairie Water District provide aesthetic buffers between the urban communities (as discussed above) and are classified as “Prime Agriculture” by the Department of Conservation. The Proposed Mitigation in the WQCP, specifically the items listed below, are already being implemented in Solano County and/or already under the authority of SCWA and its member agencies. - O Diversify Water Portfolios - o Increased Efficiency of Agricultural Water Use - o Reduce Impacts on Groundwater - o Oversight and Approval of Water Transfers - o Ensure Effectiveness of Diversion Intakes	The reductions in water supply to Solano Irrigation District are estimated to be much smaller than the commenter presents. The commenter mistakes the minimum allocations listed in Table A1-10 for actual allocations. Accordingly, changes in crop acreage would also be expected to be much smaller than the commenter presents. In addition, the Solano Project allocation for the 55 scenario has been updated in SacWAM based on comments. Please see Appendix H1, Sacramento Water Allocation Model Methods and Results for the Revised Proposed Plan Amendments, for updates made to SacWAM since version 2023.06.12 of SacWAM. The impact conclusions made in the Staff Report do not rely on increased groundwater pumping or other water management actions to reduce water supply impacts from reduced Sacramento/Delta supply. The Staff Report recognizes that the replacement supplies may be limited. Water users can and should diversify their water supply portfolios to the extent possible, in an environmentally responsible manner and in accordance with the law. Please see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion on the feasibility and applicability of the mitigation measures.

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		Additionally, significant groundwater is only located in the eastern half of Solano County, as part of the Solano Subbasin. The Solano Subbasin is classified as a medium priority basin, and while currently considered to be overall in a sustainable condition, the Solano Subbasin could not support the significant loss in surface water being proposed with the UIF approach. Additionally, agencies like the Maine Prairie Water District, that have water rights in the Delta as part of the North Delta Water Agency, would begin to rely significantly more heavily on the Delta then under current conditions, in direct conflict with the stated goals of the WQCP, Governor's Mandate for the Delta, and Delta Stewardship's Council Delta Plan. The remaining Proposed Mitigation strategies do not apply or would not provide the appropriate level of mitigation needed to address the impacts to agriculture in Solano County.	
221	7	[ATT 1:] Impact to Air Quality (AG-d): Implementation of the UIF approach will expose sensitive receptors to substantial pollutant concentrations, primarily associated with greater exposure to windblown dust emissions and fugitive dust associated with lower reservoir levels across California and the fallowing of thousands of acres of agricultural land across the Central Valley directly attributable to the cumulative impact with the Phase I (San Joaquin) and Phase II (Sacramento) UIF approach. While the Draft Staff Report considers the impact Less than Significant, no cumulative analysis has been done. Furthermore, numerous scientific studies have shown that droughts can lead to increased respiratory risk. Since the UIF approach would mimic regulatory drought conditions associated with lower reservoir levels and substantial fallowing of agricultural land, the impact is significant.	The comment assertion that the draft Staff Report fails to analyze cumulative air quality impacts or impacts from windblown dust is incorrect and not supported by analysis in Section 7.5, Air Quality, of the Staff Report. Air quality is inherently a cumulative resource because criteria pollutants, once emitted, mix into the atmosphere and affect a larger area than an individual project site. Thus, this cumulative analysis does not consider individual cumulative projects near the project; rather, it uses the same thresholds of significance as the project-level analysis because of the inherently cumulative nature of air quality impacts. Impact AQ-c specifically evaluates if implementation of the flow scenarios would "result in a cumulative considerable net increase" of air pollutants. Specific to windblown dust, the impact analysis finds that changes in hydrology would not substantially increase airborne fugitive dust from wind erosion. Impact AQ-c further finds that potential fugitive dust emissions from fallowing of agriculture lands would likewise be limited in occurrence and would not contribute to regional (cumulative) degradation of air quality. Impact AQ-d evaluates potential exposure of receptors to dust emissions from fallowed lands, and concludes that potential impacts would be less than significant given the minimal expected emissions and limited proximity of receptors adjacent to fallowed land. In addition, Section 7.23, Cumulative Impact Analysis, Growth-

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			Inducing Impacts, and Significant Irreversible Environmental Changes, concludes that the impacts of implementing the LSJR/SD update are potentially cumulatively considerable with the Sacramento/Delta Plan amendments, including potentially cumulative air quality impacts resulting fugitive dust emissions from decreases in land under irrigation by water users that receive water from both the lower San Joaquin River tributaries and the Sacramento/Delta.
221	8	[ATT 1:] Impact to Biological Resources – Terrestrial (TER-a): The UIF approach will significantly reduce the water supply reliability of the Solano Project and decrease the availability of water outside of the January - June period to Lower Putah Creek and inturn the California Department of Fish & Wildlife's (DFW's) Yolo Bypass Wildlife Area. During the fall months, DFW utilizes pumps within Lower Putah Creek in the Yolo Bypass Wildlife Area to flood-up portions of the wildlife refuge. The UIF approach places a greater significance of January – June flows, with little to no regard to flows during the fall months. Changes in Lake Berryessa reservoir operations, and the significant loss of Carryover Storage associated with the UIF, will result in significant decreases in both water supply and reliability to all beneficial users in Lower Putah Creek, including the most downstream portions of Lower Putah Creek within the Yolo Bypass Wildlife Area. Furthermore, the Solano Project will be less able to sustain long drought periods such as what was experienced in 2011-2017 and 2020-2023 with the UIF approach. Several of the proposed mitigation measures are already being implemented and/or already under the authority of the SCWA and its member agencies. - o Diversify Water Portfolios - o Support and Approval of Water Recycling - o Support and Approval of Groundwater Storage and Recovery - o Oversight and Approval of Water Transfers The remaining Proposed Mitigation strategies do not apply or would not provide the appropriate level of mitigation needed to	Under the regulatory pathway, flows are required year-round and while the largest increases in flows in Putah Creek occur in winter and spring, increases also occur in months outside those time periods. For more information see Sections 6.3.1.1, Sacramento River Region and Delta Eastside Tributaries, and A1.12.3, Streamflows, in the 2023 draft Staff Report. Section 7.6.1.4, Impact Analysis, of the 2023 draft Staff Report acknowledges changes in water supply would result in reduced Sacramento/Delta water supplies to wildlife refuges in the Sacramento River watershed. Implementation of MM-TER-a: 2 will ensure that habitat protection and restoration actions are implemented to reduce this impact. Additionally, the proposed program of implementation would prioritize refuge water supplies and would direct State Water Board staff to take measures to implement that prioritization. The suite of mitigation measures identified and included in the 2023 draft Staff Report would avoid or reduce any significant or potentially significant adverse environmental impacts. Not all mitigation measures need to be available or implementable to every individual or entity undertaking response actions to the proposed Plan amendments. Furthermore, due to the large scope of the project and wide range of possible response actions, the Board is unable to conclude with certainty that the mitigation measures will reduce all impacts to less-than-significant levels in all circumstances. Also, some mitigation activities are within the State Water Board's jurisdiction. However, other mitigation measures are largely within the jurisdiction and control of other agencies or depend on how water users respond to the project. Accordingly, the State Water Board cannot guarantee that measures will always be adopted or applied fully to mitigate

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		address the loss of Carryover Storage and decrease in water supply reliability during the fall months to both Solano County and the Yolo Bypass Wildlife Area.	potentially significant impacts. See Section 1.4, Executive Summary, for more information. The proposed objectives in the proposed Plan amendments would include measures to address climate change and the resulting warmer temperatures and longer and more severe droughts, including required planning for drought and minimum health and safety supplies in accordance with State Water Board Resolution 2017-0012. See Section 5.6.2.3, Climate Change, Drought, and Public Safety, for more information. Also see Common Response 4.2, Drought and Climate Change, regarding discussion of multi-year drought analysis. The project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. The proposed Plan amendments remain part of the project as the regulatory pathway; however, the regulatory pathway includes new water supply adjustments at the outset of Plan implementation that lower flow requirements under certain conditions to reduce water supply impacts and allow more water to be stored in reservoirs. The watershed-wide adjustments would require flows of 55 percent of unimpaired flow during wetter conditions, with required flows at 45 percent of unimpaired flows during intermediate conditions and flows down to 35 percent of unimpaired flow under the driest conditions. The tributary-specific water supply adjustments would allow for additional adjustments in rainfall-dominated and municipal-supply-dominated tributaries, including Putah Creek and the Mokelumne and Calaveras Rivers, that would allow for more frequent reductions in the required flow levels within this range, as well as no new flow requirements during the driest conditions. The likelihood of increased inundation of the Yolo and Sutter Bypasses adversely affecting special-status wildlife species under the starting point for the regulatory pathway would be less than evaluated in Section 7.6.1, Terrestrial Biological Resources, due to these refinements. However, because the water supply adjustments could be modified after initial implementation and flows could be higher in the range of unimpaired flow in the future on some or all tributaries, impacts could also be as high as those identified in Section 7.6.1. The revised proposed Plan amendments also provide for a VA for an

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			eight-year term with the possibility of extension that reduces the required flow contributions for VA water rights. Also see Section 13.7.6.1, Terrestrial Biological Resources, of the final Staff Report for a discussion of terrestrial species impacts for both the regulatory and VA pathways.
221	9	[ATT 1:] Impact to Biological Resources – Aquatic (AQUA-a and AQUA-d): As discussed above, the UIF approach will significantly reduce the water supply reliability of the Solano Project and decrease the availability of water outside of the January – June period to Lower Putah Creek. Portions of Putah Creek are also classified by DFW as Wild Trout Waters. Changes in Lake Berryessa reservoir operations, and the significant loss of Carryover Storage associated with the UIF, will result in significant decreases in both water supply and reliability to all beneficial users in Lower Putah Creek. Furthermore, the Solano Project will be less able to sustain long drought periods such as what was experienced in 2011-2017 and 2020-2023 with the UIF approach. Several of the proposed mitigation measures are already being implemented and/or already under the authority of the SCWA and its member agencies. - o Temperature Control and Reservoir Management - o Diversify Water Portfolios - o Support and Approval of Water Recycling - o Support and Approval of Groundwater Storage and Recovery - o Oversight and Approval of Water Transfers The remaining Proposed Mitigation strategies do not apply or would not provide the appropriate level of mitigation needed to address the loss of Carryover Storage and decrease in water supply reliability to all users, particularly during long drought periods.	The proposed Plan amendments would provide for flow conditions in the Sacramento/Delta regions to support successful spawning, rearing, migration, and other life history stages of native fish and wildlife—including the magnitude, frequency, timing, duration, and rate of change of flow conditions to which native species are adapted. This is consistent with the mission of the California Department of Fish and Wildlife’s Heritage and Wild Trout Program which is to protect and restore native trout and their habitats (CDFW 2025). The Staff Report acknowledges that many water users have made significant investments to diversify their water supply portfolios and the Plan amendments could lead to further diversification beyond that which has occurred due to existing or potential population growth, drought, environmental needs, climate change, economic factors, and other reasons. The Staff Report identifies other water management actions as reasonably foreseeable response actions to reduced Sacramento/Delta supply. Diversified water supply portfolios may include other water management actions, including (1) groundwater storage and recovery and sustainable management projects, (2) water transfers, (3) water recycling, and (4) conservation measures. A description of these other water management actions, including state-wide trends and regional observations, is provided in Section 6.6, Other Water Management Actions. Environmental impacts and economic effects from reduced Sacramento/Delta surface water supplies likely would be less given these efforts, and other water management actions may also result in potentially significant impacts that must be evaluated under CEQA. The impact conclusions in the Staff Report do not rely on the implementation of other water management actions and the Staff Report recognizes that the availability of replacement supplies may be limited. See Common Response 7.1, General CEQA and Approach to the Analysis, regarding mitigation measures. See also Common Response 6.3, Water Supply and

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			Other Water Management Actions. See Section 5.6.2.3, Climate Change, Drought, and Public Safety, and Section 4.6, Drought and Climate Change, for more information on drought and climate change. Additionally, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. The proposed Plan amendments remain part of the project as the regulatory pathway. The revised proposed Plan amendments include water supply adjustments and relaxations to carryover storage requirements for existing water right holders at the outset of plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs.
221	10	[ATT 1:] Impact to Energy (EN-a, EN-b, and EN-c): Implementation of the UIF approach will significantly impact the timing and seasonality of hydroelectric production from the Monticello Dam (Lake Berryessa). Currently, the Solano Irrigation District (SID) operates an 11.5-MW hydroelectric plant on Monticello Dam. The facility is a passive plant, such that water deliveries determine energy production. For the Solano Project, peak hydroelectric production occurs during the late spring and summer months, at constant rates throughout the day. The UIF approach will shift energy production from the summer months to the winter and early spring months when energy is less needed. Furthermore, the UIF will decrease Carryover Storage and elevation levels in Lake Berryessa, resulting in further decreases in hydroelectric energy production. Lastly, since the Solano Project will experience a loss of over 144-TAF and is a gravity-based system, there will be significant energy requirements for additional groundwater pumping as well as additional pumping out of the Delta. These changes to Solano County are significant and are not articulated or described in the Draft Staff Report. Furthermore, several of the proposed mitigation measures are already being implemented and/or already under the authority of the SCWA and its member agencies. -- Temperature Control and Reservoir Management	Please see Section 7.8, Energy, and Common Response 7.8, Energy and Hydropower, regarding the effect of shifting generation away from summer, changes in carryover storage, consideration of local effects, and energy associated with replacing reductions in surface water supply (e.g., energy for groundwater pumping). Because energy expenditure is a global issue, efforts to reduce energy use and reliance on fossil fuel are beneficial regardless of location. It is not expected that changes in energy use in one area would necessarily be mitigated within that area. The Staff Report acknowledges in Section 7.8, Energy, that that the energy mitigation measures may not be adequate to fully mitigate energy impacts. While the State Water Board has some authority to ensure that mitigation is implemented for some actions, other mitigation measures are largely within the jurisdiction and control of other agencies or depend on how water users respond to the Plan amendments. Accordingly, the State Water Board cannot guarantee that measures will always be adopted or applied to fully mitigate potential energy impacts. Unless and until the mitigation is fully implemented, the impacts remain potentially significant. In addition, please see the mitigation measures discussion in

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		-- Diversify Water Portfolios -- Coordination with Existing Requirements -- Increase Water Efficiency The remaining Proposed Mitigation strategies do not apply or would not provide the appropriate level of mitigation needed to address both the decrease and seasonal change in hydroelectric production. The Proposed Mitigation strategies do not address the significant energy increase that will be associated with increases in both groundwater and Delta pumping. Lastly, the California Public Utilities Commission adoption of NEM 3.0 has significantly reduced the economic feasibility of renewal energy for public agencies.	Common Response 7.1, General CEQA and Approach to the Analysis.
221	11	[ATT 1:] Impact to Greenhouse Gas Emissions (GHG-a and GHG-b): As discussed above, the UIF approach will result in the loss of 144-TAF of surface water from the Solano Project. The result will be an increase in both groundwater and Delta pumping to partly offset the reduced Solano Project surface water supplies. Several of the well pumps and corresponding distribution pumps (to circulate water around farm fields) will likely be diesel powered. Since the existing Solano Project water supplies are gravity based, the new offset pumping will be a direct increase in Greenhouse Gas Emissions, that will be a significant impact, and conflicts with the existing plans and policies put forth by the California Air Resources Board, to reduce Greenhouse Gas Emissions and the use of fossil fuels. Several of the proposed mitigation measures are already being implemented and/or already under the authority of SCWA and its member agencies: -- Water Use Efficiency -- Water Conservation -- Irrigation Systems The remaining Proposed Mitigation strategies do not apply or would not provide the appropriate level of mitigation needed to address the Greenhouse Gas Emissions associated with	Please see response to comment 221-10 for information on changes in water deliveries to the Solano Project and impacts on energy production. Potential greenhouse gas (GHG) emissions resulting from increased groundwater pumping due to reductions in water supply under the proposed Plan amendments were assessed in Section 7.10, Greenhouse Gas Emissions, of the draft Staff Report. As discussed under Impact GHG-a and noted by the commenter, some of these pumps may be powered by diesel, gasoline, and other fossil fuels. While the extent of groundwater pumping in response to reduced Sacramento/Delta supply is unknown, Impact GHG-a concludes that cumulative GHG emissions from changes in groundwater pumping would be potentially significant and conflict with plans and policies adopted for the reduction of GHG emissions. Mitigation Measures MM-GHG-a and MM-GHG-b are required to avoid or reduce these cumulative GHG impacts. Please refer to Common Response 7.10, Greenhouse Gas Emissions and Mitigation, for additional discussion on GHG mitigation.

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		additional groundwater and Delta pumping required to offset the reductions in Solano Project surface water supplies.	
221	12	[ATT 1:] Impact to Surface Water (SW-f): The UIF approach would significantly impact Lake Berryessa reservoir operations, reduce Carryover in the reservoir, and reduce the reliability of consistent and continuous cold-water flows into Putah Creek. The result would be a decrease reliability to sustain long-term droughts such as was what was experienced in the 1987-1992, 2011-2017, and 2020-2023 droughts. Since completion of the Monticello Dam (Lake Berryessa) in 1959, there has been continuous and consistent cold-water flows into Lower Putah Creek for the last 65-years. The impact is significant and not addressed in the Draft Staff Report. Several of the proposed mitigation measures are already being implemented and/or already under the authority of SCWA and its member agencies. - O Temperature Control and Reservoir Management - o Diversify Water Portfolios - o Support and Approval of Groundwater Storage and Recovery - o Oversight and Approval of Water Transfers - o Support and Approval of Water Recycling The remaining Proposed Mitigation strategies do not apply or would not provide the appropriate level of mitigation needed to address the impacts to surface water in Lake Berryessa and Putah Creek.	As described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, and Chapter 13, Revised Proposed Plan Amendments, the proposed Plan amendments and the regulatory pathway of the revised proposed Plan amendments would include a cold water habitat objective. The cold water habitat objective would prevent excessive drawdown of storage in Lake Berryessa that could impact cold water fish. The Staff Report considers the effects of flow requirements on water temperatures for fish in Section 7.6.2, Aquatic Biological Resources, and 13.7.6.2, Aquatic Biological Resources. The project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. In addition to the proposed Plan amendments, which remain part of the project as the regulatory pathway, the revised proposed Plan amendments include water supply adjustments at the outset of Plan implementation that lower flow requirements under certain conditions to reduce water supply impacts and allow more water to be stored in reservoirs. The revised proposed Plan amendments also provide for a VA pathway for an 8-year term with the possibility of extension that reduces the required flow contributions for VA water rights. The Staff Report acknowledges in Section 7.6.2 that even with measures associated with the cold water habitat objective and mitigation, due to uncertainty regarding the difficulty and timing of implementation of these measures, it is possible that in limited instances, temperature impacts could occur.
221	13	[ATT 1:] Impacts to Groundwater (GW-b): As discussed above, the UIF approach would remove 144-TAF (reduction of 75%) of high-quality surface water from municipal and agricultural users in Solano County. Solano County water purveyors would then need to rely more heavily on (a) Delta surface water supplies and (b) groundwater in the Solano Subbasin. Since Delta surface water supplies would also be facing reductions associated with the UIF approach, there would be significant pressure to rely almost exclusively on groundwater	Development of new supply through water recycling, desalination, or additional groundwater wells and associated construction of expanded or new infrastructure are the types of projects that the Staff Report considers to be likely responses to the proposed unimpaired flow requirements and acknowledges each of these water supply strategies potentially will have environmental impacts. The individual resource-area analyses in Chapter 7, Environmental Analysis, evaluate those impacts and make conclusions about whether they would be potentially significant and propose possible mitigation measures. The Staff

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		in the Solano Subbasin. While the Solano Subbasin is currently in compliance with SGMA, the basin would be unable to support the additional water supply needs of the region. Furthermore, one of the main benefits and purposes of the Solano Project was to alleviate historic groundwater overdraft, which the Project has successfully done for over 65-years. Almost all of the proposed mitigation measures are already being implemented and/or already under the authority of SCWA and its members agencies, and the Solano Subbasin GSA. - o Implement the Sustainable Groundwater Management Act (SGMA) - o SGMA Oversight - o Diversify Water Portfolios - o Support and Approval of Groundwater Storage and Recovery - o Oversight and Approval of Water Transfers - o Support and Approval of Water Recycling The proposed mitigation does not provide the appropriate level of mitigation needed to address the impact to groundwater being proposed by the Draft Staff Report.	Report recognizes that impacts to groundwater (Impact GW-b, a and f) could occur because of the potential response by surface water users substituting groundwater with Sacramento/Delta surface water supplies; However, the mitigation measures listed (see Section 7.12.2.4, Mitigation Measures) are primarily the responsibility and jurisdiction of public agencies other than the State Water Board. While the State Water Board can ensure that mitigation is implemented for actions within its authority, the State Water Board cannot guarantee that measures by other agencies will be adopted or applied in a manner that fully mitigates the impacts. Therefore, unless and until the mitigations are fully and successfully implemented, the impact to groundwater levels (Impact GW-b) remains potentially significant. For more discussion on how the Sacramento/Delta update to the Bay Delta plan aligns with the implementation of SGMA, please see Common Response 7.12.2, Groundwater and Sustainable Groundwater Management Act.
221	14	[ATT 1:] Impacts to Population and Housing (POP-b and POP-c): The UIF approach would significantly impact population and housing in Solano County by (a) reducing high quality municipal water supplies from the Solano Project by 75%, (b) leading to building moratoriums on all of the large urban Solano cities including Vallejo, Fairfield, Vacaville, Benicia, and Suisun City and (c) leading to a population and housing shift from Solano County to other Bay Area counties. Of the nine Bay Area counties, Solano County has one of the lowest costs of living and housing affordability. The UIF approach would have significant impacts to Population and Housing and conflict with the Governor's mandate of Affordable Housing. The Draft Staff Report does not propose any mitigation to deal with this significant impact to Solano County.	Section 7.20, Utilities and Service Systems, considers municipal supply, including whether and how communities that rely in whole or in part on Sacramento/Delta supply would be able to meet municipal demand using other water management actions in response to changes in supply. Chapter 8, Economic Analysis and Other Considerations, includes details on population projections, socioeconomic profiles, and municipal water supply costs. Most municipalities have or are developing alternate water supplies to supplement reduced Sacramento/Delta supplies and ensure adequate water for their communities. Changes in water supply include replacement groundwater pumping, as well as use of other water management actions such as groundwater

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			storage and recovery, water transfers, increased use of recycled water, and water conservation. The 2023 Staff Report acknowledges that in some locations, replacement supply may be difficult. Section 7.20.4, Mitigation Measures, of the 2023 draft Staff Report, provides a range of options that various entities can adopt or utilize to mitigate the potential negative effects of the proposed Plan amendments, including conservation and efficiencies. The mitigation measures may not be applicable to every location or for every action within the State Water Board's authority. Some mitigation measures are largely within the jurisdiction and control of other agencies; accordingly, the State Water Board cannot guarantee that measures will always be adopted or applied to fully mitigate all potential impacts. In addition, the program of implementation provides flexibilities that can help minimize water supply impacts. The revised proposed Plan amendments include water supply adjustments for existing water right holders at the outset of plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs. Finally, plan provisions will allow the State Water Board to develop and implement qualified exceptions to curtailments associated with Bay-Delta Plan implementation for human health and safety needs. Please see Common Response 1.2, Water Quality Control Planning Process, for a discussion on the factors to be considered in establishing water quality objectives, including the need for developing housing.
221	15	[ATT 1:] Impacts to Public Services (PS-a): The UIF approach would have significant and adverse physical impacts associated with the need to construct new water recycling, desalination, and pump stations to offset the 144-TAF reduction of municipal and agricultural water supplies in Solano County. Furthermore, the 144-TAF reduction is specific to public agencies in Solano County, necessitating the need for substantial and significant water infrastructure improvements. The Draft Staff Report does not propose any mitigation to deal with this Significant Impact to	Development of new supply through water recycling, desalination, or additional groundwater wells and associated construction of expanded or new infrastructure are the types of projects that the Staff Report considers to be reasonably foreseeable responses to the proposed unimpaired flow requirements and acknowledges each of these water supply strategies potentially will have environmental impacts. The individual resource-area analyses in Chapter 7, Environmental Analysis, evaluate those impacts and make conclusions about whether they would be potentially significant and propose

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		Solano County. Additional information is included in Impacts to Utilities and Service Systems below.	possible mitigation measures. Section 7.22, New or Modified Facilities, addresses actions that entities may take that would involve construction to modify or build new facilities and infrastructure to supplement or conserve surface water supplies and other construction projects; in response to changes in water supply and identifies mitigation measures to avoid, minimize, or offset potentially significant environmental impacts associated with these actions. Please see Common Response 8.1, Economic Analysis and Other Considerations, for information on funding opportunities.
221	16	[ATT 1:] Impacts to Recreation (REC-a and REC-b): Implementation of the UIF approach will significantly reduce both Carryover Storage and water levels in Lake Berryessa and significantly impact recreation to the nine-county Bay Area Region. The west-shore of Lake Berryessa is one of the few places in the nine-county Bay Area Region that allows for a full suite of recreational activities that is (a) free or of minimal cost (boat launch), (b) allows full contact swimming, (c) picnicking and day-use, (d) fishing, and (d) and motorized and non-motorized boating. Furthermore, surveys conducted by the Solano Resource Conservation District show that the west-shore day-use area is heavily used by residents from the City of Vallejo, one of the most disadvantaged communities in Solano County. Additionally, in boat surveys conducted by the SCWA, recreational boaters come from locations all throughout California, indicating the importance of recreation at Lake Berryessa. All of the proposed mitigation measures are already being implemented or under the authority of SCWA and its member agencies and the US Bureau of Reclamation. O Reservoir Management o Recreation Management Measures The Draft Report does not propose any specific mitigation for Lake Berryessa to deal with this significant impact to recreation.	Section 7.18, Recreation, identifies potentially significant impacts on recreation, including impacts related to boating access, from changes in reservoir water elevations and provides mitigation to reduce these impacts. The analysis in Section 7.18 uses methods and criteria consistent with the State Water Board's environmental checklist (Cal. Code Regs, tit. 23, §§ 3720-3781, Appendix A) and other State Water Board CEQA requirements, as described in Section 7.1, Introduction, Project Description, and Approach to Environmental Analysis. Due to the degree of flexibility included in the flow scenarios and the scope and complexity of Sacramento/Delta water use, the environmental analyses presented in the 2023 draft Staff Report are necessarily broad to cover the wide range of foreseeable methods of compliance and response actions that may be taken in response to the project. Therefore, specific mitigation for a particular lake, county, water district, etc., is not included as the mitigation provided is purposely broad to encompass the entire study area. Further, provisions for adaptive implementation of the numeric inflow requirements are provided to optimize flows to benefit native fish and wildlife while also minimizing water supply impacts, and for the numeric inflow requirements to be implemented in a coordinated fashion with the cold water habitat and inflow-based Delta outflow requirements. Management strategies and annual operation plans for the Sacramento/Delta reservoirs and existing regulatory requirements can be used to protect water quality in reservoirs, including recreation. Please see Common Response 7.1, General CEQA and Approach to the Analysis, regarding the level and scope of the analysis and the feasibility of mitigation measures. Also, please refer to Common Response 10.1, Economically

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			Disadvantaged Communities, regarding economically disadvantaged communities. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. The proposed Plan amendments remain part of the project as the regulatory pathway; however, the regulatory pathway includes new water supply adjustments at the outset of Plan implementation that lower flow requirements under certain conditions to reduce water supply impacts and allow more water to be stored in reservoirs.
221	17	[ATT 1:] Impacts to Utilities and Services Systems (UT-a, UT-b, UT-d): The UIF approach will significantly impact both water and wastewater facilities in Solano County. As discussed above, the UIF approach will reduce both agricultural and municipal high-quality surface water supplies associated with the Solano Project by 144-TAF. The UIF will also reduce high-quality surface water supplies associated with the North Bay Aqueduct (NBA) and Vallejo Permit Water. The reduction of high-quality surface water in Solano County will lead to two main impacts, (a) the need to construct new water infrastructure associated with water recycling and desalination facilities and (b) the degradation of wastewater associated with increased levels of groundwater pumping to supplement Solano County's surface water supplies. For water supply infrastructure, the large urban cities of Vallejo, Fairfield, Benicia, Suisun City, and Vacaville as well as the corresponding wastewater districts of the Fairfield-Suisun Sewer District and Vallejo Flood & Wastewater District will need to invest in significant physical water recycling infrastructure to supplement water supplies. Several of the adjacent Bay-Delta cities including Fairfield, Suisun City, Vallejo, and Benicia will also need to invest in significant physical infrastructure associated with desalination facilities along Suisun Marsh, Suisun Bay, Carquinez Strait, and the Napa River estuary all of which could cause significant environmental effects. On the wastewater side, the UIF approach will cause greater reliance on groundwater, elevating discharge pollutants such as Electrical Conductivity and numerous cations and anions associated with groundwater	As disclosed in Section 7.20, Utilities and Service Systems, reductions in Sacramento/Delta water supply for municipal use could lead to increased use of other water sources. The quality of water delivered and used by municipalities can affect wastewater treatment processes once water is used and discharged into the sewage collection system. For example, a water supplier facing reduced Sacramento/Delta surface supplies could increase its use of groundwater, which in many cases is of lower quality and may contain higher concentrations of contaminants such as nitrates or salinity. No effluent discharge limitations for electrical conductivity (EC), cations, or anions apply to the wastewater treatment facilities operated by the Fairfield-Suisun Sewer District, City of Benicia, and Vallejo Wastewater and Flood District (San Francisco Bay Water Board 2020, 2019, 2023, respectively) so it is not clear why wastewater treatment plant upgrades would be needed at these facilities to treat for EC, cations, or anions. The waste discharge requirements for the City of Vacaville's Easterly Wastewater Treatment Plant (Central Valley Water Board 2019) include an effluent limitation for EC. Replacement groundwater supply with a potentially elevated EC is unlikely to result in non-compliance with the EC limit, as the City's treated wastewater discharge is well below the EC limitation. Nevertheless, implementation of Mitigation Measure MM-UT-a will reduce or avoid exceedances of wastewater treatment requirements. If unable to modify treatment operations to accommodate changes in inflow, wastewater treatment plants

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		supplies, and leading to NPDES wastewater discharge exceedances, and the need for significant physical infrastructure upgrades to wastewater treatment plant facilities with the City of Vacaville, Fairfield-Suisun Sewer District, City of Benicia, and Vallejo Wastewater & Flood District. Several of the proposed mitigation measures are already being implemented and/or already under the authority of SCWA and its member and sister agencies. O Water Quality Contaminants and Regulation of Waste Discharges - o Protect Municipal Water Quality - o Increased Coordination between Water Suppliers and Wastewater Agencies - o Minimize Surface Water Quality Effects on Wastewater Treatment Plants - o Minimize Groundwater Quality Effects on Wastewater Treatment Plants - o Diversify Water Portfolios - o Increase Water Use Efficiency - o Reduce Impacts on Groundwater - o Ensure Effectiveness of Diversion Intakes The remaining Proposed Mitigation strategies do not apply or would not provide the appropriate level of mitigation needed to address the significant impacts to the public water and wastewater utilities in Solano County, including the City of Vacaville, City of Fairfield, City of Suisun City, Suisun-Solano Water Authority, Solano Irrigation District, Fairfield-Suisun Sewer District, City of Vallejo, Vallejo Wastewater & Flood District, and City of Benicia.	may require construction of new or modified treatment facilities, which is already considered and evaluated as a reasonably foreseeable response to the changes in hydrology and water supply and is addressed in Section 7.22, New or Modified Facilities. The Staff Report concludes that the impacts remain potentially significant.

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221	18	[ATT 1:] Additional Impacts, Military: The Draft Staff Report does not address the significant impacts associated with water supply reductions to the Travis Air Force Base (which is supplied by the City of Vallejo), and in-turn the military security and economic impacts to the City of Fairfield and Solano County if the Air Base were to relocate due to the significant loss of water supply associated with the UIF approach. The Travis Air Force Base is the largest military and civilian employer in Solano County. Furthermore, the Travis Air Force Base handles more cargo and passenger traffic through its aerial port than any other military air terminal in the United States. This significant impact and corresponding potential mitigation is not addressed in the Draft Staff Report.	As described in the Staff Report, Section 7.1.5, Environmental Analysis, due to the size and complexity of Sacramento/Delta water supply and use, the impact analyses in the Staff Report are necessarily broad to cover the wide range of foreseeable compliance measures and responses. As further discussed in Common Response 7.1, General CEQA and Approach to the Analysis, the environmental analysis under CEQA does not require the State Water Board to analyze and address effects on each individual water user and the Staff Report appropriately evaluates impacts. The Staff Report acknowledges that adjusting to changes in water supply will be challenging. Staff Report Sections 7.20 and 13.7.20, Utilities and Service Systems, consider the impacts of the Plan amendments on municipal water supply, and analyze reasonably foreseeable response actions to reduced Sacramento/Delta supply. In response to reduced Sacramento/Delta surface water supplies, water users may choose to modify their water supply portfolios by increasing the use of other sources of water and maximizing the use of existing water supplies. In addition, the revised proposed Plan amendments include water supply adjustments for existing water right holders at the outset of Plan implementation to reduce water supply impacts. The program of implementation provides flexibilities that can help minimize water supply impacts, including allowing exceptions or modifications to curtailments based on water right priorities (e.g., drought, public health and safety, public trust obligations). Effects on the operations of water users, such as Travis Air Force Base, are not themselves adverse impacts on the physical environment impacts requiring analysis under CEQA. The commenter provides no evidence that relocation of the base is a reasonably foreseeable consequence of the Plan amendments. Please see Common Response 8.1, Economic Analysis and Other Considerations, for a discussion of the economic effects.
221	19	[ATT 1:] Additional Impacts, Food Insecurity: The Draft Staff Report does not address the significant impacts associated with Food Insecurity in California and the United States, and what the	CalMatters reported that, as of 2020, one in five Californians are food insecure, despite the state producing nearly half of the country's produce (Jetha et al. 2023). As the commenter asserts,

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		cumulative and significant impacts would be from large-scale agricultural fallowing across California associated with the Phase 1 (San Joaquin) and Phase 2 (Sacramento) Unimpaired Flows approach. According to CalMatters, almost 20% of Californians are food insecure, yet the Draft Staff Report has not analyzed this cumulative and significant impact. https://calmatters.org/explainers/california-hunger-crisis/	food insecurity is an important statewide concern with significant social and economic implications. The Board acknowledges the commenter's concerns regarding the relationship between California agriculture, water supply, and food access. Section 7.4, Agriculture and Forest Resources, of the 2023 draft Staff Report discloses that the proposed Plan amendments may result in potentially significant impacts on agricultural resources, namely the conversion of farmland to non-agricultural use. Section 7.23, Cumulative Impact Analysis, Growth-Inducing Impacts, and Significant Irreversible Environmental Changes, of the 2023 draft Staff Report discusses that cumulative impacts under the proposed Plan amendments include potential water supply changes that may reduce Sacramento/Delta supply to agriculture and lead to changes in the distribution of crop types and acreage, as well as the conversion of farmland to non-agricultural use. Food production in California is also discussed in relation to economic impacts in Chapter 8, Economic Analysis and Other Considerations. Section 8.2.7, Exports of Agricultural Commodities, specifically discusses the percentage of agricultural commodities exported outside of California.
221	20	[ATT 1:] Additional Impacts, Critical Infrastructure Sector (Food and Agriculture): According to the US Department of Homeland Security, the Food and Agriculture Sector accounts for 20% of the National Economy and has been designated a Critical Infrastructure Sector. Furthermore, during the Covid pandemic, the importance of local and United States based supply chains became an important topic of vital importance locally, regionally, and across the country. However, the Draft Staff Report does not address the cumulative and significant impacts with large-scale agricultural fallowing across California associated with the Phase 1 (San Joaquin) and Phase 2 (Sacramento) Unimpaired Flows approach.	Section 7.23, Cumulative Impact Analysis, Growth-Inducing Impacts, and Significant Irreversible Environmental Changes, appropriately describes the cumulative impacts associated with the flow scenarios together with other projects and programs that could cause similar impacts. The analysis presented in Section 7.23 considers the cumulative impacts of the Lower San Joaquin River /Southern Delta (LSJR/SD) Update to the Bay-Delta Plan, and the LSJR/SD Delta Update to the Bay-Delta Plan is included in the list of projects considered in the cumulative impact analysis (Table 7.23-1). As discussed in Section 7.23, implementation of the LSJR/SD update could be a further constraint on supplies for water users that receive water from both the Lower San Joaquin River tributaries and the Delta. Therefore, the impacts of implementing the LSJR/SD update are potentially cumulatively considerable to the Sacramento/Delta Plan amendments in multiple resource areas including agricultural and forest resources. Please see Common Response 7.23, Cumulative Impact Analysis, for further discussion on the

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			consideration and analysis of the 2018 LSJR/SD Plan Update. Also see Common Response 1.2, Water Quality Control Planning Process, for additional information on the project's relationship to the LSJR/SD Plan Update.
221	21	[ATT 1:] Chapter 2 (Hydrology and Water Supply) Page 2-78: According to the Draft Staff Report, "current condition simulations estimate an average 1-TAF/yr of streamflow is lost to groundwater from Cache Creek." Based on SCWA's measurements on Putah Creek and comparable knowledge of the Cache Creek watershed, this value is a significant underestimate of actual seepage losses. State Board staff should reach out to the Yolo County Flood Control & Water Conservation District for corrections to these numbers.	Chapter 2 of the draft Staff Report contained an error regarding the stream losses on Cache Creek. The final Staff Report has been corrected to show that SacWAM estimates 89 TAF per year is lost to groundwater from Cache Creek for the current conditions scenario. SacWAM stream loss estimates are based on the best publicly available information. For Cache Creek, the stream losses are based on simulations by DWR's C2VSIM model as described in Section 6.3.2.4 of the SacWAM Documentation.
221	22	[ATT 1:] Page 2-89: The Draft Staff Report notes in paragraph 3, "the Toe Drain begins to spill onto the floodplain when flows exceed 3,500 cfs at the Lisbon Weir." It is important to note that neither Cache or Putah Creek can support flows at or above 3,500-cfs for any significant length of time. Furthermore, both systems are 100% rain dominated systems, very flashy in nature. Thus the concept of mandating Unimpaired Flows for these watersheds yields little to no significant benefit to the Bay-Delta but at a significant impact to municipal and agricultural users in Yolo and Solano County.	The 2023 draft Staff Report citation that the Toe Drain begins to spill onto the floodplain when flows exceed 3,500 cfs at the Lisbon Weir does not affect the unimpaired flow requirements of the Cache and Putah Creek watersheds. Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, of the draft Staff Report summarizes the scientific basis for the unimpaired flows approach and Chapter 7, Environmental Analysis, acknowledges the potentially significant impacts from changes in hydrology and supply to municipal and agricultural water supply.
221	23	[ATT 1:] Page 2-104: The Draft Staff Report provides background that the 1978 Dayflow model is used to account for water in the Delta. However, over the last 50 years (1970s – 2020s) there has been large advances in computing power, supporting more robust hydrodynamic modeling tools such as DSM2, RMA, and others which are widely used by water professionals to make operational, technical, and policy level decisions in the Bay-Delta. SCWA recommends the consideration of more advanced and scientifically accurate models to be used by the State Board for more accurate and accountable policy level decision making (which may already be in place).	The Dayflow model, as well as the other suggested hydrodynamic models, are all based on the fundamental concept of conservation of mass and, thus, depend on accurate estimates of flows and uses of water. One of the largest areas of uncertainty in the Dayflow model, and any alternative to it, is thought to be associated with accurate determination of the consumptive uses in the Delta. As the 2023 draft Staff Report details [page 2-106], this can cause issues in estimates of low salinity habitat during very low flow periods. Improving the estimates of this in-Delta use is a subject of ongoing work by DWR and others. It is unclear how using a more complex hydrodynamic model would "improve accountable policy level decision making."
221	24	[ATT 1:] Page 2-109 (Table 2-4.4): In the Draft Staff Report, simulated unimpaired contributions to Total Delta Outflow are	As observed, Cache and Putah Creeks are not connected to the mainstem of the Sacramento River. However, flows from these

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		listed in the table. For Putah and Cache Creek, the annual total represents only 1.1% and 1.5% respectively. Historically, neither Putah or Cache Creeks were directly connected to the main stem Sacramento River and only during large flow events would water mix with overflow from the Sacramento River. More currently, both Cache and Putah are highly disconnected systems that flow into the western boundary of the Yolo Bypass. For Cache Creek, waters flow into extensive settling basins and through a series of drains and water conveyance ditches, water is conveyed into the Yolo Bypass Toe Drain. For Putah Creek, there are two permanent barriers and one partial barrier that provides a permanent hydrologic disconnect for much of the year. The first barrier is located immediately upstream of the Yolo Bypass at Road 106A and is a long-standing private access road for agricultural operations, that has been in place for decades and likely before the Solano Project was constructed. The second permanent barrier (Los Rios Check Dam) is owned by the DFW and is used to convey water into and around portions of the Yolo Bypass Wildlife Area. The last partial barrier is the Lisbon Weir, which is owned by DFW and located in the Toe Drain, providing a partial hydrologic disconnect to both Cache and Putah Creeks. The Lisbon Weir is designed to capture the incoming flood tides and retain sufficient elevation to support water conveyance facilities within DFW's Yolo Bypass Wildlife Area.	creeks do make contributions to Delta outflow and contributions to flows in the Yolo Bypass. While the flows of these creeks appear modest when compared to the contributions of other drainages in Table 2.4-4, of the Draft Staff Report it is important to bear in mind that their flows into the Yolo Bypass could be more significant than their small sizes suggest if other bypass sources, principally the Sacramento River, are not spilling into the bypass.
221	25	[ATT 1:] Page 2-118 (Table 2.7-1a): For Lower Putah Creek, many of the riparian diverters do not report their water diversions to the SWRCB. SCWA is in the process of a multi-year stakeholder outreach called the Putah Creek Water Management Plan (PCWMP) to educate all users of Lower Putah Creek and to collaborate on how best to manage and protect the environmental, recreational, municipal, and agricultural beneficial uses of the creek.	The State Water Board acknowledges the important efforts of the SCWA.
221	26	[ATT 1:] Page 2-126 (Figure 2.8-1a): For Solano County, the Draft Staff Report divides the region into 3 very coarse regions, Sacramento River Watershed, Delta, and San Francisco Bay. The Report provides results for each of these very broad regions, making it impossible to discern what the actual impacts will be to Solano County. SCWA recommends a finer analysis, broken up into smaller regions such as by County, that would provide a	Please see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion of the level and scope of the analysis presented in the 2023 draft Staff Report.

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		more reasonable analysis of what the actual impacts would be to Solano County and other finer-level regions of the State.	
221	27	[ATT 1:] Chapter 3 (Scientific Knowledge to Inform Fish and Wildlife) - Page 3-2 (Section 3.2, paragraph 2): The Draft Staff Report states the following: Flow is commonly regarded as a key driver or master variable governing the environmental processes in riverine and estuarine systems such as the Bay-Delta and its watershed (^Poff et al. 1997; ^Bunn and Arthington 2002; ^Kimmerer 2002a; Petts 2009; Montagna et al. 2013; ^Yarnell et al. 2015). Flow is not simply the volume of water but also the direction, timing, duration, rate of change, and frequency of specific flow conditions. ^Bunn and Arthington (2002) present four key principles underlying the links between hydrology and aquatic biodiversity and the impacts of altered flow regimes: (1) flow is a major determinant of physical habitat; (2) aquatic species have evolved life history strategies based on natural flow regimes; (3) upstream-downstream and lateral connectivity are essential to organism viability; and (4) invasion and success of nonnative species is facilitated by flow alterations. Putah Creek and the Putah Creek Accord are exemplary examples, where a small amount of strategic, well-planned flow targeted for the key items listed above, can make a significant difference. It also underscores that a one-size fits all approach with the UIF is not a guarantee of success and that a more thoughtful and tributary specific approach is needed, such as the Putah Creek Accord. https://californiawaterblog.com/2023/07/08/putah-creeks-rebirth-a-model-forreconciling-other-degraded-streams/	Please see Common Response 3.1, Fish Protection for a discussion on the flow-benefit analysis.
221	28	[ATT 1:] Page 3-39 (Table 3.4-5). The Draft Staff Report provides a summary of important water related stresses within the tributaries of the Sacramento River watershed. One of the main purposes of the Putah Creek Accord and 25-years of restoration projects along Putah Creek was and is to target these exact issues.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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221	29	[ATT 1:] Page 3-40 (Table 3.4-6). The Draft Staff Report provides a summary of salmon returns on the Mokelumne River and greater returns associated with a longer pulse flow. On Putah Creek, SCWA has been implementing both spring and fall pulse flows for the last 25-years as an important part of the Putah Creek Accord.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
221	30	[ATT 1:] Chapter 4 – Other Aquatic Ecosystem Stressors • Sections 4.2 (Physical Habitat Loss), 4.2.1 (Riparian Habitat and Open Channels), 4.2.2 (Tidal Marsh Habitat), 4.2.3 (Floodplains and Wetland Habitat), 4.3.3 (Water Quality, DO), 4.4 (Nonnative Species), 4.4.3 (Aquatic Plants), 4.5.3 (Fish Barriers), and 4.6 (Climate Change). The Draft Staff Report provides an overview of concerns associated with each of the topics above. For Lower Putah Creek, SCWA, LPCCC, and other partner agencies such as UC Davis and Putah Creek Council have spent the last 25-years focusing on these very exact issues. SCWA has constructed several restoration projects (and in the permitting process for more) to improve riparian habitat, reactivate floodplains, and reduce nonnative species. Furthermore, SCWA is in the process of working with public and private landowners to address fish passage barriers in Putah Creek. The Putah Creek watershed is also well adapted under existing conditions (not under the UIF approach) to handle climate change and protect cold-water habitat.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Please see Section 2.1.6.2, Water Quality, of Appendix G2, Final Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements for the Sacramento River, Delta, and Tributaries Update to the San Francisco Bay/Sacramento-San Joaquin Delta Water Quality Control Plan, of the 2023 draft Staff Report for a discussion of water temperature conditions in Putah Creek and Common Response 3.1, Fish Protection, and Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for discussions of water temperature issues.
221	31	[ATT 1:] Chapter 5 – Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta Page 5-2, as stated in the Draft Staff Report, “The Bay-Delta Plan includes water quality objectives to protect municipal and industrial, agricultural, and fish and wildlife beneficial uses.” However, in reviewing the Draft Staff Report with respect to Putah Creek, the Report places significant impacts on municipal and agricultural beneficial uses, but with little to no environmental benefit. Instead, the Putah Creek Accord provides an exemplary example over the last 25-years of how to manage and sustain all of the beneficiary uses within a tributary watershed.	Please see Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations; Chapter 4, Other Aquatic Ecosystem Stressors; Chapter 9, Proposed Voluntary Agreements, and Chapter 13, Revised Proposed Plan Amendments, of the final Staff Report and Common Response 3.1, Fish Protection, for discussion of the environmental benefits of the revised proposed Plan amendments. Please also see Common Response 1.2, Water Quality Control Planning Process, for a discussion of reasonable protection of fish and wildlife beneficial uses.
221	32	[ATT 1:] Chapter 6 – Changes in Hydrology and Water Supply	Please see the response to 221-33.

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		Section 6.3.1.2 (Sacramento Valley Flood Bypasses). The Draft Staff Report states that “increase in outflows from Cache and Putah Creeks produce substantial increases in flow in the lower half of the Yolo Bypass into the Delta (Figure 6.3-18). Increased flows on the lower Yolo Bypass may lead to increase in surface area inundation and floodplain habitat.”	
221	33	[ATT 1:] However, this statement is not supported by Figure 6.3-18 or by Chapter 2, which references flows over 3,500-cfs at Lisbon Weir are required before lands in the bypass begin to flood. Both the Cache and Putah Creek Watershed are extremely small watersheds within the Sacramento River Watershed tributaries. Additionally, both watersheds are rain dominated watersheds, resulting in flashy and short-duration responses to rainfall. Lastly, Figure 6.3-18 for the 55% scenario shows no months when flows would exceed the 3,500-cfs threshold, providing no benefits as incorrectly stated in the Draft Staff Report.	Results in Chapter 6, Changes in Hydrology and Water Supply, show an increase in the frequency that the 3,500 cfs threshold would be exceeded, which would provide increased inundation benefits as stated. Please see Common Response 2.1, Presentation of Data and Results in the Staff Report and Responses to Comments, for examples on interpreting the data presented in the draft Staff Report.
221	34	[ATT 1:] Section 6.4.1 (Total Water Supply). As stated above, the analysis for water supply impacts is extremely limited and presented at such a coarse level, that regions such as Solano County cannot reasonably determine what the actual impacts will be. Furthermore, the coarse level analysis divides Solano County into three broad regions, Sacramento River Watershed, Delta, and San Francisco Bay Area, such that SCWA cannot reasonably determine what the actual impacts will be to Solano County. Page 6-69. The Draft Staff Report states the following: “Reductions in deliveries are not uniform across the various source tributaries, and some water users would be affected more significantly by reduced Sacramento/Delta supplies. For example, in the 55 scenario, estimated annual average supply reductions from the Mokelumne Aqueduct are 95 TAF (45 percent), 4 TAF (8 percent) through the North Bay Aqueduct, 33 TAF (62 percent) through Putah South Canal, and 39 TAF (28 percent) through the South Bay Aqueduct, with no reduction expected through the Contra Costa Canal. The larger reductions in the Mokelumne Aqueduct and Putah South Canal are caused by the larger increases in instream flow required on Putah Creek	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for a response to comments that raise issues about the scope and scale of the analysis. As discussed in Chapter 2, Hydrology and Water Supply, some tributaries such as Putah Creek and the Mokelumne River are more impaired under existing conditions than other Sacramento/Delta tributaries. Therefore, larger increases in streamflows would be required to maintain percent of unimpaired flow requirements which results in larger impacts to tributaries that are currently more impaired. Note also that model results are presented as worst case scenarios that do not utilize flexibility in the Plan for adaptive implementation and local cooperative solutions. Provisions for adaptive implementation of the numeric inflow requirements are provided to optimize flows to benefit native fish and wildlife while also minimizing water supply impacts, and for the numeric inflow requirements to be implemented in a coordinated fashion with the cold water habitat and inflow-based Delta outflow requirements. The State Water Board also plans to develop appropriate provisions to address human health and safety

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		and the Mokelumne River to meet the modeled flow requirements. Further discussion of specific communities can be found in Section 7.20, Utilities and Service Systems.” As discussed above, the UIF approach places a disproportionate impact on the Putah Creek tributary system, on a watershed that is often described as a model for reconciling other degraded streams. The State Board’s one-size fits all for UIF is detrimental to all beneficial uses within the Putah Creek watershed. Furthermore, the UIF approach places a disproportionate burden on both the Putah and Mokelumne Watershed, which are two of the best performing watersheds within the Sacramento River and Eastside Watersheds in regards to environmental reconciliation.	needs and other possible reasons for short-term and long-term exceptions to curtailments to allow continued diversions for minimum human health and safety water supplies where alternate supplies are not available. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. The proposed Plan amendments remain part of the project as the regulatory pathway; however, the regulatory pathway includes new water supply adjustments at the outset of Plan implementation that lower flow requirements under certain conditions to reduce water supply impacts and allow more water to be stored in reservoirs. Water supply adjustments greatly reduce the impacts to users specifically on the Mokelumne River and Putah Creek. Please see Chapter 13, Revised Proposed Plan Amendments, of the 2025 partially recirculated draft Staff Report for an analysis of the revised proposed Plan amendments.
221	35	[ATT 1:] Section 6.5 (Changes in Groundwater Supply). The Draft Staff Report does not adequately address changes to groundwater and directs the impact to the SGMA000000 process. However, in Solano County the Solano Subbasin is a medium priority basin, with an approved Groundwater Sustainability Plan. The UIF approach would have a significant and disproportionate impact on groundwater in Solano County, primarily due to the loss of 144-TAF of high-quality surface water to agricultural and municipal water users in Solano County. This significant impact is not addressed anywhere in the Draft Staff Report.	Please see response to comment 221-13. In addition, please see Common Response 7.12.2, Groundwater and Sustainable Groundwater Management Act, for more discussion on how the Sacramento/Delta update to the Bay Delta Plan aligns with the implementation of SGMA.
221	36	[ATT 1:] Section 6.6.1.2 (Water Transfers). The Draft Staff Report provides a coarse level analysis and recommendations for water transfers but does not assess the cumulative impact of the Phase 1 (San Joaquin) and Phase 2 (Sacramento) Unimpaired Flow approach on water transfer prices, particularly if water transfers are being done and needed collectively across the entire State.	California water resource management involves a myriad of individual and collective decisions, and range of foreseeable compliance actions and potential responses to the project is wide reaching and inherently cumulative in many regards. In response to reduced Sacramento/Delta surface water supplies, water users may choose to modify their water supply portfolios by increasing the use of other sources of water and maximizing the use of existing water supplies. Other water management actions, including groundwater storage and recovery, water transfers, water recycling, and water conservation affect the overall analysis in two ways. First, environmental impacts and economic effects from reduced Sacramento/Delta surface water

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			supplies likely would be less given these efforts. Second, other water management actions may result in their own environmental impacts that must be disclosed and analyzed. Environmental impact conclusions from reduced Sacramento/Delta supply do not rely on implementation of other water management actions even though these actions could reduce supply impacts at certain times and locations. It is not possible to quantify exactly how the various water users that may experience reduced Sacramento/Delta supplies will manage their water supply portfolios in response to reduced supplies, and this type of quantification is beyond the scope of detail required in this planning process. As described in Section 6.6.1.2, Water Transfers, of the 2023 draft Staff Report (p. 6-89), it is difficult to predict how reduced Sacramento/Delta surface water supplies will affect water transfers. With new instream flow and cold water habitat requirements, overall supplies of water from the Sacramento/Delta will decline. This may result in less water available for transfer. At the same time, it could incentivize transfers as the value of transfer water increases, leading to transfers from lower value temporary crops to higher value municipal uses and permanent crops. Section 8.3.3, Water Transfers, of the 2023 draft Staff Report (p. 8-34) describes observed market prices of transfers in the different regions of California. It further describes the assumed regional transfer prices for the municipal water supply economic effects analysis presented in Section 8.5, Municipal Water Supply Economic Effects. Section 7.23, Cumulative Impact Analysis, Growth-Inducing Impacts, and Significant Irreversible Environmental Changes, evaluates implementing the LSJR/southern Delta update and identifies impacts that are potentially cumulatively considerable with the Sacramento/Delta Plan amendments, particularly for further constraint on supplies for water users that receive water from both the lower San Joaquin River tributaries and the Sacramento/Delta. This includes other water management actions such as transfers.

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221	37	[ATT 1:] Section 6.6.1.4 (Water Conservation). While the Draft Staff Report makes recommendations on water conservation, Solano County's water users have already implemented wide-scale urban and agricultural water conservation programs and efficiencies across the region. The results are illustrated in the numerous Urban and Agricultural Water Management Plans that are updated every 5 years for the cities and irrigation districts in Solano County.	As described in Chapter 2, Hydrology and Water Supply, many water users have made significant investments to diversify their water supply portfolios and the proposed Plan amendments could lead to further diversification beyond that which has occurred due to existing or potential population growth, drought, environmental needs, climate change, economic factors, and other reasons. Section 6.6, Other Water Management Actions, provides general information regarding the current and potential future use of other water management actions by water users who may experience reductions in Sacramento/Delta supplies under the proposed Plan amendments.
221	38	[ATT 1:] Section 6.6.1.5 (Desalination). The Draft Staff Report provides a coarse summary of desalination but does not provide a specific analysis and summary of the importance and challenges of desalination in Solano County with the UIF approach, and the loss of 144- TAF of high-quality surface water supplies. For many of the cities in Solano County, desalination intakes would need to occur in environmentally sensitive areas such as the Suisun Marsh, Suisun Bay, Carquinez Strait, and Napa River estuary.	Section 6.6.2, Regional Use of Other Water Management Actions, provides a description of other water management action in each geographic region. The discussion is not intended to comprehensively describe every ongoing effort in every region; rather, it is intended to provide some basic general information about how different regions may respond to reduced Sacramento/Delta surface supply. Use of other water management actions in any particular geographic area depends on many factors, such as groundwater overdraft conditions, proximity to municipal recycled wastewater or desalination facilities, availability of water transfers, and other factors.
221	39	[ATT 1:] Appendix A1 – SacWAM Methods and Results [ATT 1:] Page A1-11 (Table A1-13). The Appendix to the Draft Staff Report places an arbitrary end of September Carryover Storage Target of 900-TAF on Lake Berryessa. However, there is no factual basis or information for this analysis. SCWA has been collecting over 20-years of temperature data at Lake Berryessa, with temperatures for depths of 1, 5, 10, 40, and 70-feet. The temperature data consistently shows that regardless of lake level, cold water temperatures can be found consistently between 40-70 feet of depth. A more technical and scientific appropriate target would be to assume a protective depth of 100- feet, which based on the Stage-Volume relationship for Lake Berryessa, yields a Storage Volume of approximately 100-TAF to protect Cold Water levels in Lower Putah Creek.	Data provided by SCWA has been incorporated into an updated evaluation of the relationship between storage and release temperatures in Appendix H1a1, Assessment of Effect of Reservoir Storage on Reservoir Release Temperatures, of the final Staff Report. Data indicate that storage can affect Lake Berryessa release temperatures even at relatively high storage levels. The 900 TAF carryover target for Lake Berryessa has been reconsidered and modified. Please refer to Appendix H1a1 for information on how staff evaluated the temperature data submitted by SCWA and updated carryover storage target ranges.
221	40	[ATT 1:] Page A1-17 (Table A1-10). The Draft Staff Report provides a specific allocation to the Solano Project for the 55% Unimpaired Flow which is 25%. This corresponds to a 75%	The Solano Project allocation for the 55 scenario has been updated in SacWAM based on comments. Please see Appendix H1, Sacramento Water Allocation Model Methods and Results for

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		(144-TAF) reduction in municipal and agricultural high-quality surface water supplies to Solano County.	the Revised Proposed Plan Amendments for updates made to SacWAM since version 2023.06.12.
221	41	[ATT 1:] Page A1-263 (Lake Berryessa (Putah Creek Watershed)). In reviewing the End of Month Storage curves for Lake Berryessa, the results use starting baseline condition reflective of a full reservoir in April. This condition only occurs in about 1/3 of all years (24 of the last 64 years) and would be dramatically different with the UIF approach, as year-to-year Carryover in Lake Berryessa would be significantly reduced. Furthermore, as discussed above with the Cold-Water Pool target and the starting conditions in April, the Draft Staff Report contains significant technical flaws in regards to Lake Berryessa reservoir operations.	The commenter's point about the "starting baseline condition" is unclear. The initial condition for Lake Berryessa in October 1921 is assumed to be 885 TAF in SacWAM. The baseline results show Lake Berryessa's end-of-April storage at full capacity in roughly 25 percent of the 93-year simulation period, and about 32 percent over the most recent 64 years. These figures align closely with the historical one-third frequency cited by the commenter, indicating that the SacWAM baseline accurately reflects Berryessa operations. The unimpaired flow scenario results shown in Chapter 6, Changes in Hydrology and Water Supply, and Appendix A1, Sacramento Water Allocation Model Methods and Results, capture the changes in year-to-year carryover storage, driven by the cold water pool target and unimpaired flow requirements described.
222	1	Revival of anadromous species in the Sacramento Bay-Delta cannot occur without significant increases in the Percent of Unimpaired Flow. While we wait to see that the modest increases and token habitat work proposed under the VA's are failing, tribal communities and other riparian communities will continue to decline in their relationship with the rivers. Also, communities dependent on sport and commercial fishing will continue to decline. We need irrigation districts and other purveyors of water. We do not need their opinions on how to improve the river systems that they have devastated while collecting billions per year in revenue. Instead, we need a strong system of laws and protocols, developed by scientists interested parties, to keep them from extirpating anadromous fish from the valley rivers. Habitat improvements can be meaningful, but not without water. I grew up on the Yuba and Feather Rivers and I now live on the Tuolumne River. When TID and MID were allowed to push gravel around in the name of habitat improvement instead of increasing flows, the result was continued declines of salmon on the Tuolumne. 60% of unimpaired before it's too late.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
223	1	As longtime Californians who greatly value and enjoy our state's natural resources, we urge you to prioritize the needs and desires of the residents of the state — both human and animal — over the demands of frequently out-of-state corporate interests	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		as you make final considerations about the Sacramento/Delta Draft Staff Report. Your decisions will have lasting impacts far into the future and voters will be watching carefully to see whether or not our long term interests are considered. California's water and the wildlife that is dependent on a healthy ecosystem represent common resources that should benefit all Californians as equitably as possible. The current proposed plan quite clearly favors corporate agriculture over the needs and desires of the people, flora, and fauna of our wonderful state. We and many others would rightly see it as a privatization of our natural resources, an unacceptable outcome. The plan must be amended to favor human benefits over corporate benefits.	
224	1	I would like to contrast some Beneficial uses of Central Valley river water. As you know one of the roles of the Water Board is to balance Beneficial uses. I am commenting on some of the beneficial uses. These comments pertain to AGR, Agricultural supply, which uses about 80% of our developed water, COMM for commercial and recreational fisheries, SPAWN (spawning) and COLD (cold water habitat). Regarding AGR: Agricultural supply. Dollars of production in the Central Valley in 1995 was \$13 Billion. In 2020 it was \$30 Billion. An increase of 230%. AGR certainly did very well! Much of that was driven by highly water intensive and profitable Almond production which increased from 370 million lbs. in 1995 to 3.1 billion in 2020. That is an increase 837%! Now lets cover COMM, recreational and commercial fishing, as well as SPAWN (spawning) and COLD (cold water habitat). As you know 2023 salmon season is closed primarily due to lack of coldwater flows from Oroville and Shasta dams during the time when salmon that should have been in the ocean this in 2023 were spawning and out-migrating. That was a preventable disaster. While salmon fishing was not great in the 90's, due to the	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. See also Common Response 1.2, Water Quality Control Planning Process for a discussion of reasonable protection of fish and wildlife and consideration of other beneficial uses.

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		inadequate flow issue the average number of salmon caught in the 5 years ending 2022 was just 50% of the 5 year average in the 90's. That is a decline of 50%! A dismal catch especially in light of the 230% increase in Central Valley agricultural supply (AGR)! COMM salmon fishing is down 50% in 25 years – and the main reason is lack of cold water flows during spawning and outmigration. During that time 2 of the 4 runs of salmon have been listed. And 4 other fish species have been listed since 1990 as well due to poor flow! Bottom line, Sustainable, science based, and equitable water management practices are crucial for ensuring the long-term well-being of all Beneficial uses of a public trust resource and the communities that rely on them. When you, the Water Board, look objectively you will see the gross imbalance among beneficial uses. You can right the injustice that has been happening and supported by California administrations for decades. The fact that this obvious imbalance has been going on for so long does not make it right. It does make it imperative to fix!	
224	2	Please provide peer reviewed scientifically based water temperature and water flows in your recommendations. Please also include quantified beneficial uses of water in the Bay/Delta system in your final report.	Please see the 2017 Scientific Basis Report (Appendix B of the 2023 draft Staff Report) for peer reviewed science on water temperatures and flows for fish protection. Please also see Common Response 1.2, Water Quality Control Planning Process, for information on beneficial uses.
225	1	My home is on Robert's Island west of Stockton on Burn's Cut off of the San Joaquin River, I have been fishing the Delta for most of my 71 years and am in a front row seat to watch the decline caused by low flows through the Delta. Salmon extinction is a real possibility because of water mismanagement on the part of this Administration and the Water Board's negligence in establishing minimum flows for our rivers. This has been going on since the 90's with continuing degradation of our fisheries due to ignoring the needs of anadromous fish species and favoring agricultural interests when releasing water. Salmon were once a cherished species in California and now with drought and water mis-management they are going the way of the Delta Smelt. You can stop this by throwing out the idea of	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		Voluntary Agreements and just set minimum flows for each of the Deltas tributaries.	
226	1	As discussed in detail below, the DSR's analysis of the proposed Inflow and Cold Water Habitat Objectives' impacts on peaking generation, and more generally electrical grid reliability, is not supported by substantial evidence and fails to satisfy the California Environmental Quality Act's (CEQA) informational requirements. The DSR utilizes a so-called "worst case evaluation" that is based on two faulty assumptions. First, the DSR's assumption that the proposed Inflow and Cold Water Habitat Objectives' worst-case impacts on peaking generation would occur in below-normal water years is contradicted by the electrical emergencies that occurred in 2020 and 2022. Second, the DSR's method of estimating peaking capacity by multiplying average hydroelectric generation by a factor of 1.54 also is inadequate and is not supported by substantial evidence. As a result of these errors, as explained below, the DSR fails to disclose the magnitude and extent of the proposed Inflow and Cold Water Habitat Objectives' impacts on peaking generation and electrical grid reliability and thus violates CEQA.	Please see Common Response 7.8, Energy and Hydropower, regarding peaking power, selection of water-year type for the power flow analysis, and evaluation of effects during electrical emergencies.
226	2	The DSR's Analysis of the Inflow and Cold Water Habitat Objectives' Impacts on Hydroelectric Peaking Capacity, and Therefore in Exacerbating Electrical Emergencies, is Inadequate. The DSR acknowledges that: -- Hydroelectric generation has importance beyond its percentage of statewide generation because only it and natural gas facilities have the capacity to ramp up quickly to meet daily peak demands. (DSR, p. 7.8-13.) -- Not only does the electrical grid need such "dispatchable" resources generally, but this need has grown as California relies more on renewable resources that tend to decline as electrical demands peak each day. (DSR, pp. 7.8-7, 7.8-23, 7.8-32.) -- As renewable resources grew in the 2013-2020 period, California's use of natural gas grew. (DSR, pp. 7.8-14 to 7.8-16.) -- With more intermittent resources coming online (e.g., solar	Please see Common Response 7.8, Energy and Hydropower, regarding peaking power and drought conditions, evaluation of effects during electrical emergencies, and the future of the California electrical grid.

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		and wind power), the flexible timing of power generation at some hydropower facilities could become increasingly useful for addressing unexpected energy supply shortages.” (DSR Appendix A5, p. A5-45.) The DSR nonetheless concludes that implementing the proposed Inflow and Cold Water Habitat Objectives generally would not adversely impact electrical grid reliability based on what it asserts is a “worst-case” evaluation. (DSR, pp. 7.8-28 to 7.8-29; DSR Appendix A5, p. A5-51.) That evaluation relies on two critical assumptions: -- For purposes of energy analysis, the worst-case conditions are in “July of below-normal years because the largest reduction in summer hydropower generation in association with the 75 scenario occurred for this month and water year type.” (DSR Appendix A5, p. A5-51.) Peaking generation can be adequately represented by adjusting generation at “all CAISO hydropower facilities” during a below-normal year by a factor of 1.54, even though it acknowledges that such facilities vary significantly in their peaking capacity. (DSR, p.7.8-14; DSR Appendix A5, p. A5-49 to A5-51.) [Footnote 1: see comment 4] For the reasons explained below, both of these assumptions are fatally flawed.	
226	3	The Actual Worst-Case Scenario Would Occur in Extreme Heat Events During Multi-Year Droughts, Not in the Asserted “Worst Case” Used by the DSR: The DSR’s assumption that the proposed Inflow and Cold Water Habitat Objectives’ worst-case impacts on peaking generation would occur in below-normal years is contradicted by the electrical emergencies that occurred in 2020 and 2022. The DSR describes how, in August 2020, California experienced an electrical emergency involving rolling blackouts during an extreme heat wave as result of, among other factors, increasing	Please see Common Response 7.8, Energy and Hydropower, for discussion of the evaluation of grid reliability.

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		amounts of intermittent generation and unexpected outages of natural gas facilities (DSR, p. 7.8-29; DSR Appendix A5, pp. A5-41 to A-45.) The DSR briefly recognizes that the proposed Objectives' implementation "could cause an incremental exacerbation of the outages." (DSR, p. 7.8-29.) According to the DSR: (A) during the rolling blackouts on August 14, 2020, "demand for CAISO power peaked at 46,777 MW [megawatts];" and (B) the proposed Objectives' implementation, at 55% of unimpaired flow, would reduce "Sacramento/Delta" hydroelectric generation by 700 megawatts in such conditions. (DSR, p. 7.8-29 (3,600 MW in baseline, 2,900 MW at 55%).) As the State Water Board has recognized, water year 2020 was the first of two extremely dry years. (See State Water Board Resolution No. 2021-0028, pp. 1-2.) The DSR does not discuss at all the extreme conditions that California experienced in September 2022. According to CAISO, during an extreme heat wave from August 31 through September 9, 2022, CAISO's grid reached record demands that significantly exceeded those in 2020, including "a new instantaneous gross peak record load of 52,061 megawatts" on September 6 and "the highest ever hourly average load of 51,479 MW" on that day. (CAISO, Summer Market Performance Report, Sept 2022, p. 12 (CAISO 2022).) [Attachment 1] [Footnote 2: Available online at https://www.caiso.com/Documents/SummerMarketPerformanceReportforSeptember2022.pdf (accessed Dec. 27, 2023). Cited excerpts are submitted with this letter as Attachment 1.] These demands "far exceeded the 49,748 MW of resource adequacy capacity" available to CAISO that day. (CAISO 2022, p. 14.) CAISO identified reduced hydroelectric production as a result of drought conditions as playing "a key role" in why the emergency occurred. (CAISO 2022, pp. 21, 28-32.) The situation was so critical that, in preparation for the heat wave, Governor Newsom issued an emergency proclamation that, among other things, suspended certain Water Code sections in relation to water temperature requirements in waste discharge permits for some thermal power plants. (Aug. 31, 2022 Proclamation of A State of Emergency, pp. 1-3.) [Attachment 2] [Footnote 3: A copy is submitted with these comments, as Attachment 2]. With support of the Governor's	

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		Office and State and Federal Agencies, the Placer County Water Agency was granted a variance to its Federal license to operate in order to provide additional hydropower during the extended drought. On September 6, at the height of demand, the Office of Emergency Services sent an unprecedented text-message alert to Californians that requested energy conservation, resulting in reduced consumption “when the grid needed it most.” (CAISO 2022, pp. 42-45.)	
226	4	The DSR states that an increased capacity to ramp generation and releases up and down to meet peak demands “allows hydroelectric facility operators to increase profits by supplying energy when demand and prices are high.” (DSR, p 7.8-14.) This statement is incorrect for public agencies like the signatories to this letter that do not generate profits for themselves, shareholders, or any other interest.	The sentence in Section 7.8, Energy, regarding profits from hydroelectric generation has been edited to read “The ability to ramp releases up or down allows hydropower facility operators to supply energy when demand and prices are high.”
226	5	Based on the real-world experiences of 2020 and 2022, the actual worst-case scenario for the proposed Inflow and Cold Water Habitat Objectives’ impacts on peaking generation would be an extreme heat event that occurs during a multi-year drought when reservoir storage is low. The DSR does not analyze those proposed Objectives’ impacts during multi-year droughts in any resource category. This inadequacy is particularly problematic in analyzing those proposed Objectives’ impacts on hydroelectric peaking generation and therefore on electrical grid reliability. For example, as DSR Appendix A5 recognizes, Yuba Water Agency (YWA) increased its hydroelectric generation to assist in resolving the 2020 crisis. (DSR Appendix A5, p. A-45.) If the proposed Objectives’ impacts on YWA’s generation at New Colgate powerhouse would be anything like those depicted in the DSR, YWA potentially would be unable to make similar contributions toward resolving future statewide energy crises. As demonstrated by this example, the DSR inappropriately does not analyze impacts on peaking generation in extreme heat events occurring during multi-year droughts or even during critical years.	Please see Common Response 7.8, Energy and Hydropower, for discussion of the evaluation of grid reliability.
226	6	The DSR’s Estimate of Peaking Capacity in its “Worst-Case” Evaluation is Inadequate Because it is Not Based on Critical Year Reservoir Storage and Ignores Hydroelectric Facilities’ Highly	Please see Common Response 7.8, Energy and Hydropower, for discussion of the evaluation of grid reliability.

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		Variable Ability to Generate Concurrent with Peak Demands: The DSR Appendix A5 analyzes the proposed Inflow and Cold Water Habitat Objectives' impacts on hydroelectric peaking capacity by multiplying average daily generation by a factor of 1.54 to reflect the ratio between that average generation and maximum daily generation in 2016. (DSR Appendix A5, p. A5-49 to A5-51.) The DSR uses 2016 because "2016 was a below-normal year, which is the same year type chosen for the assessment because it represents conditions with the largest estimated reduction in hydropower." (DSR Appendix A5, p. A5-50.) As Appendix A5 states, however, average daily maximum generation in the critical year of 2015 was significantly lower than in 2016, with the 2016 value between 5,297 megawatts and the 2015 value being 3,682 megawatts. (DSR Appendix A5, p. A5-50, Table A5-12.) The proposed Objectives' impacts on the utility of peaking generation as a method for maintaining grid reliability would be much more significant in a critical water year like 2015 than in a below normal year like 2016 because, in a critical year, the proposed Objectives would reduce an already smaller amount of generation. The electrical emergencies in 2020 and 2022 demonstrate how reduced hydroelectric storage resulting from dry conditions can reduce grid reliability.	
226	7	The DSR's method of estimating peaking capacity by multiplying average hydroelectric generation by a factor of 1.54 also is inadequate and is not supported by substantial evidence. Preliminarily, that factor is based on the relationship of average and maximum generation in 2016, which, as discussed above, is not an appropriate year to use for this analysis. (See DSR Appendix A5, p. A5-50 and Table A5-12.)	Please see Common Response 7.8, Energy and Hydropower, for discussion of the evaluation of grid reliability.
226	8	Moreover, as the DSR's Appendix A5 states, that value is based on data from "all CAISO hydropower facilities combined, as CAISO does not provide data for individual hydropower facilities." (DSR Appendix A5, p. A5-50.) That appendix, however, also indicates that the State Water Board has the technical ability to model varying levels of hydroelectric generation at different facilities [Footnote 4: The DSR Appendix A5 states, "[I]f it appeared that the 75 scenario would result in a grid reliability issue under the contingency condition, hydropower could have been allowed to temporarily increase at some facilities to the maximum value	Please see Common Response 7.8, Energy and Hydropower, for discussion of the evaluation of grid reliability.

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		possible....” (DSR Appendix A5, p. A5-51.)). Conducting a facility-specific analysis of the proposed Inflow and Cold Water Habitat Objectives’ impacts on peaking generation could be critical because, as the DSR acknowledges, powerhouses have widely varying abilities to operate for peaking. (DSR, p. 7.8-14; DSR Appendix A5, p. A5-50.)	
226	9	The DSR cites no evidence to support its use of a systemwide adjustment factor to estimate peaking generation, rather than the apparently feasible and more relevant and informative analysis of individual facilities’ peaking operations. The DSR’s Appendix A5 states only: The degree of peaking operations varies from facility to facility and from day to day, but the use of the aggregated values is sufficient for estimating the effect of peaking operations and the adequacy of electric power supply to maintain grid reliability. (DSR Appendix A5, p. A5-50; see also DSR, p. 7.8-28 (same).) This is inadequate because, as discussed above, the DSR’s modeling results show that the proposed Inflow and Cold Water Habitat Objectives’ implementation would have widely varying impacts on individual facilities, including generation facilities that provide critical peaking capacity. For these reasons, the DSR’s analysis of the proposed Inflow and Cold Water Habitat Objectives’ impacts on peaking generation, and therefore electrical grid reliability, fails to adequately evaluate and disclose the reasonably foreseeable extent and magnitude of the proposed plan amendments’ significant impacts.	Please see Common Response 7.8, Energy and Hydropower, for discussion of the evaluation of grid reliability.
226	10	The DSR’s Cumulative Analysis is Inadequate for the Inflow and Cold Water Habitat Objectives’ Energy Impacts Because it Does Not Include the Reasonably Foreseeable Closure of Diablo Canyon Nuclear Power Plant As the DSR recognizes, CEQA requires the State Water Board to analyze the cumulative effects of the proposed Inflow and Cold Water Habitat Objectives in association with, among other things, “reasonably foreseeable future projects.” (DSR, p. 7.23-2;	As described in Section 7.8, Energy, the scale of reductions of hydropower under the regulatory pathway is very small and as described in Section 9.7.8, Energy, would be even smaller under the VA pathway. For example, the estimated 700 MW reduction in power generation associated with the 55 scenario represents approximately 1.5 percent of the CAISO peak energy demand during the August 14, 2020, rolling blackouts. Under the baseline condition and all flow scenarios, hydropower peaking operations would still occur in order to maximize hydropower during the

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		CEQA Guidelines § 15335.) The DSR, however, does not include, in the list of projects on which its cumulative analysis is based, the reasonably foreseeable closure of Diablo Canyon nuclear power plant. (See DSR, pp. 7.23-21 to 7.23-36 (Table 7.23-1), 7.23-44 to 7.23-45.) This is a prejudicial omission of relevant information necessary to conduct an adequate analysis of the proposed Objectives' cumulative energy impacts [Footnote 5: While the DSR's analysis of the proposed Voluntary Agreements largely relies on the same cumulative analysis, that analysis does not suffer from the same deficiencies as a result of the omission of Diablo Canyon's reasonably foreseeable closure. A CEQA document is only required to analyze a cumulative effect of a project where the project's incremental effect is "cumulatively considerable." (CEQA Guidelines §§ 15064, subd. (h)(1); 15130, subd. (a).) The proposed Voluntary Agreements' energy impacts would be very limited, with the largest increment identified in the DSR being attributable to the DSR's assumption that unspecified water purchases could come from the Sacramento Valley and thus affect hydroelectric generation. (DSR, pp. 9-122 to 9-128; DSR Appendix G3d, pp. G3d-4 to G3d-6.)]. As the Legislature found in 2022 in enacting Public Resources Code section 25548 through Senate Bill 846, "The Diablo Canyon powerplant currently supplies approximately 17 percent of California's zero-carbon electricity supply and 8.6 percent of California's total electricity supply." (Public Resources Code § 25548, subd. (a).) Given that Diablo Canyon is the state's only operational nuclear plant, the DSR effectively acknowledges that Diablo Canyon represents a large increment of statewide generation by stating that nuclear energy is nine percent of total generation. (DSR, p. 7.8-5.) As Public Resources Code section 25548.1 indicates, Diablo Canyon's federal operating licenses were to have ended in 2024 and 2025, but may be extended. (Public Resources Code § 25548.1, subds. (b), (f).) On December 14, 2023, the California Public Utilities Commission authorized Diablo Canyon to continue operating for five years [Footnote 6: The matter was item 49 on the CPUC's December 14, 2023 agenda, which is available at https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M521/K454/521454942.pdf (accessed Dec. 27, 2023)]. The CPUC's	daily time of peak demand. In the extremely rare instance of rotating power outages for conditions not associated with the Bay-Delta Plan, health and safety provisions would likely apply, allowing increases in reservoir releases. Section 7.8 of the Staff Report concludes that the plan amendments would not significantly impact reliance on renewable energy sources, in part due to rapid increases in renewable electricity. Please see also Common Response 7.8, Energy and Hydropower, regarding the future of California's electrical grid. As discussed in that response, reductions in hydropower generation would be small compared to the new energy generation needed to replace electricity generated through fossil fuel consumption and meet the increasing demand for electricity. Furthermore, as indicated in a CAISO study, battery storage will likely provide a substantial portion of early evening power generation in the future (>19,000 MW in 2045). The cumulative impact analyses focus on relevant projects, programs, and categories of projects that may interact with the proposed Plan amendments in a way that could result in cumulatively significant impacts. The small scale of reductions in energy production at individual hydroelectric facilities is not relevant in comparison with overall energy supply of the State and the considerations of the Diablo Canyon power plant. Consideration of the potential Diablo Canyon closure would not alter any of the Staff Report's reasoning or analysis.

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		“Results from Commission Meeting” document states that the matter was approved. That document is available at https://ia.cpuc.ca.gov/agendadocs/3538_results.pdf (accessed Dec. 27, 2023). In a March 2, 2023 order, the federal Nuclear Regulatory Commission (NRC) granted Diablo Canyon’s owner, Pacific Gas & Electric (PG&E), an extension of time to December 31, 2023 to file a license renewal application [Footnote 7: A copy of the order is included with these comments, as Attachment 3 [Attachment 3]]. The NRC’s order stated that it did “not constitute an approval of the license renewal application PG&E intends to submit.” (NRC order, p. 11.) Based on these facts, it is reasonably foreseeable that Diablo Canyon may cease to operate in the foreseeable future, so the reduction of approximately nine percent of California’s total electrical generation could occur concurrent with the energy impacts that would result from the proposed Inflow and Cold Water Habitat Objectives’ implementation. Importantly, this reduction would change the mix of renewable resources so that those resources would become even more variable. Based on our experience with power generation, it is reasonable to assume that under these circumstances even more flexible peaking generation would be required to meet the highest electrical demands. Nuclear energy and generation by solar and wind sources all constitute zero-carbon generation. (DSR, pp. 7.8-6, 7.8-14 to 7.8-16.) Solar and wind sources, however, can vary significantly during each day, which creates a need for peaking generation that reaches its height in the early evening hours on hot days. (DSR, p. 7.8-13.) Nuclear energy is not subject to those diurnal and/or climate-based variations. Accordingly, to the extent that Diablo Canyon were to cease operating, and its zero-carbon generation were to be replaced by more solar and wind sources, hydroelectric facilities might be needed to produce more peaking generation than in baseline conditions. By failing to consider Diablo Canyon’s potential closure in relation to the proposed Inflow and Cold Water Habitat Objectives, the DSR fails to adequately consider those proposed Objectives’ cumulative impacts on peaking generation and electrical grid stability.	

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226	12	Comments Specific to the Sacramento Municipal Utility District (SMUD) SMUD was on the verge of rolling brownouts on September 6, 2022, when extreme heat pushed customer electrical demands to a near record high. It was imperative that SMUD be able to draw upon all generation resources at its disposal, and especially important was hydroelectric. As the graph below [Exhibit 1] shows, hydroelectric generation comprised 20% of the power it served during the highest demand periods that day, while remaining available hydroelectric capacity provided support for contingency reserve compliance as required by WECC Standard BAL-002- WECC-3. Were it not for the level of hydroelectricity generated throughout that day, using the water diverted to storage during the high flow period, SMUD would have had to implement rolling outages at a time when the need for air conditioning was critical for the health and safety of its customers. Along with providing much needed power during peak summer electrical demand, SMUD often utilizes the flexibility of hydroelectric generation to support increased renewable energy on the electric grid. Hydroelectric power provides much needed relief when renewable assets, such as wind or solar power see large shifts in generation, also shown in the graph below as hydroelectric power continued to support load when solar generation was no longer available. As the electric markets continue toward decarbonization, the need for flexible renewable assets increases exponentially, and hydroelectric generation is a proven provider to support those energy and capacity needs.	See Common Response 7.8, Energy and Hydropower, for a discussion of the effect of the proposed Plan amendments on grid reliability and importance of hydropower to the future of the California electrical grid.
226	13	SMUD's hydroelectric generation is a FERC-licensed hydroelectric asset with numerous water-dependent requirements, from large year-round releases for aquatic habitat, recreational boating flows, pulse flows for maintenance of stream sediment mobilization and reservoir elevation requirements. SMUD utilizes the storage reservoirs to ensure compliance to the timing and magnitude of required releases and reservoir storages as stipulated under the FERC License, and changes to the current release strategy or additional mandated releases could result in failure to fulfill all License requirements.	Please see Common Response 7.8, Energy and Hydropower, regarding evaluation of local effects, including compliance locations. Based on SacWAM modeling presented in Appendix A1, Sacramento Water Allocation Model Methods and Results, and hydropower calculations performed for Appendix A5, Hydropower, Energy Grid, and Export Energy Analyses, SacWAM was run without a need to reoperate key SMUD reservoirs (Table A1-143), and the Plan amendments are expected to have almost

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		In most water years, meeting FERC required releases and minimum reservoir elevations account for roughly 50-75% percent of winter/spring unimpaired runoff. The changing climatology of the American River watershed, with increases in runoff from precipitation and earlier snowpack melt has increased the need for SMUD to divert water into storage to be released later based on the License demands. Had SMUD been unable to divert into storage the full amount of water it did during the 2014-15 water year, it would have been impossible to meet all those obligations. In fact, it was a very close call as it was.	no effect on operations at the hydropower facilities that generate most of SMUD's hydropower (Camino, Jaybird, Loon Lake, Robbs Peak, Union Valley, and White Rock/Slab Creek) (Figures A5-17 through A5-19). As a result, the Plan amendments are not expected to interfere with SMUD's ability to meet any FERC license requirements. In addition, please see Common Response 1.2, Water Quality Control Planning Process, regarding interaction of the Plan amendments with other State Water Board regulatory activities.
226	14	[Exhibit 1: Graph titled SMUD Load & Resources]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
226	15	Comments Specific To the Nevada Irrigation District (NID): The DSR fails to adequately analyze the impact of the Inflow and Cold Water Habitat Objectives on the important role of hydropower facilities in maintaining grid stability. For example, NID's generators provide benefits to the grid immediately around the 115 kV points of-interconnection to NID's generation. The 115 kV circuit to which NID interconnects is a lengthy circuit which extends from south central Nevada County to west of Sacramento. The rating of the circuit ranges from 63 mega-volt amperes (MVA) to 119 MVA, depending on presumed weather conditions and as-built details. This lengthy 115 kV line experiences high voltage drops and requires the voltage support provided by NID's generation. The overall 115 kV circuit, which is the singular link through the Sierra Nevada, is weakened without the above generators to provide local voltage support, inertia for system stability, and a baseline indication of system frequency.	Local, regional, and systemwide impacts are evaluated as part of the power flow analysis described in Appendix A5, Hydropower, Energy Grid, and Export Energy Analyses, and Section 7.8, Energy. The TARA power flow analysis is a detailed evaluation of the entire California electrical grid, and by necessity, includes local power transmission infrastructure. The power flow modeling verifies that electrical energy can move through the electrical grid reliably to meet load demand where it is needed. There are some ancillary services that are provided by some generators, including hydropower facilities, that provide dynamic corrections to short-term perturbances to keep the grid running at the proper frequency and voltage. The ancillary services of frequency regulation, equipment level voltage support, and transient voltage stability are not part of the steady state power flow modeling, but generally require small amounts of energy compared to what is needed for meeting grid demand, which is modeled in the power flow analysis. In order protect health and human safety, these ancillary services would be allowed to continue if they could not be provided by other facilities and are found to be essential for grid stability. As indicated in Common Response 7.8, Energy and Hydropower, Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, and Appendix H1a3, Sacramento Water Allocation Model Results for Updated

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			Unimpaired Flow Scenarios, storage in reservoirs, including those that supply these ancillary services, could be reduced, particularly in the spring, but would not be drained unless they are regularly drained under baseline conditions, and stored water would be available for essential and emergency purposes. For the evaluation of local effects, the continued ability of hydropower facilities to provide emergency power, and reliability of the California electrical grid, please see Common Response 7.8.
226	16	IV. Conclusion In summary, the DSR's analysis of the proposed Inflow and Cold Water Habitat Objectives' impacts on peaking generation and electrical grid reliability is inadequate and fails to satisfy the requirements of CEQA. The Hydro Power Group requests that the DSR be modified to adequately address the issues raised in this comment letter and that the DSR be recirculated.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. To the extent that this comment summarizes other comments, please see the substantive responses to those comments.
226	17	[Attachment 1: Excerpts from document titled Summer Market Performance Report]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
226	18	[Attachment 2: Document titled Proclamation of a State of Emergency]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
226	19	[Attachment 3: Document titled Nuclear Regulatory Commission Nuclear Regulatory Commission Docket Nos. 50-275 and 50-323 Pacific Gas and Electric Company Diablo Canyon Power Plant, Units 1 and 2 Exemption]	This attachment was included with the comment letter. The attachment does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing attachments to comments.
227	2	The Draft Staff Report evaluates an alternative proposal that is referred to as the "Voluntary Agreements" or "VAs." The VAs are a set of measures proposed by a group of state and federal agencies, local water agencies, and private companies as an alternative to the proposed Plan amendments. As described in the Draft Staff Report, these measures include "a combination of proposed flow and non-flow habitat restoration measures on a portion of the Sacramento/Delta tributaries over eight years (with the intent to extend the term), including varying amounts	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the regulatory pathway.

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		of increased flows, depending on water year type, and nonflow habitat restoration actions targeted at improving spawning and rearing capacity for juvenile salmonids, estuarine species, and other native fish and wildlife.” (Draft Staff Report, Pg. 9-1.) Specific details regarding the VAs are included in Chapter 9 and Appendix G. For reasons that are discussed in detail below, the VAs are the superior pathway for achieving the State Water Board’s legal obligations under the California Environmental Quality Act (“CEQA”) and the Porter- Cologne Water Quality Control Act (“Porter-Cologne Act”) when adopting water quality objectives. Furthermore, the VAs will result in more benefits to fish and wildlife, and fewer impacts to other beneficial uses, than the proposed Plan amendments. Additionally, unlike the proposed Plan amendments, the VAs advance measurable and enforceable mitigation to accomplish the State Water Board’s objectives. As a result, SSWA urges the State Water Board to reject the proposed Plan amendments and adopt the Vas.	
227	3	The Draft Staff Report Does Not Comply with CEQA Because It Does Not Evaluate the Proposed Plan Amendments’ Impacts on SSWA’s Ability to Provide Water to the City or the Feasibility of Obtaining Replacement Water Supplies. The Draft Staff Report states that the proposed Plan amendments will result in a 62% average annual reduction of water supply to water users who rely on the Putah South Canal, however, the impacts on SSWA’s ability to provide water to the City are not identified in the Draft Staff Report. (Draft Staff Report, pgs. 6-69; 7.20-37.) SSWA sources all of its water supply for the City from the Putah South Canal because it currently does not have the facilities to convey or treat water under its entitlement from the North Bay Aqueduct and it does not pump groundwater or plan to do so in the future. (SSWA and SID 2020 Urban Water Management Plan, pgs. 50-53.) Draft Staff Report Section 7.20, Table 7.20-16 evaluates water supply impacts to Bay Area municipalities that rely on water from the Sacramento/Delta, however, this table omits any reference to SSWA or the City. (Draft Staff Report, pg. 7.20-38.) This omission is particularly troubling because the water supply reductions	In Section 7.20, Utilities and Service Systems, the Staff Report evaluates impacts of changes in water supply and concludes that some municipal water suppliers may need new or expanded water entitlements. Appendix D, Supplemental Municipal Supply Analysis Information, Section D.3., Municipal Supply Economic Effects Analysis, estimates the amount of replacement water needed under different scenarios (Table D-17), a series of water portfolio options and the representative unit costs to replace reduced Sacramento/Delta supply (Tables D-18 and D-19). The Staff Report considers development of new or expanded supply through additional groundwater wells, water recycling, desalination, groundwater storage and recovery, and/or surface storage to be reasonably foreseeable response actions to respond to changes in water supply. Each of these water portfolio options potentially will have environmental impacts. The individual resource area analyses in Chapter 7, Environmental Analysis, along with Section 7.22, New or Modified Facilities, discuss those impacts and make conclusions about whether they would be potentially significant and analyze possible mitigation measures.

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		described in the Draft Staff Report would likely result in an immediate building moratorium on all residential and commercial development and drastic water supply restrictions for the City's 30,000 residents, a concept which also contradicts legislation such as Senate Bill 35 and Senate Bill 330 (Housing Accountability Act), whereby certain development projects must be approved by right [Footnote 1: SSWA's preliminary analysis of the Draft Staff Report's estimates of average anticipated water supply reductions to the Putah South Canal suggest that available water supply to the City under existing allocations would be reduced to 42 gallons per-day per-person]. CEQA provides that "an agency must use its best efforts to find out and disclose all that it reasonably can" when forecasting environmental impacts and the feasibility of alternatives. (CEQA Guidelines, § 15144; see also id. At § 15151 ["[T]he sufficiency of an EIR is to be reviewed in light of what is reasonably feasible".]) "'Feasible' means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." (Pub. Res. Code. At § 21061.1.) The lead agency is not only required to do "all that it reasonably can" to identify the environmental impacts of a proposed project, it must also disclose the nature and magnitude of impacts it finds significant. (Sierra Club v. County of Fresno (2018) 6 Cal.5th 502, 519; City of Long Beach v City of Los Angeles (2018) 19 Cal.App.5th 465, 486.) After the lead agency identifies and evaluates those impacts, it must then analyze mitigation measures or alternatives that avoid or substantially lessen those significant effects. (Pub. Res. Code, §§ 21061, 21100(b)(1) & (3), 21002.1(a) ["The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided."]; Friends of Sierra Madre v. City of Sierra Madre (2001) 25 Cal.4th 163, 183.) Mitigation measures cannot be deferred. (CEQA Guidelines § 15126.4). The Draft Staff Report does not comply with CEQA because it does not identify or evaluate the proposed	Table D-4 in the 2023 draft Staff Report and the summary in Table 7.20-16 were based on the 2020 Urban Water Management Plan data aggregated by the Department of Water Resources in 2022. The 2020 Suisun-Solano Water Authority's Urban Water Management Plan was submitted in May 2023 and was missing from the aggregated data. Table D-4 in the final Staff Report has been edited to add Suisun-Solano Water Authority. The impact determination was not changed because of this modification. Please see Common Response 7.20, Utilities and Service Systems, for a discussion of regional assessment as an overall approach to the impact analysis in the Staff Report, and how this relates to impacts on individual municipal water suppliers. Common Response 7.20 also describes how Staff Report considers potential effects associated with reduced water supplies to service providers, including responses, and feasibility of alternative supplies. However, the reduction of a surface water supply to a municipal water supplier, in and of itself, does not represent a significant effect on the physical environment requiring mitigation, and the State Water Board's CEQA obligations are not to compensate those agencies, entities, and persons who might be affected by the changes in Sacramento/Delta supply. The Staff Report fully satisfies the basic purposes of CEQA, which are to: (1) inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities; (2) identify ways that environmental damage can be avoided or significantly reduced; (3) prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and (4) disclose to the public why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved. (Cal. Code Regs., tit. 14, § 15002, subd. (a).) To fulfill these functions, an evaluation of the environmental effects need not be exhaustive, but the sufficiency of an environmental analysis is to be reviewed in light of what is reasonably feasible and CEQA documents need not be perfect. CEQA documents should be

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		Plan amendments' potential impacts to SSWA's ability to provide water supplies to the City and does not evaluate feasible, enforceable, mitigation measures (i.e., alternative water sources). Despite the indisputably significant impacts that a 62% reduction in water supply to the Putah South Canal would have on SSWA's ability to provide water to the City, the Draft Staff Report's evaluation of the proposed Plan amendments does not mention either SSWA or the City (e.g., Section 7.20, pg. 7.20-38.) The Draft Staff Report's failure to identify and evaluate the proposed Plan amendments' potential impacts to SSWA's ability to provide water to the City, or evaluate the feasibility of obtaining alternative water sources, is a violation of CEQA that must be corrected before the State Water Board can adopt the proposed Plan amendments. In contrast to the proposed Plan amendments, the Vas alternative does not result in significant water supply reductions to the Putah South Canal and is also an environmentally superior alternative that results in more benefits to fish and wildlife than the flow-only approach embodied by the proposed Plan amendments, thus, meeting the State Water Board's project objectives. The Vas alternative includes proposed flow contributions for Putah Creek that avoid significant impacts to SSWA's ability to deliver water to the City while providing more benefits to fish and wildlife. (See <i>infra</i>, Section III.) Because the Vas alternative avoids significant impacts to SSWA's ability to deliver water to the City, the State Water Board could adopt the Vas alternative without first amending the Draft Staff Report to identify, evaluate, and mitigate these impacts pursuant to CEQA.	adequate, complete, and represent a good faith effort at full disclosure. (Id., § 15151.) The trade-offs between instream flow requirements, carryover storage, and water supply are addressed extensively throughout the Staff Report. CEQA impact conclusions must be understood in the context of the nature of the proposed project, which is a remedial or restoration action under the state Porter-Cologne Act and federal Clean Water Act. The primary purpose of the federal Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters (Clean Water Act § 101(a).) The revised proposed Plan amendments were developed to improve flow and water quality conditions over a large geographic area, and particularly for fish and wildlife beneficial uses in the Sacramento/Delta. The impacts that could potentially result from implementation occur in a system that has been highly altered, and the project would be expected to improve conditions for native fish and wildlife in the Sacramento/Delta watershed over time. While changes in hydrology and supply could result in some environmental impacts at certain times and locations that must be analyzed under CEQA, these potential environmental impacts are viewed in light of the overall purpose and goals of the Sacramento/Delta update to the Bay-Delta Plan. While some mitigation activities are within the State Water Board's jurisdiction, other mitigation measures are largely within the jurisdiction and control of other agencies or depend on the response actions of water users to the project. Accordingly, the State Water Board cannot guarantee that measures will always be adopted or applied fully to mitigate potentially significant impacts. Therefore, unless and until the mitigation is fully implemented, some impacts remain potentially significant. Note also that these model results are presented as worst case scenarios that do not utilize flexibility in the Plan for adaptive implementation and local cooperative solutions. The State Water Board also plans to develop appropriate provisions to address human health and safety needs and other possible reasons for short-term and long-term exceptions to curtailments to allow continued diversions for minimum human health and safety water supplies where alternate supplies are not available.

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			See also Common Response 1.2, Water Quality Control Planning Process, regarding population and housing factors. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. In addition to the proposed Plan amendments, which remain part of the project as the regulatory pathway, the revised proposed Plan amendments include water supply adjustments and flexibility to tailor carryover storage requirements for existing water right holders at the outset of Plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs. Finally, Appendix H1, Sacramento Water Allocation Model Methods and Results for the Revised Proposed Plan Amendments, describes tributary-specific water supply adjustments that further reduce impacts on municipal water supplies and reservoir carryover storage levels in the Mokelumne River, Calaveras River, and Putah Creek watersheds that are highly impaired and are also either municipal water supply-dominated or are flashy rainfall-dominated systems that cause significant challenges managing carryover storage, or both.
227	4a	The Draft Staff Report Does Not Contain Necessary Information to Satisfy the State Water Board's Legal Requirements Under the Porter-Cologne Act Because It Does Not Contain Information Regarding the Proposed Plan Amendments' Impact to SSWA and the City. The Porter-Cologne Water Quality Act requires that the State Water Board set water quality objectives that will provide "reasonable protection" of all beneficial uses. (Wat. Code §§ 13000, 13240, 13241.) California Courts have previously held that sections 13000, 13240 and 13241 impose both broad powers and broad responsibilities on the State Water Board when it adopts a water quality control plan. (United States v State Water Resources Control Board (1982) 182 Cal.App.3d 82, 110, 116, 117, 118, 122.) As explained below, the information in the Draft Staff Report supporting the proposed Plan amendments is insufficient for the State Water Board to meet the "statutory imperative" under Porter-Cologne to "consider all demands" and "ensure the reasonable protection of beneficial uses." (Id. At 109-110.)	Please see the response to comment 227-3 regarding the evaluation of potential effects associated with potentially reduced water supplies to SSWA. SacWAM, described in Chapter 6, Changes in Hydrology and Water Supply, provides estimates of monthly quantities of Sacramento/Delta water delivered for agricultural, municipal, and refuge uses for the entire period of simulated hydrology. Municipal suppliers in some regions rely on Sacramento/Delta supplies more heavily than others, leaving them more vulnerable to reductions in that supply. The impacts on municipal suppliers can vary substantially across regions. Regions most reliant on the Sacramento/Delta supply are the Sacramento River watershed (58 percent of municipal supply relies on Sacramento/Delta supplies), Delta eastside tributaries (52 percent), and Bay Area (62 percent). As a whole, Sacramento/Delta water supply to municipal uses decreases with increasing flow requirements. Municipal water supplies are further analyzed in Section 7.20, Utilities and Service Systems. The impact analysis provides a regional-level assessment of how a reduction in

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		Because the Draft Staff Report does not contain any discussion of the foreseeable impacts to SSWA's ability to provide water to the City, it lacks information that is necessary for the State Water Board to satisfy its legal obligations under the Porter-Cologne Act. As noted above, the Draft Staff Report does not contain any discussion regarding the severe water supply reductions to SSWA and the City that would result from the 62% reduction in water supply to the Putah South Canal under the proposed Plan amendments. Without this information, the State Water Board is unable to consider whether the proposed Plan amendments would provide "reasonable protection" to the 30,000 residents of the City that rely exclusively on water from the Putah South Canal and cannot satisfy its legal obligations under the Porter-Cologne Act. As a result, the State Water Board cannot approve the proposed Plan amendments unless the Draft Staff Report is amended to include information on foreseeable impacts to SSWA's ability to provide water to the City.	Sacramento/Delta water supplies could affect municipal deliveries, whether additional water supplies may be needed, and whether impacts could be avoided by relying on existing supplies from other sources or more intensive use of demand management measures. The analysis concludes that, although some communities appear to have reserve supply from other sources that could replace Sacramento/Delta supply reductions, other communities do not have enough reserve supplies. Effects during extended dry years or drought conditions are considered qualitatively and would greatly exacerbate municipal shortages for some of the municipal uses. See also Common Response 1.2, Water Quality Control Planning Process, for a discussion regarding the reasonable protection of fish and wildlife beneficial uses and consideration and balancing of other beneficial uses.
227	4b	In comparison to the proposed Plan amendments, the Draft Staff Report does not need to be amended to include information on impacts to SSWA's ability to provide water to the City in order for the State Water Board to adopt the VAs alternative. Because the VAs alternative does not result in significant impacts to SSWA's ability to provide water to the City, the State Water Board can make required findings under the Porter-Cologne Act when adopting the VAs alternative without first amending the Draft Staff Report. Furthermore, the VAs alternative is a better alternative because it will result in greater protections for fish and wildlife with fewer impacts to other beneficial uses. (See <i>infra</i>, Section III.)	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see the responses to comments 227-3 and 227-4a.
227	5	III. The VAs Alternative Provides Superior Protections to Fish and Wildlife with Fewer Impacts to Other Beneficial Users of Water The VAs combine flow and non-flow measures and well-defined methods of implementation to provide greater benefits to fish and wildlife with fewer impacts to other beneficial uses of water, making it a vastly superior alternative to the proposed Plan amendments.	Please see Common Response 7.24, Alternatives Analysis, for information on the environmentally superior alternative. Please see Common Response 1.2, Water Quality Control Planning Process, for information on the State Water Board's authorities. Please see the response to comment 227-3.

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		The VAs alternative includes well-defined and enforceable actions that are anticipated to result in more benefits than the proposed Plan amendments. The VAs alternative includes a new narrative objective to achieve the viability of native fish populations and defines specific flow and non-flow implementation measures with the goal of achieving the existing Narrative Salmon Protection Objective by 2050. These measures are both implementable and enforceable. (Draft Staff Report at pg. 9-16 ("the Bay-Delta Plan program of implementation would be amended to require that either the proposed VA flow and non-flow habitat restoration actions are achieved in any region covered by a VA"); id., at pg. 5-2 ("[t]he proposed VAs identify a regulatory implementation pathway that would exist in parallel with the VA implementation pathway").) Additionally, the VAs alternative can be carried out much more rapidly than the proposed Plan amendments, which must be implemented through years-long processes following adoption, because the participating parties have already identified their roles and committed to implementation. Lastly, the VAs alternative includes measures that the State Water Board could not otherwise mandate, such as contribution of significant financial resources towards restoration, monitoring, and study. The VAs alternative results in fewer impacts to other beneficial uses than the proposed Plan amendments. While the VAs alternative will result in water supply impacts for water users, they are much less significant than the substantial impacts of the proposed Plan amendments. According to the Draft Staff Report, the proposed Plan amendments would reduce Sacramento/Delta water supplies by an average of 1,682,000 acre-feet per year and cause major changes to reservoir operations. (Draft Staff Report at pgs. 6-37 - 6-42; id., pg. 6-57.) In comparison, the VAs alternative would result in much smaller reductions in Sacramento/Delta water supplies and only "minor changes in reservoir storage." (Id., pg. 9- 20.) Additionally, the impacts from the proposed Plan amendments are more significant than discussed in the Draft Staff Report (e.g., the Draft Staff Report omits discussion of impacts to SSWA's ability to provide water to the City). For these reasons, the Vas alternative is both environmentally superior and more protective of existing beneficial uses than the proposed Plan amendments. To that end,	

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		it makes sense for the State Water Board to not only adopt and implement the Vas alternative, but to also include an automatic renewal in the agreements once the original eight-year term expires, contingent on satisfying the terms and conditions set forth therein.	
227	6	IV. Conclusion SSWA appreciates the opportunity to work with the State Water Board to provide comments on the Draft Staff Report, the proposed Plan amendments, and the VAs alternative, and remains available to provide technical information to address the gaps in the Draft Staff Report, identified above. On behalf of SID and the City, SSWA urges the State Water Board to adopt the Vas alternative and begin the process of collaborating with the participating parties to make major improvements throughout the Sacramento/Delta. Further, SSWA urges the State Water Board to decline to adopt the 55% unimpaired flow as a viable option in the final Bay-Delta Plan. We are concerned that there is no scientific or validated beneficial use of re-allocating water from water projects previously purposed, funded and constructed for agricultural and municipal usages to water now left as instream flows emptying into the lower part of cache slough and into the Sacramento River at Rio Vista. This is particularly important because there is no just compensation for the taking of the water projects and no understanding of the environmental, social, economic or, for that matter, practical understanding of the impacts of the taking.	Please see Common Response 1.2, Water Quality Control Planning Process, for a legal discussion on takings. Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	1	CSPA et al. is pleased to see the Draft Staff Report finally hit the street. The status of the aquatic ecosystem and fisheries of the Bay-Delta estuary and its greater watershed is dire and worsening. We urge the State Water Board to act urgently on the Report with an update to the Bay-Delta Plan that supports restoration of the ecosystem.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	2	CSPA et al. appreciates the fact that the Draft Staff Report makes a serious effort to analyze the application of a percent-of-unimpaired flow construct as the cornerstone of updated flow objectives for the Bay-Delta Plan. The implications of such an effort are broad and require consideration of many diverse but interconnected issues. As a general matter, the breadth of the subject matter that the Draft Staff Report addresses, including	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Please see Common Response 3.1, Fish Protection, for a discussion of the State Water Board's use of best available

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		the subject matter of proposed objectives, is commendable. CSPA et al. also appreciates the development by State Water Board staff of the SacWAM model and the deployment of the model in support of the Draft Staff Report. It is essential that State Water Board staff have independent water operations modeling capacity with a model that is independent of the control of personnel from the Department of Water Resources (DWR) and the Bureau of Reclamation (Reclamation). It is clear that the development of SacWAM and its use in support of the Draft Staff Report was a major technical effort. The Draft Staff Report's methodology of evaluating flow requirements against identified key flow thresholds for various life stages of fish and other aquatic organisms generally makes sense. [Footnote 1: See, generally, Draft Staff Report, Chapter 3.] This methodology is drawn from the 2017 Scientific Basis Report. As colleagues from other non-governmental organizations have pointed out in hearings on the Plan update, some of the identified thresholds require modification based on scientific documents published in the last seven years (or overlooked in 2017). However, the methodology is basically sound.	science and the Board's approach to analyzing the effects of flow on species abundance and life cycle models.
228	3	Finally, the Draft Staff Report seeks to address many essential issues, such as how to respond to droughts, the erosion of flow requirements by new water rights and/or other sources of increased diversions, reservoir operations and associated water temperature, and limitations on Delta exports. The Draft Staff Report does well to identify these issues and propose objectives or other measures to address them. However, in many cases that we identify below, the Draft Staff Report does not succeed in proposing objectives or other measures that would allow the Bay-Delta Plan update to achieve its required purposes.	Please see Section 7.1.3, Purpose and Goals of the Sacramento/Delta Update to the Bay-Delta Plan, of the 2023 draft Staff Report for information on the purpose and goals of the Sacramento/Delta update to the Bay-Delta Plan.
228	4	The project description is not sufficiently complete to allow full analysis.	Please refer to Common Response 7.1, General CEQA and Approach to the Analysis, regarding the adequacy of the project description and the level and scope of the analysis.
228	5	Many of the proposed objectives are inadequate to achieve the project purposes.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not

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			raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	6	The alternatives are insufficiently defined, and as stated most would not meet the narrative objectives.	Section 7.2, Description of Alternatives, and Section 7.24, Alternatives Analysis, of the Staff Report provide sufficient descriptions of the proposed alternatives and describe the extent to which each alternative would meet the narrative objectives. Section 7.2.3, Alternatives, also describes the role of the Staff Report in evaluating the alternatives. Also see Common Response 7.24, Alternatives Analysis, regarding the range of feasible alternatives.
228	7	The Proposed Plan Amendments are insufficient to meet the narrative objectives.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see the responses to comments 228-4 through 228-6.
228	8	The alternatives, including the Proposed Plan Amendments, are insufficiently defined to evaluate impacts.	Please see Common Response 7.24, Alternatives Analysis, regarding range of feasible alternatives and the modular alternatives. See Common Response 7.1, General CEQA and Approach to the Analysis, regarding the adequacy of the project description.
228	9	The proposed reliance on “voluntary implementation” is unworkable and defers analysis needed to evaluate impacts.	Please see Common Response 1.3, Revised Proposed Plan Amendments, regarding local cooperative solutions, and Common Response 7.1, General CEQA and Approach to the Analysis, regarding the approach to the analysis.
228	10	The modeling and descriptions of model output are inadequate in multiple ways.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 2.1, Presentation of Data and Results in the Staff Report and Responses to Comments, regarding how data is presented. See Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding how SacWAM was used.
228	11	The inclusion of the proposed Voluntary Agreements (VAs) as a project alternative is facially inadequate, because the VAs are wholly inadequate to meet the project purposes.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Please see Common Response 7.24, Alternatives Analysis, regarding range of feasible alternatives and the modular alternatives.

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228	12	The Draft Staff Report announces that in its entirety it is a substitute CEQA document. Thus, CEQA is a legal standard with which the Draft Staff Report must comply. In addition, the Draft Staff Report also states that it is designed to comply with the Porter-Cologne Water Quality Control Act, and specifically with Water Code § 13241. This is a second standard of review. To the degree that the Draft Staff Report must describe enough of the program of implementation to allow analysis (including analysis of impacts under CEQA), the Draft Staff Report must also comply with Water Code § 13242. [Footnote 2: “Pursuant to California Code of Regulations, title 23, section 3777, subdivision (b), the SED must include: ... An environmental analysis of the reasonably foreseeable methods of compliance.” Draft Staff Report, p. 7.1-3.] The Draft Staff Report gives scant attention to the common-law public trust doctrine. This, however, is a critical standard of review for evaluation of the Draft Staff Report. Equally, the Draft Staff Report gives only passing mention of the reasonable use doctrine, as set forth Article X, Section 2 of the California Constitution and restated in § 275 of the Water Code. This too is a critical standard of review for evaluation of the Draft Staff Report. Finally, the Draft Staff Report does not explicitly consider necessary requirements under the federal Clean Water Act, particularly § 131.11 that requires the State Water Board’s water quality criteria to be based on sound scientific rationale and to protect the most sensitive use among designated uses.	Please see Common Response 1.2, Water Quality Control Planning Process, regarding State Water Board authorities related to the water quality control planning process, the Porter-Cologne Water Quality Control Act and the Clean Water Act; Public Trust Doctrine; California Constitution, Article X, section 2; and the consideration of other factors. Additionally, refer to Common Response 3.1, Fish Protection, regarding the use of best available science.
228	13	The failure of the Draft Staff Report to include the public trust and reasonable use doctrines as explicit standards of review improperly constrains analysis and violates CEQA.	Please see Common Response 1.2, Water Quality Control Planning Process, regarding State Water Board authorities related to the water quality control planning process, the Public Trust Doctrine, and California Constitution, Article X, section 2. Also refer to Common Response 7.1, General CEQA and Approach to the Analysis.
228	14	The Draft Staff Report’s omission of the public trust doctrine and reasonable use doctrine as standards of review are a fatal flaw under CEQA. This is because the Draft Staff Report thus fails to	Staff Report Section 5.2, State Water Board Responsibilities and Authorities, provides a discussion that includes water quality and water rights authorities and responsibilities, including

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		evaluate an entire suite of feasible mitigation measures involving specific and active reduction of water deliveries, and in particular agricultural irrigation deliveries, in order to protect public trust resources and in order to assure the reasonable use of water. The State Water Board can use its authorities under the public trust doctrine and the constitutionally mandated reasonable use doctrine to evaluate mitigation options that on their face may conflict with the water rights rule of priority. This principle is clearly spelled out in <i>Light v. State Water Resources Control Board</i> (2014) 226 Cal.App.4th 1463 [173 Cal.Rptr.3d 200]: [T]he Board has the ultimate authority to allocate water in a manner inconsistent with the rule of priority, when doing so is necessary to prevent the unreasonable use of water. (El Dorado, supra, 142 Cal.App.4th 937, 966.) Because " 'no one can have a protectible interest in the unreasonable use of water' [citation] . . . when the rule of priority clashes with the rule against unreasonable use of water, the latter must prevail." (Ibid.) {Slip Opn. Page 23} This case, moreover, involves more than traditional water rights. As the Supreme Court held in <i>Audubon Society [National Audubon Society v. Superior Court]</i> 33 Cal.3d 419 (Cal. 1983)], no party can acquire a vested right to appropriate water in a manner harmful to public trust interests and the state has "an affirmative duty" to take the public trust into account in regulating water use by protecting public trust uses whenever feasible. (Audubon Society, supra, 33 Cal.3d at pp. 446-447.) Although the Audubon Society court considered the public trust doctrine only in relation to permitted appropriative water rights, subsequent decisions have assumed the doctrine applies as well in the context of riparian and pre-1914 appropriator rights. (United States, supra, 182 Cal.App.3d at p. 106 [in Audubon Society, "the court determined that no one has a vested right to use water in a manner harmful to the state's waters"]; El Dorado, supra, 142 Cal.App.4th at p. 966 ["when the public trust doctrine clashes with the rule of priority, the rule of priority must yield"].) State Water Board staff should revise the Staff Report to explicitly include the necessary analysis under the legal	Article X, section 2 of the California Constitution and the Public Trust Doctrine. Additionally, the limited recirculation of the Staff Report, Chapter 13, Revised Proposed Plan Amendments, contains explicit findings under the Public Trust Doctrine and Water Code section 13241 factors. See also Common Response 1.2, Water Quality Control Planning Process, regarding State Water Board authorities related to the water quality control planning process, the Public Trust Doctrine, water rights, and California Constitution, Article X, section 2. Also refer to Common Response 7.1, General CEQA and Approach to the Analysis, regarding the general CEQA compliance and mitigation measures. Also see Common Response 7.24, Alternatives Analysis, regarding the range of feasible alternatives.

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		standards of the public trust doctrine and the reasonable use doctrine. The State Water Board should also revise the Staff Report to conduct a more robust analysis of feasible mitigation measures consistent with the State Water Board's public trust and reasonable use authorities.	
228	15	The failure of the Draft Staff Report to conduct an explicit public trust analysis violates the public trust doctrine. Governments have a permanent fiduciary responsibility and obligation to protect the public trust, which is defined as the people's common heritage of streams, lakes, marshlands and tidelands and which can only be surrendered in rare instances when abandonment of that right is consistent with the purposes of the trust. The public trust is essentially a property right in healthy and vibrant waterways belonging to all Californians. Moreover, the Delta and its tributary rivers are national treasures belonging to all citizens of the United States. Pursuant to legislative direction, the State Water Board conducted an intensive year-long proceeding in 2010 to determine flows in the Delta and its two major tributary rivers necessary to protect public trust resources. The resulting 2010 Delta Flow Criteria Report found that "Delta flows are insufficient to support native Delta fishes" and that "75 percent of unimpaired Delta outflow from January through June" and was necessary to protect public trust resources. [Footnote 3: See State Water Board (2010), Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem (Delta Flow Criteria Report), p. 5. Available at: http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf.] Members and staff of the State Water Board have clearly stated that the update of the Bay-Delta Plan for the Sacramento River and Delta will incorporate the necessary public trust balancing between competing uses of water. [Footnote 4: See, e.g.,	At the time the 2023 draft Staff Report was released for public comment, an explicit public trust analysis was not included, as the rulemaking process for the Sacramento/Delta update to the Bay-Delta Plan was still at a preliminary stage with numerous options being evaluated for potential inclusion in the plan update. Now that the State Water Board has identified a precise set of revised proposed Plan amendments as the proposed project, as part of the process to revise the 2023 draft Staff Report in response to input from the public, the State Water Board has added a section summarizing the State Water Board's public trust evaluation for the proposed amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Watershed. Please refer to final Staff Report Section 13.6.1, Public Trust Analysis, for the State Water Board's public trust analysis of the revised proposed Plan amendments. Please also see Common Response 1.2, Water Quality Control Planning Process, regarding the State Water Board's consideration of public trust resources when formulating or amending water quality control plans. The Delta Flow Criteria Report identified specific non-regulatory flow criteria in a scenario where fishery protection was the sole purpose for which waters were put to beneficial use. Thus, when the Delta Flow Criteria Report identified a Delta outflow criterion of 75 percent unimpaired Delta outflow from January through June as protective of public trust resources, the analysis was conducted without considering either the need for cold water reserves to aid in temperature management or the need to preserve supplies for other beneficial uses of water. The Bay-Delta Plan, on the other hand, is a water quality control plan that must ensure the reasonable protection of the beneficial uses

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		introductory note added at the very front of the Delta Flow Criteria Report, where the State Water Board made clear that the balancing public trust resources with consumptive water uses would occur at a later date.] Unfortunately, the Draft Staff Report's balancing is framed in terms of Porter-Cologne and is not at all explicit in situating that balancing in the context of the public trust. See Chapter 5, for example, which mentions the public trust as conferring only general authorities and makes no references to the State Water Board's specific responsibilities under the public trust doctrine. [Footnote 5: Draft Staff Report, p. 5-7.]	designated for area covered under the plan, not just one specific beneficial use. For further discussion of the Delta Flow Criteria Report, please refer to Section 1.2.4, The Delta Reform Act and Delta Flow Criteria Report, of Appendix B, Scientific Basis Report in Support of New and Modified Requirements for Inflows from the Sacramento River and its Tributaries and Eastside Tributaries to the Delta, Delta Outflows, Cold Water Habitat, and Interior Delta Flows, of the 2023 draft Staff Report, and Common Response 1.1, General Comments.
228	16	Moreover, the Draft Staff Report's quantification of the benefits of a restored Bay-Delta ecosystem is limited and perfunctory. It fails to describe or discuss the rationale and methodology employed in the public trust balancing the Board promised in 2010. The Draft Staff Report quantitatively analyzes economic costs to agricultural and selected M&I water users. But after expending considerable effort and resources in quantitatively analyzing the costs of providing increased flows, the Draft Staff Report essentially limits its assessment of the benefits side of the ledger to direct revenues from fishing and recreational river tourism. [Footnote 6: See id., Chapter 8.] Even there, it overlooks fish species other than salmon, including Delta fisheries. The Draft Staff Report either ignores or fails to analyze the economic benefits of healthy waterways – including ecosystem services, commercial and sport fisheries, recreation and public health as well as the contingent value of a healthy river/estuary – and provides only a general qualitative assessment. The failure to quantitatively analyze and describe both sides of the benefit/cost ledger renders the economic analysis insufficient as a balancing document.	Staff Report Section 13.6, Public Trust and Water Code Section 13241 Analyses, contains the public trust analysis. As discussed in Section 13.6, throughout the environmental review and water quality control planning processes, the State Water Board has conducted detailed analyses to examine the benefits and potential impacts on different water uses and resources associated with different project alternatives. Informed by these analyses, the State Water Board has formulated revised proposed Plan amendments. Please see also Common Response 1.2, Water Quality Control Planning Process, for a discussion of reasonable protection of fish and wildlife beneficial uses and consideration of other beneficial uses. Section 8.6.1, Recreational and Commercial Fisheries, in the 2023 draft Staff Report addresses potential economic effects concerning commercial and recreational sport fisheries, with an emphasis on Chinook salmon. Section 13.8.4, Fisheries Economic Effects, provides supplemental economic information relevant to recreational and commercial fisheries and discusses fisheries economic effects under the revised proposed Plan amendments. In addition, in response to comments received on the economic analysis presented in the Staff Report, Chapter 8, Economic Analysis and Other Considerations, has been updated to include a new Section 8.6, Fisheries Economic Analysis, that addresses potential economic benefits from implementation of the flow scenarios and subsequent aquatic ecosystem improvements and benefits for native fish species. This new section provides additional context and information concerning beneficial

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			fisheries and ecosystem economic effects, but does not change the Staff Report's conclusions.
228	17	Public trust values cover far more than salmon restoration. They include ecosystem services, which encompass such things as clean water and the decomposition, detoxification or dilution of wastes; public health benefits; cultural values such as spiritual and recreational benefits (beyond fishing); avoided treatment or infrastructure replacement costs; hedonic pricing such as improved property values along healthy waterways; and improved biodiversity within watersheds. Public trust values also include the contingent valuation of healthy ecosystems, which are not limited to fishing or salmon restoration. Balancing the public trust is, at best, extremely difficult in a vastly overappropriated watershed where excessive water diversions have degraded and substantially diminished public trust assets. In California, water belongs to the people, and the right to use water is usufructuary and not possessory. Put in the context of rights to water, a user of water must respect the rights and interests of others, including the people's property right to robust fisheries, clean water, and healthy ecosystems. The Draft Staff Report fails to acknowledge or quantitatively analyze the full range of public trust resources in the project area and, consequently, fails to conduct a defensible balancing of public trust benefits and resources and the existing consumptive uses of water. This violates both CEQA's requirements for analysis and fair disclosure and the State Board's legal responsibility to adequately and fairly balance the public trust.	Please see the response to comment 228-15 regarding the State Water Board's analysis of public trust values and inclusion of a public trust analysis in the final Staff Report. Please also see Common Response 7.1, General CEQA and Approach to the Analysis, for a discussion of the level and scope of CEQA analysis performed by the State Water Board throughout the water quality control planning process.
228	18	The failure of the Draft Staff Report to conduct an explicit public trust analysis violates the State Water Board's July 17, 2020 Settlement Agreement with CSPA et al. The failure of the Draft Staff Report to deploy the public trust doctrine as a standard of review violates the July 17, 2020 Settlement Agreement of the State Water Board with CSPA et al. [Footnote 7: See Settlement and Release of Claims, California Sportfishing Protection Alliance, et al. v. California State Water Resources Control Board and Thomas Howard, (Case Number RG15780498), July 17, 2020, available at: https://calsport.org/news/wp-content/uploads/2020.07.17-	Please see the response to comment 228-15 regarding the State Water Board's analysis of public trust values and inclusion of a public trust analysis in the final Staff Report. As required under the July 17, 2020 Settlement Agreement between the State Water Board and California Sportfishing Protection Alliance et al, the State Water Board has included a public trust analysis in Section 13.6.1, Public Trust Analysis, of the final Staff Report.

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		CSPA-v.-SWRCB-Settlement-Fully-Executed-1.pdf] The July 17, 2020 Settlement required, inter alia, at ¶ 4, a “Transparent Public Trust Evaluation for the Bay-Delta Plan Update.” [Footnote 8: Id., p. 3.] More specifically, the State Water Board made the following commitments: [T]he State Water Board will evaluate whether the amendments proposed as part of the pending Sacramento/Delta Update to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary are consistent with the common law public trust doctrine. Specifically, the Staff Report prepared in connection with the pending update to the Bay-Delta Plan will include, in addition to the analysis required by the Porter-Cologne Water Quality Control Act, an express evaluation of whether the proposed amendments will protect the subject fish and wildlife public trust uses to the extent feasible and consistent with the public interest, taking into consideration all relevant factors, including but not limited to the following: ... - Evaluation of whether the proposed amendments will protect the subject fish and wildlife public trust uses to the extent feasible; and - The State Water Board shall explain its findings and describe the specific factors it balanced in making its determination of whether the proposed amendments will protect the subject fish and wildlife public trust uses to the extent feasible and consistent with the public interest. [Footnote 9: Id., p. 4.] State Water Board staff should revise the Staff Report to explicitly include the public trust analysis promised in the July 17, 2020 Settlement Agreement.	
228	19	These comments are organized by topic. Thus, for instance, the comments on the “Proposed Plan Amendments” review each proposed objective from a technical and legal perspective. The legal analysis is broken down by standard of review (CEQA, Porter-Cologne, public trust, reasonable use, federal Clean Water Act) as appropriate. By contrast, there is not a separate and	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. To the extent that this comment summarizes or introduces other comments, please see the substantive responses to those comments.

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		distinct section of this document exclusively devoted to all CEQA issues.	
228	20	The Draft Staff Report describes the purpose of the Update too narrowly. The Draft Staff Report, Chapter 7, states the “Purpose and Goals of the Sacramento/Delta Update to the Bay-Delta Plan” as follows: “The underlying fundamental purpose of the project is to establish water quality objectives, a program of implementation, and monitoring and special study measures for the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta.” [Footnote 10: Draft Staff Report, p. 7.1-3.] As phrased, this statement of purpose is framed in the context of Porter-Cologne. This framing at least has the virtue of stating the purpose in terms of beneficial uses. Thus, it recognizes that more is needed than incremental improvement in existing conditions of fish and wildlife. [Footnote 11: This stands in contrast to the framing of the proponents of Voluntary Agreements. See, for instance, the December 11, 2023 presentation to the State Water Board by California Resources Secretary Wade Crowfoot, whose announced “problem statement” was “we have to improve environmental conditions.”] However, as suggested above in the context of CEQA, the Update must also meet the requirements of the public trust doctrine, which requires the protection of the public trust uses of fish and wildlife “wherever feasible.” National Audubon at 446. “Wherever feasible” is a different and more stringent standard than “reasonable protection.” Equally, the Update must comport with the reasonable use doctrine. Reasonable use is distinct from “reasonable protection.” Reasonable use also implicates a more stringent standard than reasonable protection, because, as cited supra from Light, it trumps other sections of the Water Code A potential fix to the shortcomings of the summary statement of the “underlying fundamental purpose” of the update would be to	Under CEQA, the purpose and goals of a project are defined to assist in developing a reasonable range of alternatives and evaluating whether alternatives could lessen environmental impacts while still achieving the purpose of the project. The lead agency has considerable discretion in defining project purposes and goals. As discussed in Common Response 1.2, Water Quality Control Planning Process, the draft Staff Report distinguishes between the Porter-Cologne mandate of reasonable protection and the Reasonable Use Doctrine, and the Plan amendments would comply with both of these requirements. Moreover, the Staff Report now includes Section 13.6.1, Public Trust, summarizing the public trust evaluation of the revised proposed Plan amendments and demonstrating that the consideration of the amendments has met the standards of the Public Trust Doctrine. Therefore, the suggested revisions to the Staff Report are not warranted.

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		add at the end of the sentence the additional phrase, “consistent with the public trust doctrine and the reasonable use doctrine.”	
228	21	The Draft Staff Report includes some goals that are inappropriate. The Draft Staff Report’s summary statement of Goals includes the following two statements: 4. Provide for voluntary and default pathways with flexibility for establishing beneficial habitat conditions for native fishes, addressing scientific uncertainty and changing conditions, developing scientific information that will inform future management of flows, and meeting biological goals. 8. Provide for and encourage collaboration, coordination, and integration of regulatory, scientific, and management processes related to flows in the Sacramento/Delta. [Footnote 12: Id., p. 7.1-5 and 7.1-6.] The “voluntary ... pathways” and the encouragement of collaboration do not have a place in a regulatory document as goals. As a policy matter, they may state the preferences of the agency for how a water quality control plan is implemented. But they are not the goals of such a plan, and any conflict with the legal requirements of such a plan and its implementation (under Water Code § 13242 or other) must be resolved in contravention of such policy preferences.	Under CEQA, the purpose and objectives of a project, called “goals” in the Staff Report so as not to confuse them with water quality objectives, are defined to assist in developing a reasonable range of alternatives and evaluating whether alternatives could lessen environmental impacts while still achieving the purpose of the project. The lead agency has considerable discretion in defining project purposes and goals and exercised its discretion appropriately. The proposed VAs were described in Chapter 9, Proposed Voluntary Agreements, in sufficient detail for the purposes of the analysis and the operative provisions of the VAs are incorporated in the VA pathway that is analyzed in Chapter 13, Revised Proposed Plan Amendments. Chapter 13 additionally explains the role that the regulatory pathway would play in the event that VA pathway actions do not meet specified goals. Please see Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, regarding the two pathways. Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	22	The allowance and apparent preference in the Draft Staff Report for voluntary implementation appears to be modeled in substantial part on the Sustainable Groundwater Management Act (SGMA). As described below, there are important differences between the implementation of SGMA and the Bay-Delta Plan, not least of which is the fact that implementing the Bay-Delta Plan involves coordinated operation of water users throughout the Sacramento River and Delta watersheds. In opposite priority from SGMA, the implementation of the update of the Bay-Delta Plan should start from a default program, not end there if a voluntary program does not achieve a satisfactory outcome. Moreover, the in-crisis condition of the Bay-Delta ecosystem	Please see Common Response 1.3, Revised Proposed Plan Amendments, regarding the VA process and descriptions of the regulatory pathway and the VA pathway.

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		cannot not allow a decade for various water users within watersheds and across watersheds to work their issues out.	
228	23	The Delta Inflow Objective is directionally appropriate but requires refinement. The Delta Inflow Objective reads as follows: Maintain inflow conditions from the Sacramento River/Delta tributaries sufficient to support and maintain the natural production of viable native fish populations and to contribute to Delta outflows. Inflow conditions that reasonably contribute toward maintaining viable native fish populations include, but may not be limited to, flows that more closely mimic the natural hydrographic conditions to which native fish species are adapted, including the relative magnitude, duration, timing, quality, and spatial extent of flows as they would naturally occur. Maintain inflows from the Sacramento/Delta tributaries at 55% of unimpaired flow, within an allowed adaptive range between 45 and 65% of unimpaired flow. [Footnote 14: Id., p. 5-17.] The narrative and numeric objectives cited above are in contradiction. As discussed below in the section addressing Alternatives, and as further discussed in the written and oral comments of Baykeeper et al., an inflow objective of 55% of unimpaired flow, within an adaptive range of 45%-65%, is not “sufficient to support and maintain the natural production of viable native fish populations.” [Footnote 15: CSPA et al. hereby incorporates by reference the written and oral comments of Baykeeper et al. regarding the flows needed to achieve the reasonable protection of fish and wildlife.] A higher range of inflows is required. In addition, it is not clear that inflow “sufficient to support and maintain the natural production of viable native fish populations” is a comprehensive enough objective. This is because what is “viable” does not clearly protect the beneficial uses of commercial fishing (COMM) and recreational fishing, and other forms of recreation such as boating and swimming (REC). Not only do there need to be fish populations, there also need to	Please see Common Response 1.2, Water Quality Control Planning Process, for information on the State Water Board’s authority as it relates to the consideration and balancing of beneficial use and the reasonable protection of fish species. As described in Section 7.1.3, Purpose and Goals of the Sacramento/Delta Update to the Bay-Delta Plan, of the 2023 draft Staff Report, the underlying fundamental purpose of the project is for the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta. Please also see Staff Report Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed Plan Amendments, for information on the water quality objectives for fish and wildlife.

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		be fish populations sufficient to fish for. In the case of salmon, at minimum, populations and annual production need to be sufficient to support a commercial fishery.	
228	24	It is not clear that the statement of the “underlying fundamental purpose of the project” in Chapter 7 of the Draft Staff Report and cited above (“the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta”) explicitly includes the beneficial uses of fishing and recreation. As also noted previously, explicit reference to consistency with the public trust doctrine in that statement of “fundamental purpose” would clarify the requirement and eliminate the ambiguity, in this case because public trust uses of the state’s waters clearly include fishing, as well as other activities such as boating, swimming, and other forms of recreation.	Table 7.12.1-1a of the 2023 draft Staff Report, Designated Beneficial Uses for Waterbodies Identified in the Bay-Delta Water Quality Control Plan, lists all the beneficial uses considered in the Staff Report. These include commercial and sport fishing, water contact recreation, and non-contact water recreation. Aquatic beneficial uses are often considered the most limiting and so actions to protect aquatic beneficial uses through imposition of instream flows will sufficiently protect other beneficial uses, although it is possible that additional flow-based water quality objectives or site-specific water right requirements may be considered if needed to protect other beneficial uses. Section 13.7.2, Environmental Analysis of CUL Tribal Beneficial Use Designation, contains a discussion of the relationship between aquatic beneficial uses with other beneficial uses including Tribal Beneficial Uses. The Staff Report’s treatment of the State Water Board’s public trust responsibility is discussed in Common Response 1.2, Water Quality Control Planning Process.
228	25	The Cold Water Habitat Objective is directionally essential, but its rationale and the discussion of its implementation are incomplete. The narrative Cold Water Habitat Objective reads: Maintain streamflows and reservoir storage conditions on Sacramento River/Delta tributaries to protect cold water habitat for sensitive native fish species, including Chinook salmon, steelhead, and other native cold water fish species. Cold water habitat conditions to be protected include maintaining sufficient quantities of habitat with suitable temperatures on streams to support passage, holding, spawning, incubation, and rearing while preventing stranding and dewatering due to flow fluctuations. [Footnote 16: Draft Staff Report, p. 5-22.] The objective as stated is reasonably complete.	Please see the responses to comments 228-26 through 228-30. Please also see Common Response 1.3, Revised Proposed Plan Amendments, for responses to comments on the cold water habitat objective.

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		The rationale for the Cold Water Habitat Objective states that it is “complementary measure to the inflow objective” and is “intended to ensure that there are no redirected impacts on cold water habitat from the new inflow and Delta outflow objectives and to address other existing and potential future temperature management concerns on the tributaries for salmonids and other native species.” [Footnote 17: Id.] Thus, the Cold Water Habitat Objective has important functions under both CEQA and Porter-Cologne, as well as under the public trust doctrine and the Clean Water Act. It is positive for the State Water Board to make this objective part of its water quality control plan. The absence of such an objective in the update of the Bay-Delta Plan for Lower San Joaquin River flows and southern Delta salinity was a large source of confusion. Modeling of proposed flow objectives for the lower San Joaquin River assumed but did not explicitly require carryover storage volumes for the main storage reservoirs on the three major tributaries to the lower San Joaquin River. However, the proposed implementation of the Cold Water Habitat Objective requires refinement and further analysis. The proposed implementation would require each rim reservoir operator, and operators of upstream reservoirs as needed, [Footnote 18: See also discussion of upstream contributions in these comments, below.] to develop both a long-term strategy for reservoir management and annual operations plans for approval by the Executive Director of the State Water Board. Conceptually, both long-term strategies and annual operations plans make sense, though both would require substantial ongoing capacity and technical expertise by State Water Board staff for review, approval, and possible modification, particularly of annual plans on a quick turnaround.	
228	26	Any proposed “voluntary implementation” of reservoir management and other operations would require, at minimum, clear elaboration of expected needed elements, timely regulatory oversight, review, and approval, and likely defined opportunity for public comment.	Please see Common Response 1.3, Revised Proposed Plan Amendments, for information on the revised proposed Plan amendments.

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228	27	The Draft Staff Report describes the development of initial carryover storage targets for Sacramento Valley and Eastside dams as follows: “The carryover storage targets were implemented by adjusting carryover storage targets and allocations with the goal that the resulting end-of-September storage levels in the scenarios were above the carryover target as frequently as or more frequently than the baseline scenario.” [Footnote 19: Draft Staff Report, p. A1-10. Described values were for modeling purposes.] Perhaps the best one can say about the initial carryover storage values thus posited in the Draft Staff Report is that one has to start somewhere. There is some justification for the thermal effects of using historical values, on the general assumption (or simply hope) that reservoir operators in the past made an effort to maintain water temperatures in downstream river reaches suitable for the cold water fish that are present. However, the idea that one can simply use historical storage values in order to develop new storage targets to complement large increases in required flows does not make technical sense. Both increased releases and climate change will change the effectiveness and effects of any storage target derived in this fashion. In addition, setting and rigidly adhering to flow requirements at high values and carryover storage based on historical operations and hydrology will overstate the water supply impacts.	Text in Section A1.3, Reservoir Carryover Storage Targets, has been edited to correct the statement on page A1-10. The statements should have references to reservoir buffer pools being adjusted, and not the carryover targets. Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for discussion related to the use of reservoir buffer pools in SacWAM for attaining the proposed carryover storage targets and to Appendix H1a1, Assessment of Effect of Reservoir Storage on Reservoir Release Temperatures, for information on how staff evaluated the updated carryover storage target ranges. Implementation of the cold water habitat objective allows more flexibility in implementation to reduce impacts to water supply. Please see Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for additional discussion related to changes to the carryover storage target ranges and implementation of the cold water habitat objective. The Staff Report acknowledges that many reservoirs have existing problems with temperature, for which existing temperature controls may not be sufficient. The purpose of the narrative cold water habitat is to prevent redirected impacts from inflow requirements and to ensure that fish are kept in good condition more generally. As described in Section 7.6.2.2, Environmental Setting, and in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, existing temperature protections are in place for some stream reaches and reservoirs, but legal requirements are applied unevenly and, in many locations, not at all. Implementation of the proposed cold water habitat objective is intended to address these conditions and to ensure that salmonids have access to cold water habitat at critical times and that adequate water is available for minimum instream flow purposes downstream of reservoirs. Cold water habitat conditions, species needs, and the measures for best implementing the narrative objective will vary among the tributaries due in part to the complexities identified above and other tributary-specific complexities. Lastly, the carryover storage targets are not set as a rigid requirement. As stated on page A1-10 of the 2023 draft Staff Report, “The carryover targets were based on a variety of

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			sources of information and are not meant to represent absolute values required to maintain habitat; rather, they were included in the SacWAM modeling scenarios as a mechanism to roughly represent the narrative objective. Like other modeling constraints that are designed to represent adaptive management such as maximum OMR reverse-flow objectives, actual real-time decisions may diverge from monthly modeling scenarios.”
228	28	There is also a CEQA aspect to the rationale for the selected initial carryover storage targets that is simply reverse engineering of storage values so that there are no significant water temperature impacts. This gimmick was also deployed in the modeling of the Lower San Joaquin River flow objectives in 2017. It does not mean that it can be implemented in practice. It does not mean that it will protect public trust resources from over-delivery in the first dry year followed by a crisis or “emergency” in a subsequent year.	Reservoir operations modeling must include, by necessity, assumptions that constrain the reservoirs (e.g., do not allow them to be drained dry) to provide a reasonable set of water operations for comparison. However, numeric constraints that are used for modeling are not regulatory requirements and these assumptions are not the only methods of actual operation under the Plan amendments. Rather, fall carryover targets are intended to represent system responses to regulatory conditions for the purpose of comparing plan alternatives. See also Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for more detail on cold water habitat modeling and implementation.
228	29	The “buffer pool” concept the Draft Staff Report adopts to maintain storage in major north-of-Delta CVP and SWP reservoirs has the merit of separately considering those reservoirs, which are governed by massive water rights and by contracts. But it is a backwards way of determining water supply allocations for the CVP. [Footnote 20: See description of buffer pools, id., p. A1-13 ff.] The buffer pool approach captures the understanding that water allocations from CVP and SWP reservoirs must be limited to allow both sufficient releases for Delta inflow and sufficient storage to maintain water temperatures. In reality, CVP and SWP operators would never operate by releasing water to meet irrigation in the beginning of the year and then cutting water off when storage went below a certain threshold. In practice, CVP and SWP operators would, if acting prudently, limit deliveries so that the irrigated acreage supported by deliveries would be sustainable throughout the irrigation season. Modeling using a buffer pool approach provides a volumetric approximation of water available for delivery while still meeting Delta inflow and carryover storage	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, for discussion of the purpose of modeling and the appropriate use of models and model results, reasonableness of model assumptions and the use of best available information to develop model logic, and reservoir operations constraints and carryover storage guidelines in SacWAM.

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		requirements. However, a practical means of allocating deliveries before the fact, including consideration of how CVP and SWP operators would account for uncertainty, is needed.	
228	30	The storage values for the buffer pools as shown in Chapter A1c are a particularly rough first cut. [Footnote 21: See id.] Part of the issue appears to stem from choice of very conservative water temperature thresholds. Part of the issue also seems to stem from the algorithm's logic under higher Delta Inflow values such as 65%. The Draft Staff Report seems to apply adjustments to non-project reservoirs similar to the buffer pools evaluated for CVP and SWP reservoir, but the algorithms are not explained. Thus, for instance, the carryover target for Yuba County Water Agency's operation of its New Bullards Bar Reservoir increases from a baseline of minimum 440 TAF to 700 TAF for the 65% scenario. [Footnote 22: See Table A1-9, p. A1-16. Note that the general baseline target is 550 TAF, not 440 TAF. It is also unclear how the values in Table A1-9 square up with the value for New Bullards Bar stated in Table A1-3.] This logic for this increase is opaque. If the goal is to avoid thermal impacts, a better approach would be to provide more likely operations and disclose the thermal impacts. Releasing more water in the winter and spring to meet an increased Delta Inflow objective will create such impacts.	Please see Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply regarding carryover storage targets and SacWAM reservoir buffer pools. Please see the SacWAM Documentation (available on the State Water Board's Bay-Delta webpage), which describes the algorithms in SacWAM that determine the allocations for non-project water users such as Yuba Water Agency. These algorithms determine the member allocations and hydropower operations based on available water supply.
228	31	The State Water Board must balance Delta inflow, reservoir storage, and water deliveries, among all watersheds and within each watershed covered in the Sacramento/Delta update of the Bay-Delta Plan. The Draft Staff Report acknowledges: "[T]here is a delicate balance between the use of water for instream flows, diversion, and carryover storage." [Footnote 23: Id., p. A1-2.] Yet it is not clear in Chapter 5 of the Draft Staff Report the degree to which water deliveries would be a required part of the long-term strategies and annual operations plans for reservoir operations. Water deliveries simply must be a part of the equation to make a water balance workable. Since Chapter 5 suggests that each operator would develop the long-term strategy for each reservoir, it seems clear that the State Water Board would need to place sideboards and default expectations on how each	The revised proposed Plan amendments do not include required levels of water deliveries. Reservoir operators would be required to meet their Bay-Delta Plan and other regulatory requirements and then make deliveries with any water remaining for consumptive use. The revised proposed Plan amendments include water supply adjustments for existing water right holders at the outset of plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs. In addition, tributary-specific water supply adjustments provide for lower flow requirements on rainfall dominated and municipal supply dominated tributaries, including the Mokelumne River. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the regulatory pathway and implementation methodology.

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		strategy would balance water deliveries with flow releases and storage.	
228	32	One partial example might be the way irrigation deliveries are addressed on the Mokelumne River, where in each dry year junior agricultural diverters are not allowed to divert and senior agricultural diverters are limited to about 65% of full diversions. [Footnote 24: These baseline dry-year irrigation reductions on the Mokelumne do not seem to be accounted for in the Draft Staff Report. See, e.g., Table A1-12 on p. A1-18. “Dry years” on the Mokelumne are defined specifically and locally.] The limitation of municipal and industrial (M&I) diversions on the Mokelumne also serves as a potential example: East Bay Municipal Utility District (EBMUD) has reduced annual consumption in its service area substantially over the past two decades, has implemented clear rationing policies for dry- year sequences (commensurate with previous reductions in use), and has diversified its water supply portfolio by establishing a Sacramento River point of diversion near Freeport and contracting for dry-year supplies. Yet even with this relatively exemplary division of dry-year diversions and reductions on the Mokelumne, the fact is that there is not enough water in the Mokelumne watershed to meet the Delta Inflow Objective as an equal contributor to the level needed to restore the Delta ecosystem and to also meet water temperature requirements. without severe water supply impacts to EBMUD in roughly half of all water years. With the partial exception of the American River, [Footnote 25: While there is relatively little agricultural production in the American River watershed, a varying percentage of the watershed’s water resources are exported each year to agricultural CVP contractors in the San Joaquin Valley.] water use on the Mokelumne is far more heavily weighted to M&I use than the other watersheds in the area of the Sacramento and Eastside watersheds. In dry years, M&I use of water sourced from the Mokelumne is roughly three times that of agricultural use.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. In addition, the project is revised as described in Common Response 1.3, Revised Proposed Plan Amendments. In addition to the proposed Plan amendments, which remain part of the project as the regulatory pathway, the revised proposed Plan amendments include water supply adjustments and relaxations to carryover storage requirements for existing water right holders at the outset of Plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs.
228	33	Thus, the State Water Board must determine, based on evidence in the record, the relative contribution of each watershed to the overall Delta inflow objective. This is part of where the “voluntary implementation” concept breaks down. Each watershed requires a water budget. The water users cannot be	As stated in Section 5.4.1, Voluntary and Default Implementation, default implementation provisions would apply when there is not an approved voluntary implementation plan (currently referred to as local cooperative solutions). As described in Section 5.4.2.4, Implementation, of the 2023 draft Staff Report,

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		left on their own to set it. Left to their own devices, water users in each watershed will seek to reduce the watershed's overall contribution to the Delta inflow objective. It is the State Water Board that will need to decide, for example, how in many years it will prioritize cutbacks to EBMUD against cutbacks to rice production in the Sacramento Valley. It is reasonable to expect that, under "voluntary implementation," water users in every watershed in every year will routinely seek to move the required release to the Delta to the bottom end of any "adaptive range" for the watershed's contribution to Delta inflow. This is not a recipe for collaboration. It is a recipe for a food fight. It is also a recipe for a de facto reduction of the Delta inflow requirement.	subject to possible modifications for drought, public health and safety, public trust obligations for wildlife refuges, or alternative arrangement in a voluntary implementation plan (now referred to as local cooperative solutions), implementation of the flow objective on a tributary would be required to be met in order of water right priority. Please see Common Response 1.3, Revised Proposed Plan Amendments, regarding local cooperative solutions and the implementation methodology, and Common Response 7.1, General CEQA and Approach to the Analysis, regarding the approach to the analysis.
228	34	The method in which staff modeled the regulatory alternatives in the Draft Staff Report gives an indication of staff's reluctance to actively address deliveries in meeting the flow and carryover objectives. Appendix A1 states: "The general approach to using SacWAM to assess the impacts of the proposed Plan amendments is to create new flow requirements as a percentage of unimpaired flow throughout the model domain and adjust carryover storage targets to maintain cold water pools for downstream fisheries." [Footnote 26: Draft Staff Report, p. A1-3.] This approach leaves water deliveries not as a planning element, but exclusively as an impact. While there is value in understanding the combined potential water supply impacts of required flows and carryover storage, the mitigation of the water supply impacts, as well as thoughtful water supply planning, requires proactive consideration of water deliveries. And, of course, modeling is not real-world implementation; modeling provides insight into real-world implementation.	The approach to modeling increased instream flow requirements, reservoir storage requirements to meet cold water habitat, and water supply deliveries is a conservative approach with respect to identifying impacts related to reduced water supplies. Water supply, including supplies from the Sacramento/Delta watershed, is evaluated extensively throughout the Staff Report. Chapter 6, Changes in Hydrology and Water Supply, is devoted entirely to describing the changes in hydrology and supply as a result of the proposed Plan amendments. For example, Table 6.4-1 details total annual average water supply to each region in the study area by type of use (agriculture, urban, and refuge). The following sections in Chapter 6 provide further detail on each of the regions and uses. Chapter 6 includes a detailed discussion of reservoir storage for major storage reservoirs in the Sacramento/Delta watershed, reservoirs in the upper watersheds, and reservoirs that receive Sacramento/Delta water supply. Reservoir effects are reflected in estimates of reduced Sacramento/Delta supply to agricultural and municipal use and well as hydropower. Chapter 6 also includes a discussion on the flexibility that water users have or could develop to continue to meet water supply needs with reductions of Sacramento/Delta surface water supplies, including other water management actions. Please refer to Common Response 7.1, General CEQA and Approach to the Analysis, for an explanation of this project in the context of CEQA.

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228	35	Numerous oral presentations by water users at the public hearings the State Water Board held on the Draft Staff Report heavily emphasized the tradeoff between flows releases to meet Delta inflow and reservoir storage to meet water temperature requirements downstream of rim dams. The ultimate goal of these presentations was to make Delta inflow objectives, at a level that will restore the ecosystem, appear unreasonable. Left to their own devices, each water user entity within each watershed will also seek to minimize its individual (or agency) contribution to the watershed's water budget for Delta inflow. Here, too, the State Water Board has key decisions to make. Operations modeling for the Draft Staff Report, using the SacWAM model, assumed a compliance point upstream of each rim reservoir. [Footnote 27: See Table A1-2, p. A1-8.] Multiple IFRs were added on each tributary to represent the assumption that all users in the watershed, whether upstream or downstream, would be responsible for contributing to the new modeled instream flow requirement. However, proposed Plan amendments may include a requirement only at the bottom of each watershed that could require upstream users to contribute more or less than downstream users based on specific water rights priorities. [Footnote 28: Id., p. A1-7.] State Water Board staff needs to perform additional analysis to support the difficult decisions the State Water Board must make in allocating responsibility in order to meet its public trust and reasonable use responsibilities. The State Water Board will need to allocate responsibility for meeting the new objectives among watersheds and within watersheds. Allowable water deliveries, particularly in an initial dry year following a relatively wet year, must be a key element of these decisions.	Please see the response to comment 228-34. As described in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, compliance points would be established at the confluence of tributaries with the Sacramento River; at the confluence with the Delta for the Cosumnes, Calaveras, and Mokelumne Rivers; and on the mainstem of the Sacramento River at the confluence with the Delta. To ensure that the narrative objective is met and that necessary flow contributions from various stretches of tributaries and the mainstem Sacramento River are achieved, intermediate compliance points also could be established as necessary. Both the narrative inflow objective and numeric inflow requirements are proposed to apply throughout the watershed, including on upstream tributaries, on all the Sacramento/Delta tributaries that support or contribute to the protection of anadromous fish species. Under the proposed program of implementation, all water users on these tributaries, except those with a de minimis effect on flows (e.g., 10 AF/yr or less), would have responsibility for contributing to achievement of the numeric flow requirements. Initial compliance points where the numeric inflow requirements apply include the confluence of Sacramento/Delta tributaries with the Sacramento River; at the confluence with the Legal Delta for the Cosumnes, Calaveras, and Mokelumne Rivers; on the mainstem of the Sacramento River at the confluence with the Delta; and, at upstream locations on Sacramento/Delta tributaries at the confluence of every major fork, branch, and tributary of the tributaries subject to the inflow requirements unless determined through the implementation process that they are not needed or appropriate.
228	36	The Delta Outflow Objective is directionally appropriate but requires further definition. The Delta Outflow Objective reads: Maintain Delta outflows sufficient to support and maintain the	The information necessary to analyze the proposed new Delta outflow objectives was included in Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta. Specifically, details on the proposed implementation of the inflow-based Delta outflow objective were included in Section 5.4.4.5, Implementation, of the 2023 draft Staff Report. For more

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		natural production of viable native anadromous fish, estuarine fish, and aquatic species populations rearing in or migrating through the Bay-Delta estuary. Delta outflows that reasonably contribute toward maintaining viable native fish and aquatic species populations include, but may not be limited to, flows that connect low- salinity pelagic waters to productive tidal wetlands and flows that produce salinity distributions that more closely mimic the natural hydrographic conditions to which these species are adapted, including the relative magnitude, duration, timing, quality, and spatial extent of flows as they would naturally occur. Indicators of viability include population abundance, spatial extent, distribution, productivity, and genetic and life history diversity. Viability is dependent on maintaining migratory pathways, sufficient quantities of high-quality spawning and rearing habitat, and a productive food web. [Footnote 29: Id., p. 5-28.] Additionally, there is (indirectly) a numeric objective: The inflows required above, including for the Sacramento/Delta tributaries and San Joaquin River, are required as outflows with adjustments for downstream natural depletions and accretions. [Footnote 30: Id., p. 5-29.] Conceptually, the principle that requires Delta inflow to be passed through the Delta as outflow is appropriate. The “how” is unclear. The Draft Staff Report provides some sense of a formula for determining outflow requirements as a function of inflow at specified locations, similar to those in the existing Net Delta Outflow Index. Adjustments will need to be made for the eventual Lower San Joaquin River Flow and Southern Delta Salinity objectives. There will need to be considerable technical and regulatory effort to develop transparent and enforceable rules and accounting mechanisms for Delta outflow requirements, and they will likely require refinements over time.	information on the specific implementation details, please see Common Response 1.3, Revised Proposed Plan Amendments.
228	37	The proposal to allow “voluntary implementation” of “inflow-based outflow” requirements strikes us as particularly	The required outflows would be required to be provided regardless of default or voluntary implementation. In addition,

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		cumbersome and difficult to enforce. The stated concept of “shaping and shifting outflows” in particular offers an opportunity for gaming the framework to reduce outflows and would reduce the transparency of compliance and overall enforceability. The upsides of “voluntary implementation” of “inflow-based outflow” do not appear to outweigh the downsides.	the project has been revised. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on implementation of the new outflow objectives.
228	38	As discussed above regarding the proposed numeric Delta Inflow Objective, the proposed value 55% of unimpaired flow value for Delta Outflow is insufficient.	Please see Common Response 1.2, Water Quality Control Planning Process, for more information on reasonable protection of beneficial uses.
228	39	Inclusion of a Fall Delta Outflow Objective and retention in the Bay-Delta Plan of other aspects of the existing biological opinions for CVP and SWP operations as Delta Interior Flow Objective as a backstop to potential adverse changes is directionally appropriate, but would be improved by starting from the 2008 and 2009 biological opinions. The Draft Staff Report proposes a Fall Delta Outflow Objective that reads: As described in the program of implementation, maintain Delta outflows during fall to provide suitable quantities of quality habitat for sensitive native estuarine species, including the flows identified in the 2019 USFWS Biological Opinion. The State Water Board may approve modifications to these flow levels based on updates to the biological opinion. [Footnote 31: Id., p. 5-30.] In addition, the Draft Staff Report proposes a Delta Interior Flow Objective that reads: Maintain flow conditions in the interior Delta sufficient to support and maintain the natural production of viable native fish populations migrating through and rearing in the Delta. Interior Delta flow conditions that reasonably contribute toward maintaining viable native fish populations include, but may not be limited to, flows that more closely mimic the natural hydrographic conditions to which native fish species are adapted, including the relative magnitude, duration, timing, quality, and spatial extent of flows as they would naturally occur.	Please see Common Response 1.3, Revised Proposed Plan Amendments, for information on the narrative interior Delta flows objective. Please see Common Response 7.24, Alternatives Analysis, for a response to comments on the Interior Flows/Fall Delta Outflow Alternatives and the range of reasonable alternatives.

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		Indicators of native fish species viability include population abundance, spatial extent, distribution, productivity, and genetic and life history diversity. Viability is dependent on maintaining migratory pathways, sufficient quantities of high-quality spawning and rearing habitat, and a productive food web. [Footnote 32: Id., p. 5-36.] Regarding the Delta Interior Flow Objective, the Draft Staff Report explains: "For the most part, the proposed changes to the interior Delta flow objectives and implementation measures involve incorporation of existing BiOp and ITP requirements into the Bay-Delta Plan, including requirements contained in the USFWS and NMFS BiOps and CDFW ITP." [Footnote 33: Id.] Integration of and consistency with the biological opinions for the operation of the CVP and SWP as a floor for Delta outflow objectives is helpful as a backstop against any weakening of the flow and other requirements in those biological opinions, but would be stronger if the conditions in the 2008 and 2009 biological opinions were incorporated as the floor instead. It is also appropriate that the update to the Bay-Delta Plan encompass, in its own right, fall Delta outflow requirements and rules for interior Delta flows, including limitations on Old River and Middle River reverse flows (OMR). References to external documents are always problematic in regulatory documents. At minimum, the Board should consider inclusion as an appendix of the action sections of any external document that the updated Bay-Delta Plan proposes to incorporate.	
228	40	The proposed modification of the existing Delta Cross Channel Gates Objective is appropriate. The Draft Staff Report proposed a modification to the existing Delta Cross Channel Gates Objective as follows: The current Bay-Delta Plan requires the DCC gates to be closed for up to 45 days between November and January based on consultation with the fisheries agencies as specified in footnote 23. Under the proposed Plan amendments, October would be added to the period when the gates may be required to be closed,	The purpose behind the proposed modification to the Delta Cross Channel Gate objective was consistency with the 2019 National Marine Fisheries Service Biological Opinions (2019 BiOp) in effect at the time the 2023 draft Staff Report was released. An addition of 15 days to the number of days for potential closures of the Delta Cross Channel Gate would not be consistent with the 2019 BiOp. Please see Section 5.4.6.1, Delta Cross Channel Gates, of the 2023 draft Staff Report for more information. Please see Common Response 7.24, Alternatives Analysis, for a response to comments on the Interior Flows/Fall Delta Outflow Alternatives and the range of reasonable

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		and the gates would be required to be closed based on catch indices related to entrainment risk of salmonids in the interior Delta as specified in the NMFS 2019 BiOp (^NMFS 2019 BiOp). [Footnote 35: Id., p. 5-38.] The stated rationale for existing November-January closures of the Delta Cross Channel Gates is to prevent entrainment into the central Delta of juvenile salmon migrating down the Sacramento River. Evaluation by EBMUD in the past decade has shown that operation of the Cross Channel Gates also affects the straying of upstream-migrating Mokelumne River adult salmon away from the Mokelumne. Many of the salmon endemic to the Mokelumne are attracted to the greater flow coming through the Gates, and thus stray to the American River or other points north. Some of this straying may take place in October. It is appropriate to expand the season of potential closures of the Delta Cross Channel Gates to include October as well as November-January. The State Water Board should also evaluate additional numbers of days for potential closures in the expanded annual time period, for instance by adding fifteen days overall to maintain a ratio of potential closures as half the number of days in the closure window.	alternatives. In addition, the project is revised. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the interior Delta flows objectives.
228	41	The Proposed Modifications to Export Limits Objective is directionally appropriate but should be expanded. The Draft Staff Report proposes to retain the existing Export to Inflow ratio in Water Rights Decision 1641 (D-1641). This is an appropriate minimal measure. The Draft Staff Report also proposes to expand annual time period of applicability of a San Joaquin River flow-based export limitation, compared to the time period in D-1641. The Draft Staff Report proposes to apply the limitation throughout April and May, not only during the D-1641-required April 15-May 15. This is positive. Even more positive would be adoption of the temporal requirements of modular Alternative 4c, which would expand the window of applicability of San Joaquin River-based export limitations to the months of February through June; CSPA	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		et al. supports such expansion of the temporal window of San Joaquin River-based export limitations.	
228	42	The Draft Staff Report also proposes to further limit exports during this expanded time period, compared to D-1641. The proposed new narrative would limit exports in April and May to the Inflow to Export (I:E) ratio for the San Joaquin River adopted in the 2009 NMFS Biological Opinion for Delta operations of the CVP and SWP. The portion of the proposed narrative Delta Export Objective stated in the Draft Staff Report would replace D-1641 footnotes 18 and 19 with a new narrative objective that reads: Combined SWP and CVP exports from the southern Delta shall be limited based on San Joaquin Valley water year type (as defined in Figure 4) to a ratio of San Joaquin River flow at Vernalis to exports of 4 to 1 in wet and above-normal years, 3 to 1 in below- normal years, 2 to 1 in dry years, and 1 to 1 in critically dry years or 1,500 cfs, whichever is greater. Restrictions do not apply when Vernalis flows are above 21,750 cfs and do not apply in wet years beyond 375 TAF of export reductions. Exceptions, no lower than 1 to 1 San Joaquin River flow to export limits, may be approved by the Executive Director upon concurrence of CDFW, including as the result of emergency circumstances or updated incidental take permit provisions. The State Water Board may approve long-term modifications to this objective and associated implementation measures based on updates to biological opinion or incidental take permit provisions. [Footnote 36: Id., p. 5-39.] The re-application of the 2009 NMFS objective for the I:E ratio (stated in the first sentence of the proposed objective, above), throughout April and May, is more protective than current requirements. It would undo one of the environmental rollbacks embodied in the Trump administration's 2019 biological opinions. The State Water Board should also evaluate a simpler and more protective revision of the April-May I:E ratio that limits exports to a 2:1 ratio in all water year types. The second sentence in the proposed Delta Export Objective	Please see Common Response 7.24, Alternatives Analysis, for a response to comments on the Interior Flows/Fall Delta Outflow Alternatives and the range of reasonable alternatives. Please also see Common Response 1.3, Revised Proposed Plan Amendments, for information on the interior Delta flows objectives.

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		above would apply a “wet water year offramp” to this export limitation. [Footnote 37: Id.] This weakens the conditions in the 2009 BiOp; the proposed cap on export reductions attached to this objective is not warranted. The provision for exceptions in the third sentence of the proposed narrative objective is a holdover from D- 1641. It was a bad idea in 1999, and it is a bad idea in 2024. Providing real-time discretion to the State Water Board’s executive director reduces certainty and equal application of rules, and invites political interference and abuse. The sentence should be stricken. The final sentence in the proposed narrative objective, suggesting a tie between export limits in the Bay-Delta plan and changes in biological opinions or incidental take permits, does not account for the real-world threats of political interference in biological opinions and incidental take permits. The State Water Board should maintain independent requirements, and thus should strike the last sentence of the proposed narrative objective. The Draft Staff Report proposes that, as at present, Reclamation and DWR be responsible for implementing the new requirements for the San Joaquin I:E ratio. This is appropriate.	
228	43	It is appropriate for the Bay-Delta Plan to include an Old and Middle River Flow Objective. The Draft Staff Report provides a concise summary of many of the adverse effects of reverse flows in Old River and Middle River (OMR flows). [Footnote 38: See id., pp. 5-39, 5-40.] It is wholly appropriate for the update of the Bay-Delta Plan to include an Old and Middle River Flow Objective. The proposed objective reads: For SWP and CVP exports greater than 1,500 cfs, Old and Middle River flows shall be no more negative than between -1,250 and -5,000 cfs at times when sensitive native fish species may be impacted by reverse flows in Old and Middle Rivers as described in the 2019 USFWS Biological Opinion, 2019 NMFS Biological Opinion, and 2020 CDFW ITP. The State Water Board may approve modifications to this objective and associated implementation measures based on updates to biological opinion or incidental take permit provisions. [Footnote 39: Id., p.	Please see Common Response 7.24, Alternatives Analysis, for a response to comments on the Interior Flows/Fall Delta Outflow Alternatives and the range of reasonable alternatives. Please also see Common Response 1.3, Revised Proposed Plan Amendments, for information on the interior Delta flows objective.

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		5-40.] The new objective should not refer to the 2019 BiOps or adopt the conditions contained in them. The state of California and several non-governmental organizations have challenged these inadequate federal documents in court, and the federal government is now in the process of issuing new BiOps. As a start, the present update of the Bay-Delta Plan should at minimum be consistent with the 2008 USFWS BiOp for OMR flows. More broadly, new objectives in the updated Bay-Delta Plan should wherever possible avoid references to other documents as part of its objectives. At minimum, the updated Plan should include as appendices the actionable sections of other documents where an objective relies on such documents.	
228	44	The State Water Board should also evaluate new OMR requirements that are more protective than the 2008 USFWS BiOp. One potential source is Alternative 3 in the forthcoming draft environmental impact statement for the reinitiation of consultation for the CVP and SWP, which recommends limiting OMR reverse flows to 2500 cfs in a critically dry year preceded by another critically dry year. In the discussion of proposed OMR objectives, the Draft Staff Report notes: As discussed in Section 7.2, Description of Alternatives, and Section 7.24, Alternatives Analysis, an alternative that does not incorporate any of the BiOp- or ITP-related provisions into the Bay-Delta Plan (including new OMR provisions and other interior Delta flow modifications, as well as fall Delta outflow provisions) is also under consideration since it may not be necessary or efficient to duplicate these provisions in the Bay-Delta Plan. [Footnote 40: Id.] CSPA et al. strongly opposes such an alternative. The State Water Board cannot legally rely on the actions of other agencies under different legal authorities to protect beneficial uses under Porter-Cologne and the public trust doctrine. The 2019 Trump BiOps are dramatic evidence of the potential practical consequences of relying on other agencies to fulfill the Board's	See Common Response 7.24, Alternatives Analysis, for a response to comments on the modular alternatives and see Common Response 1.2, Water Quality Control Planning Process, regarding the consideration of beneficial uses.

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		responsibilities. It is not a matter of efficiency or duplication. It is a matter of legally required protection.	
228	45	CSPA et al. support the following concepts and statements in Chapter 5: - Continuation, and where appropriate expansion, of a robust monitoring program, in the Delta and upstream. - Transparent and timely public reporting of monitoring data. - “The proposed new inflow-based Delta outflow objective would require methods for determining the required outflow level based on the inflow levels and downstream accretions and depletions that factor in travel times and other relevant factors. The proposed program of implementation would include provisions for development of such methods in coordination with other appropriate agencies.” [Footnote 41: Id., p. 5-56.] - “Improvements in water right reporting would be needed to implement this broader responsibility. Improvements include more accurate demand data and accurately reporting diversions under the correct water right.” [Footnote 42: Id., p. 5-57.] - “The proposed program of implementation would [have to] include provisions for developing a methodology and system for identifying and notifying water users when they must reduce or cease diversions (bypass flows) at their priority of right to meet the proposed Plan amendments.” [Footnote 43: Id.]	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	46	CSPA et al. recognizes that, as stated in the Draft Staff Report, “[m]any water transfers become a form of flexible system reoperation linked to many other water management strategies.” [Footnote 44: Id., p. 5-66.] There are circumstances, such as regional plans like the Bay Area Regional Reliability project, [Footnote 45: See Bay Area Regional Reliability webpage at: https://www.bayareareliability.com/.] in which pooling of resources under various water rights prevents the real or perceived need for unnecessary new reservoirs that urban water agencies might feel compelled to pursue if left on their own to assure water supply reliability.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		However, CSPA et al. is seriously concerned with numerous issues involving the use of water transfers. Non-exclusively, these include: - Creation of a speculative water market that monetizes a public resource for private benefit. - Serial transfers that exploit weak rules for “temporary” actions, avoiding environmental review and understating environmental impacts. - Serial transfers that take advantage of bloated state and federal contracts to establish semi-permanent transfer programs with water that is sold at the expense of public trust resources. - Perfunctory review of transfer applications regarding effects on fish and wildlife. CSPA et al. recommends that the State Water Board undertake a comprehensive review of the rules and interests concerning water transfers in the near future.	
228	47	The Draft Staff Report states: “The State Water Board would also continue efforts to expedite water right permitting for groundwater recharge.” [Footnote 46: Id., p. 5-69.] CSPA et al. is also seriously concerned with a potential gold rush for new water rights whose purpose is groundwater recharge. CSPA et al. recommends that the State Water Board initiate a proceeding to establish regulations and/or policies regarding water right permitting for recharge, including a global default starting point for flow requirements regarding any such water rights that the State Water Board may actually permit. [Footnote 47: This would be a successor to the 90/20 Rule that the State Water Board has deployed as a default for temporary permits for groundwater recharge.]	Groundwater recharge projects are evaluated under Other Watershed Actions that diverters may take in response to reduced Sacramento/Delta surface water supply. Impacts and mitigation measures identified in applicable discussions Section 7.3, Aesthetics, through Section 7.20, Utilities and Service Systems. For example, Section 7.12.1, Surface Water, discusses how recharge using surface water diversions would likely occur during wet years when extra water is present; however, substantial reductions in flow could degrade water quality by limiting the dilution effect of existing flows and exacerbating existing water quality impairments. A mitigation measure specifies that in processing water right applications that involve groundwater storage, the State Water Board will ensure that enough flow remains instream to protect water quality. Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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			Please see the Board's website at https://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/groundwater_recharge/faqs.html for more information about how the State Water Board regulates water right permitting for groundwater recharge.
228	48	The proposed CEQA alternatives in the Draft Staff Report are inadequate. There are multiple flow objectives proposed in the CEQA alternatives presented in the Draft Staff Report. As described above, the High Inflow Alternative contains the only numeric objectives that will meet the overall purpose of the project "to establish water quality objectives, a program of implementation, and monitoring and special study measures for the reasonable protection of fish and wildlife beneficial uses in the Sacramento/Delta." [Footnote 48: Draft Staff Report, p. 7.1-3.] The No Project Alternative, the Low Flow Alternative, and the even the Proposed Plan Amendments, would, if implemented, leave the Bay-Delta estuary with too little inflow and outflow to recover. However, the High Inflow Alternative is flawed because it, unlike the Proposed Plan Amendments and the Low Flow Alternative, does not allow flexibility to reduce Delta inflows in order to preserve carryover storage.	The High Flow Alternative follows a similar approach to the other proposed unimpaired flow scenarios and the Low Flow Alternative. It would be adaptively implementable with the flexibility to require between 65 to 75 percent unimpaired flow. Please refer to Common Response 7.24, Alternatives Analysis, regarding the range of feasible alternatives. Also see Common Response 7.1, General CEQA and the Approach to the Analysis, regarding the level and scope of the analysis. Also refer to Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, regarding flexibility in the range of actions that could be taken to implement the cold water habitat objective.
228	49	The presentation of the alternatives is confusing. Only some of the primary (as opposed to "modular") alternatives have numbers. The "Proposed Plan Amendments," apparently though not explicitly the Proposed Project under CEQA, does not have a number. Both for ease of reference and to put the alternatives on the same footing, it would be clearer to assign a number to the "Proposed Plan Amendments" (whatever they may end up being), or at minimum to clearly identify the proposed plan amendments collectively as a Proposed Project or Preferred Alternative under CEQA.	CEQA does not require the identification of a "preferred alternative," and the Staff Report does not do so. The commenter suggests minor text revisions that would not alter the Staff Report's analysis or conclusions. The suggested revisions to the 2023 draft Staff Report are not warranted. Please see Staff Report Section 7.2, Description of Alternatives, Section 7.24, Alternatives Analysis, and Common Response 7.24, Alternatives Analysis, for more information about the alternatives.
228	50	The Voluntary Agreement Alternative (Alternative 6) has no business in the Draft Staff Report. It clearly does not meet the project purpose. In fact, its adoption would defeat the project purpose because it would further degrade the Bay-Delta ecosystem that is already in crisis by delaying actions that would initiate the ecosystem's recovery. The only marginally positive feature of Alternative 6 is that analyzing it helps to demonstrate	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		its complete and utter inadequacy. As an alternative that is radically distinct from the others, it performs the function of quashing the illusion that the ecosystem can be restored with little or no increases in Delta inflow and outflow requirements.	
228	51	Alternative 4a, as discussed above, is a modular alternative that proposes to exclude for the Bay-Delta Plan components now or previously addressed by biological opinions for the operation of the CVP and SWP. As described above, the Board cannot leave export restrictions and reverse flows in the Delta (OMR) to another legal mechanism. The Board should reject Alternative 4a and dismiss it from further consideration.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	52	The remaining “modular alternatives” (4b, 4c, 5a, 5b, 6a) seek to address real problems. It is positive to identify these problems. However, these alternatives as proposed are inadequate to resolve the problems that they seek to address.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	53	The State Water Board must reject flow objectives that provide inadequate Delta inflows and outflows. The general methodology of the Draft Staff Report in determining appropriate flow thresholds for the protection and recovery of fish is sound and makes sense. The methodology is generally described in Chapter 3 of the Report: The chapter [3] relies on scientific and empirical evidence from published and peer-reviewed articles, exhibits, testimony in the record of the Delta Flow Criteria Report proceeding, and original analyses prepared by State Water Board staff. Where information is available, this Staff Report identifies flows that are associated with growth of specific native indicator aquatic species populations more than half of the time or maintaining populations near abundance goals previously identified in the Delta Flow Criteria Report. The following specific scientific information is relied upon in this Staff Report (or Report). - Ecological function-based analyses for desirable species and ecosystem attributes. - Statistical relationships between flow and species abundance.	The flow thresholds and benefits analyses of Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, have been updated in the final Staff Report to reflect more recent scientific literature, including the literature cited by the commenter. These updated flow thresholds and benefits analyses are also provided in support of the revised proposed Plan amendments in Chapter 13, Revised Proposed Plan Amendments, of the Staff Report. Please see Common Response 3.1, Fish Protection, on use of best available science and updates to the literature, flow thresholds, and the benefits analyses in the Staff Report. While there is no comparative table regarding the increase in survival of juvenile salmonids under different flow scenarios, the benefits analyses provided in Chapters 3 and 13 demonstrate the frequency of exceeding ecological flow thresholds that are protective of salmon. Exceeding the flow thresholds is expected to have positive effects on survival and abundance. Please also see Common Response 1.2, Water Quality Control Planning Process, for a discussion on reasonable protection of fish and wildlife and consideration of beneficial uses.

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		- Unimpaired flows and historical impaired flows that supported more desirable ecological conditions. [Footnote 49: Draft Staff Report, pp. 3-1 and 3-2.] Table 3.14-1 lists the “Magnitude and Timing of Delta Outflows Indicated to Be Protective of Estuarine-Dependent Species.” [Footnote 50: Id., p. 3-104.] Table 3.14-2 provides the periodicity of the “Functional Flow Needs for Estuarine-Dependent Species.” [Footnote 51: Id., p. 3-106.] Table 3.14-3 provides a “Summary of Interior Delta Flows Indicated to Be Protective of Salmonids and Estuarine-Dependent Fish Species (cubic feet per second).” [Footnote 52: Id., p. 3-109.] As noted by Baykeeper and the Nature Conservancy in their presentation at the December 1, 2023 State Water Board hearing on the Draft Staff Report, some of the identified threshold flow values for various species have been updated since 2017, the last apparent date cited in Chapter 3. Baykeeper et al. is providing with its comments on the Draft Staff Report a list of the latest best available science on appropriate flow thresholds for various species. CSPA et al. incorporates by reference these flow thresholds. Notably, the threshold value stated in Chapter 3 for survival of outmigrating Chinook salmon (20,000 cfs at Rio Vista) is too low a figure; 30,000 cfs at Freeport is more appropriate as a protective value. Table 3.14-7 provides the “Potential Percent Increase in Median Abundance Indices Relative to Baseline Condition, with 95 Percent Confidence Intervals and by Water Year Type.” [Footnote 53: Id., p. 3-122 and 3-123.] For the estuarine species evaluated in this table, the 65% value provides substantially improved performance over the 55% value in all water year types, with generally greater improvement as water years are drier. Regrettably, the Draft Staff Report does not provide a similar comparative table or other information regarding the increase in survival of juvenile salmonids under different flow scenarios. However, one can use Table 6.3-4 to evaluate the hydrology of the Sacramento River at Freeport under the various flows achieved on average under the different percent-of-unimpaired	

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		requirements [Footnote 54: Id., p. 6-13.] in comparison to the literature cited by Baykeeper et al. that studied survival under different flow thresholds, and in particular to the 30,000 cfs threshold at Freeport. Here too, the 65% scenario outperforms the 55% scenario, both generally and in terms of frequency above 30,000 cfs at Freeport.	
228	54	The State Water Board must revise the High Flow Alternative and support it with additional analysis evaluating options to meet the project purpose with the least impacts. The Draft Staff Report appropriately relies in general on its scientific findings in the 2010 Delta Flow Criteria Report and the 2017 Scientific Basis Report, [Footnote 55: The 2017 Scientific Basis Report is included as Appendix B to the Draft Staff Report; Chapter 3 supplements the 2017 Report with additional analysis developed since 2017.] the latter as revised and updated in Draft Staff Report Chapter 3. The Draft Staff Report acknowledges the flow benefits in the Delta of the High Flow Alternative, stating: “the required Delta inflows would be higher under the High Flow Alternative compared to the proposed Plan amendments and would provide ecosystem benefits.” [Footnote 56: Id., p. 7.2-8. See also discussion on pp. 7.2-7 and 7.2-8 of the 2010 Delta Flow Criteria Report.] Nonetheless, the Draft Staff Report all but dismisses the High Flow Alternative because of perceived impacts to carryover storage, water supply, or both: With respect to carryover storage in rim reservoirs (needed for cold water habitat), with higher instream flow requirements, it would be difficult to maintain storage levels while maintaining even greatly reduced levels of water supplies. ... the beneficial environmental effects under the High Flow Alternative would be limited due to significant challenges in maintaining suitable water temperatures for cold water aquatic species and carryover storage for environmental and water supply purposes. [Footnote 57: Id.] Stated in CEQA terms, the Draft Staff Report claims: “Because environmental impacts would be greater under the High Flow Alternative than the proposed Plan amendments, many of the potentially significant impacts are not likely to be mitigated to	As described in Section 6.2.2, Unimpaired Flow Scenario Assumptions, of the 2023 draft Staff Report, carryover storage was modeled alongside the inflow requirements for all flow scenarios. All flow scenarios, including the High Flow Alternative, were modeled and analyzed in Chapter 6, Changes in Hydrology and Water Supply; Chapter 7, Environmental Analysis; and Chapter 8, Economic Analysis and Other Considerations, of the 2023 draft Staff Report. In addition, the High Flow Alternative was adequately analyzed in Section 7.24, Alternatives Analysis, of the 2023 draft Staff Report. Please see Common Response 7.24, Alternatives Analysis, for more information on the analysis of alternatives and Common Response 7.6.2, Aquatic Biological Resources and Cold Water Habitat, for information on the scope of the water temperature analysis and constraints that would result from the combination of carryover storage and higher flow requirements.

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		less-than-significant levels.” [Footnote 58: Id.] However, the Draft Staff Report does not do the detailed analysis of carryover storage and water supply impacts on a watershed by watershed basis to support a finding that significant effects on carryover storage and water supply cannot be mitigated. The approach is rather to broadly state the impacts and then claim that in bracketing those impacts one has disclosed them. This approach overstates the impacts, and then turns around and announces that the High Flow Alternative is infeasible based on the overstated impacts. [Footnote 59: Several spokespersons for water suppliers also stated in oral testimony in hearings on the Draft Staff Report that the stated water supply impacts represented a “worst case” scenario.]	
228	55	In addition, the High Flow Alternative is born to fail because, unlike the Proposed Plan Amendments and the Low Flow Alternative, the High Flow Alternative contains no flexibility to adjust Delta inflow requirements sourced from watersheds that would have difficulty meeting water temperature objectives because of reduced storage. The High Flow Alternative should be modified to include such flexibility, and staff should run sensitivity analyses to evaluate a low range of flows requirements less than 55% of unimpaired flow in clearly defined cases.	The High Flow Alternative follows a similar approach to the other flow scenarios. It would be adaptively implementable with the flexibility to require between 65 to 75 percent unimpaired flow. As discussed in Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, of the 2023 draft Staff Report, 10-percent increments of unimpaired flows between 35 and 75 percent were evaluated. Therefore, staff have already analyzed flow requirements of less than 55 percent. Please see Common Response, 7.24, Alternatives Analysis, on the range of feasible alternatives.
228	56	Board staff should conduct further analysis of the High Flow Alternative to include: - Better analysis of carryover storage requirements, including purpose and numeric values. - Coordination of carryover storage requirements with delivery reductions, especially for project reservoirs (suggested in the CVP “Buffer Pool”). - Consideration of relative priorities of Delta inflow and storage objectives. - Stretching lower limits of Delta inflow requirements to meet storage objectives; combine with diversion limitations.	Please see the response to comment 228-54.

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		- Different strategies to mitigate cold water pool impacts. This could be done sequentially, as in alternative 3 in the forthcoming draft EIS for the issuance of new biological opinions for the CVP and SWP, where at the beginning of each year priority is given to storage up to defined levels, and flow releases of 65% of unimpaired are required once the defined storage values are achieved. This could also be done with other means of balancing flows, storage and deliveries, with a wider bottom end flow range and clear rules for triggers to change flows.	
228	57	The State Water Board must analyze the relative responsibilities of rim dam operators and upstream users to meet Delta Inflow Objectives, based on a series of variables. For purposes of SacWAM modeling, the Draft Staff Report assumed a compliance point for release of a percent of unimpaired flows upstream of rim reservoirs. [Footnote 60: Draft Staff Report, pp. A1-7 and A1-8, including Table A1-2.] The Draft Staff Report also offers a caveat: “However, proposed Plan amendments may include a requirement only at the bottom of each watershed that could require upstream users to contribute more or less than downstream users based on specific water rights priorities.” [Footnote 61: Id., p. A1-7.] The Draft Staff Report does not offer a legal justification for requiring users upstream of rim dams to contribute water to Delta inflow at the same level of responsibility as operators of rim dams. As quoted immediately above, the Report suggests that the relative responsibilities may be modified based on “specific water rights priorities.” But priority is not the basis for the Proposed Plan Amendments. If it strictly considered only priority, the entire construct of requiring contributions for each watershed would have no rationale. Public trust and (implicitly) reasonable use are the legal bases for the amendments. Public trust uses of rivers downstream of rim dams, particularly protection of anadromous fish, which are generally not present upstream of rim dams, are the practical as well as legal bases of the Plan Amendments. In addition, equal requirements of Delta inflow contributions from users upstream of rim dams does not take into account the	As described in Section 5.4.2.4, Implementation, of the 2023 draft Staff Report, subject to possible modifications for drought, public health and safety, public trust obligations for wildlife refuges, or alternative arrangement in a voluntary implementation plan (now referred to as a local cooperative solution), implementation of the flow objective on a tributary would be required to be met in order of water right priority. Water provided to meet the plan amendments by reduced diversions of an upstream water user would be protected from diversion downstream and thus provide benefits in the more downstream reaches of the tributary below rim dams. Please see Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations, and Chapter 4, Other Aquatic Ecosystem Stressors, of the 2023 draft Staff Report for information on the benefits of increased tributary flows. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on regulatory pathway implementation of the inflow objective.

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		greater watershed area from which rim dams draw water, as compared to water resources available upstream. It also does not take into account the opportunities on or near the valley floor to use groundwater to help mitigate water supply impacts downstream of rim dams, whereas most upstream users have limited, fractured-rock groundwater sources available to them.	
228	58	The State Water Board needs to conduct a series of SacWAM sensitivity analyses for the High Flow Alternative that analyzes different compliance points and responsibilities of water users upstream of rim dams. At the limiting case, the State Water Board needs to make a comparative analysis of not requiring water users upstream of rim dams to meet unimpaired flow bypass requirements to compare with the model run that require proportional contributions from water users upstream of rim dams. Based in part on the results of such sensitivity analyses, the State Water Board needs to develop both legal and practical rationales for determinations of how to allocate intra-basin responsibilities for meeting the Delta Inflow Objective.	The specific responsibility of each user to bypass flow to meet water quality objectives will be determined in the implementation methodology phase of the project. There will be an additional opportunity for public comment when implementation details are available. Additionally, please see the responses to comments 228-34 and 228-35. See also Common Response 1.3, Revised Proposed Plan Amendments, for a discussion of adaptive implementation as it relates to compliance point locations. Contributions from stream reaches above rim dams are important to ensure compliance with the narrative inflow objective in those specific reaches and comprehensive watershed contributions to Delta outflow.
228	59	The State Water Board must more granularly analyze the comparative water supply impacts of the High Flow Alternative. The Draft Staff Report analyzes water supply impacts only at an extremely high level, review impacts by watershed to agricultural users and to M&I users. This analysis also assumes across-the-board reductions to meet Delta inflow requirements, without prioritization of different uses. Further, the Draft Staff Report evaluates impacts in the geographic location of the use of water, not of the source of water. This generally precludes evaluation of the trade-offs of mitigation of water supply impacts in source watersheds and those in the areas to which water is exported. Of particular importance is the limitation of opportunities to evaluate mitigation of water supply impacts based on economic considerations, because it precludes, for instance, evaluating tradeoffs between agricultural uses in the source watershed with M&I uses in export areas.	The analysis of water supply economic effects presented in Chapter 8, Economic Analysis and Other Considerations, of the 2023 draft Staff Report recognizes that the results could possibly overestimate the cost of replacement water supplies; however, it would be speculative to make assumptions regarding how water users would respond to the Sacramento/Delta update to the Bay-Delta Plan because it would depend on many individual and collective decisions, including, but not limited to, water users' unique water supply portfolios, resources and circumstances of each water user; and the discrete actions of other local water users in response to reductions in surface water. Please refer to Common Response 8.1, Economic Analysis and Other Considerations, for additional information regarding municipal water supply economic effects. Also see the response to comment 228-54; Common Response 7.1, General CEQA and Approach to the Analysis, for information on the level and scope of the analysis; and Common Response 7.24, Alternatives Analysis, for information on the description and analysis of alternatives.

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228	60	The State Water Board needs to conduct a more granular analysis of the water supply impacts of the High Flow Alternative. It needs to start by establishing an analytical framework that looks at least at the major water users in each watershed. Using that framework, the State Water Board needs to conduct a series of sensitivity analyses for the High Flow Alternative that analyzes the following factors as variables: - Consideration of the appropriate relative priorities between agricultural uses and M&I, both generally and within individual watersheds. - Consideration of combining tributaries for purposes of evaluating compliance, particularly the Mokelumne and the Cosumnes rivers, or the Yuba and Bear rivers and Western Placer County creeks. - Consideration of the relative resource value of flow at different locations. For instance, flows in Putah Creek are somewhat more beneficial to fish, especially salmon, than flows in Cache Creek; however, flows in Putah Creek are much less beneficial to salmon than flows in the Sacramento River at Freeport. - Based on all the above, consideration of potential modification of the relative contribution of each watershed to overall Delta Inflow Objectives and Delta Outflow Objectives. - Treating CVP and SWP deliveries under contracts separately from and differently than other deliveries. This is already implied in the Draft Staff Report's "buffer pool" approach for maintaining storage in CVP reservoirs.	The proposed Plan amendments were developed to meet the overall need for the watershed to contribute to Delta outflows while also providing flexibility in adaptive implementation to tailor flows and operations for the unique circumstances in each tributary. Please see the response to comments 228-54 and 228-59; Common Response 1.2, Water Quality Control Planning Process, on consideration of beneficial uses; and Common Response 7.24, Alternatives Analysis, on the level of detail of the analysis of alternatives.
228	61	The modular alternatives other than 4a address real problems but require improvement or refinement to be effective.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	62	Alternative 4b, the Head of Old River Barrier Alternative, proposes a physical solution that is better addressed with adequate San Joaquin River flows and expanded export limitations.	The Head of Old River Barrier (HORB) Alternative (Alternative 4b) would require DWR and Reclamation to install and operate a barrier in the spring to increase survival of outmigrating juvenile salmonids and in the fall to enhance adult migration. Historically, a spring barrier has been constructed as early as March 1,

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		The Head of Old River Barrier (widely known as HORB) was conceived, around the time that D-1641 was adopted, as a physical barrier that would reduce entrainment into Old River of downstream-migrating juvenile salmonids. Salmonids that enter Old River at its head south of Stockton are susceptible in turn to entrainment at the Delta pumps of the CVP and SWP. Studies in the late 1990s had suggested that survival of juvenile salmon was somewhat improved for those that migrated down the San Joaquin River channel instead of entering the head of old river. [Footnote 62: See The Vernalis Adaptive Management Program (VAMP): Report of the 2010 Review Panel, p. 7, citing to Brandes and McClain, 2001. Available at: https://cawaterlibrary.net/document/the-vernalis-adaptive-management-program-vamp-report-of-the-2010-review-panel/.] HORB was deployed during the Vernalis Adaptive Management Program. In The Vernalis Adaptive Management Program (VAMP): Report of the 2010 Review Panel, a panel of independent scientists found that HORB was somewhat effective in preventing entry of juvenile salmonids into the head of Old River. [Footnote 63: Id., p. 7.] The review panel in 2010 generally agreed that deployment of HORB during VAMP had been somewhat positive; however, during the 2000- 2010 implementation of VAMP, HORB was generally deployed at very low flows. [Footnote 64: Id., pp. 6-7.] The panel found that VAMP had a diminished value as an experiment for lack of high flows generally and managed releases of high flows (as opposed to flood releases and other unregulated flow) in particular. [Footnote 65: Id., p. 9.] Juvenile survival in 1995-1999 at much higher flows was much greater than juvenile survival at low flows under VAMP export limitations with HORB in place.	operated up to 60 days during April 1 through May 31, and removed by May 31; a fall barrier has been constructed any time after September 1 with removal by November 30. Construction and operation of HORB should be accompanied by fish and water quality monitoring studies. As part of this alternative, DWR and Reclamation could propose other measures to the State Water Board for approval that would achieve equivalent or better protection to migrating fish than HORB. Alternative 4b would require installation and seasonal operation of the HORB for an interim period (10 years) and would require associated monitoring and experimental studies to further assess its effectiveness, including independent peer review to confirm the findings of those analyses. Under this alternative, if the HORB is found to be effective, operation of HORB could be required to be continued beyond the initial 10-year period. Please see Common Response 7.24, Alternatives Analysis, regarding the ability of alternatives to meet the project objectives.
228	63	It is generally believed that deployment of HORB is feasible and effective only to a flow level of about 7000 cfs. Appropriate flows in the San Joaquin River, combined with greater export limitations, appears to be a more effective approach than the marginal benefits of HORB at low flows. Moreover, the hydrodynamics of the southern Delta change substantially when HORB is in place. There is reduced flushing	There is not sufficient support for the claim that HORB alone causes water quality impacts including increasing salinity, increasing water temperature, anoxia, stage height, and HABs in the South Delta channels above baseline conditions. Water quality conditions in the South Delta channels must be evaluated in the context of the three agricultural barriers installed under the South Delta Temporary Barriers Program. The barriers at Middle River near Victoria Canal, Old River near Tracy, and Grant

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		and movement of water. This reduces water quality generally, increases salinity, increases water temperatures in late spring and summer months, and creates stretches of anoxic water. It also appears to make it more difficult to achieve a stage height high enough to allow diversions of water to south Delta farmers. It creates a vector for harmful algal blooms (HABs). The marginal benefits of HORB, including the relatively low flow range at which it can function, do not appear to be worth the negative impacts, provided that flows in the lower San Joaquin River, particularly from February through June annually, are sufficient. Implementation of Alternative 4c would also partially offset the absence of HORB.	Line Canal at Tracy Boulevard are installed as early as May and removed by late November to mitigate water level impacts associated with CVP and SWP export operations and to maintain adequate water levels for agricultural diversions (https://water.ca.gov/Programs/State-Water-Project/Operations-and-Maintenance/South-Delta-Temporary-Barriers-Project). Reports on the effects of the temporary barriers suggest that San Joaquin River inflow is the primary driver of salinity and water quality in the south Delta (Reclamation 2025a). Although the temporary barriers have measurable hydrodynamic effects, these effects are temporary and can be managed through coordinated operations among DWR, Reclamation, and state and federal fisheries management agencies (ICF 2016). Thus, any water quality impairments in the South Delta resulting from barriers would occur under baseline conditions due to the three agricultural barriers. For HORB, culvert gates may be opened to improve water quality and water levels and thus avoid any possible water quality impacts (DWR and Reclamation 2019b). An investigation conducted by DWR (ICF 2021) found no consistent or measurable negative impacts of the HORB on dissolved oxygen.
228	64	Alternative 4C, the Extended Export Constraint Alternative, would expand the season of applicability of the proposed Exports Limits Objective discussed above. The season of the Expanded Exports Limit Objective would broaden from the proposed April-May annual time period to the period from February through June each year. The San Joaquin River inflow to exports ratio (I:E ratio) would thus apply throughout the February-June time period. The Extended Export Constraint Alternative would benefit salmonids and sturgeon natal to all rivers in the Bay-Delta watershed, including but not only the San Joaquin River and its tributaries. It would also benefit estuarine fish species and other parts of the estuarine food web.	See Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. See also Common Response 7.24, Alternatives Analysis, on modular alternatives.
228	65	The failure of VAMP to achieve marked successes stemmed from two basic shortcomings: it did not require enough flow, and the season of export constraints was too short. Since the end of VAMP, the Bureau of Reclamation has flaunted the D-1641 spring	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not

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		(April 15- May 15) San Joaquin River pulse flow requirement, unilaterally substituting lower pulse flow requirements grounded in the biological opinions for the CVP and SWP. [Footnote 66: In addition, the Trump administration substantially weakened the biological opinions in 2019.]	raise specific economic effects of the project. See also Common Response 7.24, Alternatives Analysis, on modular alternatives.
228	66	The 2010 Delta Flow Criteria Report analyzed the key importance of the February-June time period in the San Joaquin River watershed for salmonids in particular, and the Lower San Joaquin River flow objectives the State Water Board adopted in 2018 focused flow requirements on this annual time period, in substantial part in order to protect outmigrating salmonids. Several papers by Anna Sturrock and others have emphasized the importance of life-history diversity in outmigration patterns since the 2017 Scientific Basis Report. [Footnote 67: See, e.g., Sturrock et al., Unnatural selection of salmon life histories in a modified riverscape (2019), available at: https://www.researchgate.net/publication/337690243_Unnatural_selection_of_salmon_life_histories_in_a_modified_riverscape/ink/5de62031a6fdcc2837008c9c/download?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19.]	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. See also Common Response 7.24, Alternatives Analysis, on modular alternatives.
228	67	As stated above, the adoption of the Extended Export Constraint Alternative would largely eliminate the need for Alternative 4b, the Head of Old River Barrier Alternative. The Extended Export Constraint Alternative would complement additional San Joaquin River flow requirements and overall Delta inflow requirements, and make those flows more effective in restoring fisheries and the Bay-Delta ecosystem. The State Board should adopt the Extended Export Constraint Alternative as part of its update of the Bay-Delta Plan.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. See also Common Response 7.24, Alternatives Analysis, on modular alternatives.
228	68	Alternative 5a, the Instream Flow Protection Alternative, appropriately recognizes the need for new rules for dry-year and multiple-dry-year Central Valley and Delta operations, but is too reactive in its approach and needs refinement. Alternative 5a, the Instream Flow Protection Alternative, would expand the approach of standard water rights permit Term 91 to further require entities other than the CVP and SWP to bypass natural flows when otherwise the CVP and SWP would release	It would be incorrect to characterize Alternative 5a as a “windfall” to the Projects “at the expense of non-Project diverters.” In the past, most water users in the watershed have not had any limitations on their diversions to ensure that the Bay-Delta Plan objectives are met, and water quality objectives have been implemented primarily by the Projects (the collective term for CVP and SWP). Note that the subject of the Bay-Delta Water Rights Hearing in 1998-1999 was the assignment of responsibility for meeting the objectives in the 1995 Bay-Delta

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		water from storage to meet “existing Bay-Delta Plan objectives.” [Footnote 69: Draft Staff Report, p. 7.24-48.] A positive aspect of this approach would be that it could require curtailments of water rights other than those of the CVP and SWP to meet water quality objectives and more generally public trust uses. Currently, the State Water Board curtails non-project rights primarily to prevent injury to senior diverters, not to protect non-developmental beneficial uses or to protect public trust resources. [Footnote 70: For further discussion, see CSPA Comments on April 19, 2022 Revisions of Water Unavailability Methodology (May 19, 2022). Available at: https://calsport.org/news/wp-content/uploads/CSPA-Comments-on-Water-Unavailability-Methodology-051922.pdf. We incorporate by reference these comments in their entirety.] However, as currently conceived, Alternative 5a would indeed be a windfall for the projects at the expense of non-project diverters, because the projects control a large amount of consumptive rights and storage, but would not be required to limit deliveries until water was really running short. Thus, other diverters would in part subsidize high levels of project water deliveries in a first dry year by partially backfilling project storage in a second dry year, under the frame of “conserving storage” in project reservoirs.	Plan. The State Water Board conducted Phases 1 through 7 of the Bay-Delta Water Rights Hearing to determine some of the responsibilities for meeting the objectives in the 1995 Bay-Delta Plan and resolving other related issues prior to the adoption of Decision 1641. Additional flow-dependent objectives for fish and wildlife were being met by the DWR and the USBR pursuant to their obligations under the state and federal Endangered Species Acts. Other unallocated objectives would be implemented by the DWR and the USBR in the interim until the responsibilities to meet the flow-dependent objectives were permanently allocated. Phase 8 of the Bay-Delta Water Rights Hearing, which would have allocated responsibility to water users for the remaining objectives not yet assigned for the Sacramento, Calaveras and Cosumnes Rivers, was stayed and eventually dismissed based on an independent commitment from the DWR and the USBR to meet the flow-dependent objectives for an interim and indefinite period unless and until DWR or the USBR requested that the State Water Board convene a hearing to consider allocating responsibilities to meet the flow-dependent objectives to other parties. (WR Order WR 2001-05.) To implement Alternative 5a, during critical water year types and declared drought emergencies, all water rights would be subject to curtailment in order of water right priority to meet the base Delta outflow objectives described in Table 3 of the Bay-Delta Plan, not including Table 4. Since it would be implemented through curtailment in order of water right priority, it would not reverse priority or elevate the Projects over more senior water rights. The Projects would still have initial responsibility for bypassing flows to meet the objectives, but if more water was needed, others would also need to bypass natural flow. This could reduce the need for the Projects to release previously stored water to meet Bay-Delta Plan objectives. Storage releases would still be required to meet D-1641 requirements not met through bypass of natural flow.
228	69	The general solution to the inequity of preserving project storage in very dry years and in dry-year sequences at the expense of other diverters and the public trust would be to require reduced water deliveries in the first dry year. As discussed above, this paradigm is put into practice in the first dry year in the	Please refer to the response to comment 228-68. Additional details would need to be developed if the State Water Board pursued this alternative, including the specific conditions of consecutive dry years and drought that would trigger its implementation. The State Water Board is not pursuing

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		Mokelumne watershed, with emphasis on reduced deliveries to agricultural diverters. Such a proactive, rather than reactive, approach allows management of water resources while there is still water left to manage, rather than extreme triage and reliance on declarations of emergency and serial weakening of water quality and flow standards that has characterized drought response in the greater Bay-Delta watershed over the past two decades. In the February 8, 2023 comments of CSPA et al. on the Draft Scientific Basis Supplement for Voluntary Agreements, CSPA discussed at length the particularly damaging role that droughts have played in depressing populations of native fishes over the past two decades. [Footnote 72: See Comments of California Sportfishing Protection Alliance, California Water Impact Network, and AquAlliance on the Draft Scientific Basis Report Supplement in Support of Proposed Voluntary Agreements for the Sacramento River, Delta, and Tributaries Update to the Bay-Delta Water Quality Control Plan (CSPA et al.'s Comments on Draft Scientific Basis Report Supplement), esp. pp. 8-11. https://calsport.org/news/wp-content/uploads/CSPA-et-al-comments-Draft-Supplement-Sci-Basis-020823.pdf. We incorporate by reference the entirety of those comments.] Chapter 7.6.2 of the Draft Staff Report also recognizes the compounding influence of droughts on the decline of native fishes. [Footnote 73: See Draft Staff Report, p. 7.6.2-3 ("Native species in the Bay-Delta ecosystem are experiencing an ecological crisis. In the early 2000s, scientists noted a steep and lasting decline in population abundance of several native estuarine fish species that continued and worsened during the 2012–2016 and 2020–2022 drought periods.").] State Water Board staff is right in seeking changes in the way the State Water Board protects water quality and public trust resources generally during dry-year sequences and droughts. The update of the Bay-Delta Plan cannot provide reasonable protection of fish and wildlife if it perpetuates the devastating impact the droughts have had on native fisheries over the past two decades. In the words of the CSPA's late leader Bill Jennings, extinction is not an option. There is also no plausible sense in which extinction is protection, reasonable or otherwise.	Alternative 5a at this time but could consider and develop an approach in the future.

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		Alternative 5a correctly identifies a major problem that the update of the Bay-Delta Plan must address. Alternative 5a would have the benefit of requiring curtailments of non-project diversions specifically to protect public trust resources, and the State Water Board should preserve this aspect of Alternative 5a in a broader approach to dry-year sequences and droughts. However, Alternative 5a would not in itself solve the problem.	
228	70	Footnote 71: “Conserving storage” in CVP and SWP reservoirs has been a frequent justification for temporary urgency change petitions for Delta operations and unprotective Sacramento River temperature management plans. As described in multiple objections by CSPA et al. in 2014-2016 and 2021-2022, the net effect of “conserving storage” was allowance of excessive water deliveries, primarily to CVP and SWP settlement contractors and to CVP exchange contractors. See the objections and petitions for reconsideration of CSPA et al. on the State Water Board’s drought pages and Sacramento River temperature management pages, as catalogued at https://calsport.org/news/ , https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp/index.html , and https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/sacramento_river/ .	Please refer to the response to comment 228-69.
228	71	Alternative 5b, the Shared Water Shortage Provision Alternative, appropriately recognizes the need for new rules for dry-year and multiple-dry-year Central Valley and Delta operations, but is too reactive in its approach and needs refinement. Alternative 5b, the Shared Water Shortage Provision Alternative, would require across- the-board reductions of 20% by all water rights holders “under drought conditions.” Alternative 5B has many of the positive aspects as well as shortcomings of Alternative 5A. The recognition of the need for a default response to droughts is positive. It is also positive that Alternative 5B proposes to require reductions in agricultural diversions. During the 2013-2016 and 2021-2022 droughts, municipal and industrial diverters faced statewide, generally mandatory water rationing, while agricultural water users were curtailed only on the basis of priority. CVP and SWP agricultural contractors were cut back	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. See also Common Response 7.24, Alternatives Analysis, on modular alternatives.

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		according to allocation decisions by DWR and Reclamation, largely independently of the water rights system. There is a good policy argument to make for drought rationing of M&I water, to varying degrees and with varying location-specific rationales that the State Water Board widely explored in the last two major droughts. However, the numbers do not allow this strategy alone to create a formula for success. Agriculture uses 70-80% of the state's developed water resources. Cutting back urban users alone does not protect fish and wildlife and other public trust resources during dry-year sequences and droughts. Across-the-board cuts in all (non-instream) uses, including agriculture, during dry-year sequences is worth a serious discussion. Note that for urban water users, the State Water Board tiered water suppliers based on multiple factors, including existing general levels of use, previous conservation measures, and so forth. It was rocky. It revealed technical gaps. But it got done reasonably quickly and without an adjudication. The State Water Board developed an active partial curtailment priority list that was real-time and transparent. A similar tiered system that adjusted a default expectation based on specific use characteristics should be achievable for agricultural uses. The state's water resources are overallocated and overappropriated, [Footnote 74: For general description of the overallocation of California's water resources, see Draft Staff Report, p. 2-117.] mostly, but not entirely, by agricultural use and users. As described above, the State Water Board will not solve the problem of unsustainable conditions for fish and wildlife in droughts simply by reducing use of limited resources during crises. Agricultural water use must also be reduced when there is still water to save in anticipation of a year of little rain. A drought plan must include reduced agricultural water deliveries in the first dry year, i.e., a dry year that follows a wet or above normal year. The first-year reduction must be substantial, as suggested in the discussions regarding the Mokelumne watershed, above.	
228	72	Alternative 6a, the Protection of Voluntary Agreement Flows Alternative, should be reframed as an enforceable policy of prioritizing existing uses over new diversions.	As described in Common Response 1.3, Revised Proposed Plan Amendments, a provision is included in the revised proposed Plan amendments to protect the flow base from new water

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		“Modular” Alternative 6a is titled the “Protection of Voluntary Agreement Flows Alternative.” As proposed, it would place special flow requirements on new diversions in the Bay-Delta watershed if the Voluntary Agreements were adopted. For such new diversions, it would require a 55% of unimpaired January 1 – June 14 flow bypass requirement, as measured by Delta outflow, or would require other interpretation of Delta outflow needs as modified from the 2017 Scientific Basis Report. It would disallow use of the new diversion from June 15 – August 31 annually. It would allow diversions from September 1 – December 31 only “during high-flow events defined as the wettest 5 percent of historical hydrologic conditions.” [Footnote 75: Draft Staff Report, p. 7.2-16.] The purpose of modular Alternative 6a would be to protect existing levels of Delta inflow and outflow, which the proposed Voluntary Agreements propose to use as a floor onto which they will add more flow. As discussed further below, much of the Voluntary Agreement construct is already built on a foundation where the “existing flow,” onto which the proposed VAs would layer purportedly “additional” flow, has already been lowered, would be lowered by future proposed actions, or would be lowered by gaming VA flow requirements to recover “added” flow by reoperating reservoirs or water deliveries. The problem addressed by Alternative 6a would be a real problem if the VAs were adopted and implemented, making the VAs even more of a shell game than they already are. Board staff’s general approach regarding Alternative 6a seems to be that it would be redundant if a regulatory option involving a percent of unimpaired flow were adopted as the Plan Amendments. Yet a reinvested Alternative 6a might also have an important role as part of a regulatory option, further applying the principle that in an overallocated hydrological system, new water rights or diversions should be treated more restrictively than existing uses. For example, if the adopted program of implementation for a regulatory Plan update required no contribution to Delta inflow from diverters upstream of rim dams, or less contribution to	supply projects. See also response to comment 324-27. As described further in Common Response 1.3, Revised Proposed Plan Amendments, the regulatory pathway would be implemented in order of water right priority and would not require more or less contributions from diverters upstream of rim dams. In addition, water supply adjustments would automatically apply to existing rights only, and not necessarily for new water supply projects.

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		Delta inflow from diverters upstream of rim dams than from rim dam operators or those downstream, or otherwise uneven or site-specific contribution, Alternative 6b might prevent less highly regulated diverters from taking advantage of their reduced obligations by building new water developments. It would involve some serious legal thinking in developing such rules to respect and meet the intent of county of origin protections (Water Code § 10500 et seq.), and to avoid conflict with the parameters set forth in <i>El Dorado v. State Water Board</i> 142 Cal.App.4th 937. One possible approach might be disallowance of transfers of water founded in new water rights, including county of origin rights intended to protect the development of upstream counties, thus not allowing upstream counties to join the older diverters in water speculation practices. In sum, the State Water Board should consider expanding and adapting the principle imbedded in Alternative 6a, and evaluate various measures to include in the update of the Bay- Delta Plan to limit the effects of potential new diversions on public trust resources.	
228	73	The State Water Board can select the Environmentally Superior Alternative only after refining alternatives in consideration of the analyses recommended in these comments. Chapter 7.24 contains a brief discussion of the “Environmentally Superior Alternative.” [Footnote 76: See id., pp. 7.24-51 to 7.24-53.] The discussion is not illuminating. The most important take-home from the discussion is that more analysis is needed before the State Water Board can define an Environmental Superior Alternative. The analysis acknowledges the benefits of the high flows in the High Flow Alternative. However, the analysis equivocates with vague discussion of potential impacts to cold water resources and water supply (the latter an indirect, not explicit, environmental impact), stating: “[o]verall beneficial environmental effects under the High Flow Alternative would be limited due to significant challenges in maintaining suitable	Please see the response to comment 228-54. Also see Common Response 1.2, Water Quality Control Planning Process, on the consideration of beneficial uses and Common Response 7.24, Alternatives Analysis, on the environmentally superior alternative.

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		water temperatures for cold water aquatic species and carryover storage for environmental and water supply purposes with the higher flows.” [Footnote 77: Id., p. 7.24-52.] As discussed above, the State Water Board needs to conduct additional analysis regarding how to manage cold water and reservoir resources while providing Delta inflow sufficient to meet the project purpose of reasonable protection of fish and wildlife beneficial uses.	
228	74	Chapter 7.24 contains clear error in suggesting that the VAs may be the Environmentally Superior Alternative. Under the proposed VAs impacts from changes in hydrology and supply would be smaller in magnitude and geographic scope than the changes that would occur under the proposed Plan amendments. In many instances, the VAs would have no impact or less- than-significant impacts where the proposed Plan amendments would have potentially significant impacts. Focusing on potential environmental impacts related to hydrology and water supply, the proposed VAs therefore could be viewed as the environmentally superior alternative, although the improvements in flows would be more limited than under the proposed Plan amendments. [Footnote 78: Id., p. 7.24-52 and 53.] As discussed below, the VAs do not meet the project purpose. They have fewer impacts because they do very little. This is abuse of the CEQA impacts analysis and baseline at its worst, suggesting that a flow regime that will hasten fisheries decline and likely lead to extinction of several species is somehow “environmentally superior.” If the sole measure of impacts is change from a degraded baseline, then one may as well never do a project because the No Project Alternative never has any impacts at all.	As described in the 2023 draft Staff Report, Section 7.24.7, Environmentally Superior Alternative, if the environmentally superior alternative is the no project alternative, CEQA requires the environmental document also identify an environmentally superior alternative among the other alternatives. (Cal. Code Regs., tit. 14, § 15126.6(e).) Regarding the suggestion that the VAs do not meet the project purpose, please see Section 9.9.4, Achievement of Project Purpose and Goals. Also see Common Response 7.1, General CEQA and Approach to the Analysis, on the project in the context of CEQA.
228	75	The Voluntary Agreements have no business in the Draft Staff Report. Alternative 6, the “Proposed Voluntary Agreements” or VAs, would supplant the State Water Board’s entire regulatory framework, throw 14 years of the State Water Board’s science in	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Please also see Common Response 1.3, Revised Proposed Plan Amendments, for a description of the Voluntary Agreement Pathway.

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		the trashcan, and act as a program of implementation to continue D-1641 objectives as the basic regulatory construct for the next 8 years. The Proposed Voluntary Agreements Alternative purports to “add” increments of flow, framed as “assets,” on top of those existing requirements, without having defined a functional regulatory or accounting mechanism to calculate the new requirements. It would pay for water to protect public trust resources. It would “update” the salmon-doubling goal, initiated by the Central Valley Project Improvement Act and incorporated into California law, with a new, weak narrative objective for the purported improvement of salmon populations. As a central feature, it would substitute physical habitat improvements for most of the State Water Board’s proposed flow objectives.	
228	76	The VAs’ proposed revision of the salmon doubling objective is death by definition. The VA’s propose to replace the existing “Narrative Salmon Protection Objective” (salmon doubling goal) with a new Narrative Viability Objective that reads: Maintain water quality conditions, including flow conditions in and from tributaries and into the Delta, together with other measures in the watershed, sufficient to support and maintain the natural production of viable native fish populations. Conditions and measures that reasonably contribute toward maintaining viable native fish populations include, but may not be limited to, (1) flows that support native fish species, including the relative magnitude, duration, timing, temperature, and spatial extent of flows, and (2) conditions within water bodies that enhance spawning, rearing, growth, and migration in order to contribute to improved viability. Indicators of viability include population abundance, spatial extent, distribution, structure, genetic and life history diversity, and productivity. Flows provided to meet this objective shall be managed in a manner to avoid causing significant adverse impacts to fish and wildlife beneficial uses at other times of the year. [Footnote 79: Id., p. 9-7.] VA parties propose to contribute, during the pendency of the	The proposed new narrative fish viability objective is additional to the current objectives. It would not replace or change any existing objectives such as the salmon protection objective. Please see Staff Report Chapter 13, Revised Proposed Plan Amendments, and Common Response 1.3, Revised Proposed Plan Amendments, for information on the objectives.

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		VAs, their share of achieving the new objective by 2050. The measurement of such achievement is wholly unclear, but it seems to presume that providing the flows committed and implementing the physical habitat improvements promised ("other measures in the watershed") will do the trick by definition. The revised narrative objective does have a time limit, but it is way too long. Overall, it is the dilution of the existing objective and a vague promise to achieve some part of it. The State Water Board should reject the Voluntary Agreements because their narrative objective violates Porter-Cologne and the anti-degradation prohibitions under the Clean Water Act.	
228	77	Even if one accepts the actual production of the purported VA flow increases, the VA flows would add only tiny increments to Delta inflow. Tables 9.5-29 and 9.5-30 evaluate Delta inflow under proposed VA flows, showing the average January through June flows by water year type. The tables use both the 2019 BiOps (Table 9.5-29) and the 2008-2009 BiOps (Table 9.5-30) as baseline points of comparison with the flows that the VAs purport to add. The tables also show committed VA flows both with and without purported water that the VAs propose to add to Delta inflow through water sales. [Footnote 80: Id., pp. 9-43 and 9-44.] These tables show that average Delta inflow by water year type will at most increase by 8.3% (Dry years, 2008-2009 BiOps, water sale flows included). This percent increase is largely due to the fact that baseline Dry year Delta inflow is so low, under either set of BiOps, that even a tiny increase pushes up the percent of change. For Below Normal years, the largest percent average Delta inflow increase is 5%; for Above Normal years, the largest percent average Delta inflow increase is 3.8%. Increases in January-June Delta inflow of 8.3%, 5%, and 3.8% are not going to qualitatively change conditions in the Bay-Delta estuary. Note that in Critically Dry years, there is virtually no improvement (compared to 2019 BiOps, about 1%).	Please see Staff Report Sections 9.7.6.2 and 13.7.6.2, Aquatic Biological Resources, for the analysis of the impacts of the VA pathway on aquatic biological resources and see the Scientific Basis Report Supplement (Appendix G2 to the Staff Report) for an analysis of the benefits of the VA pathway. Please refer to Common Response 1.2, Water Quality Control Planning Process, for details on the reasonable protection of fish and wildlife beneficial uses and consideration of other beneficial uses. Please also refer to Common Response 1.3, Revised Proposed Plan Amendments, for details about the enforceability of the VAs.

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		Note also that in Tables 9.5-31 and 9.5-32 (changes in Delta inflow from July through December), up to about a third of the increase in Delta inflow in January-June is offset by decreases in Delta inflow in July-December. [Footnote 81: Similar patterns of flow reductions in July-December are also shown in Chapter 9 for the Sacramento and American rivers. To the extent that July-December flow reduction offset January-June flow increases exists, the VA flows would be more accurately described as reservoir reoperation than “addition” of flows.] Changes in January-June Delta outflow, shown in Tables 9.5-40 and 9.5.41 are a smidge higher, up to about 10% in some combinations of variables. For Delta outflow as well, decreases in July through December Delta outflow (Tables 9.5-42 and 9.5-43) offset January through June increases, in one configuration by more than 50%. In sum, reviewing the tables from Chapter 9 cited above, as much as 200 TAF of purported additional Delta outflow simply backfills outflow lost to the 2019 BiOps in comparison with the 2008 and 2009 BiOps. As much as 155 TAF of Delta outflow is lost in July through December under the VAs, offsetting any “added” inflow in January through June.	
228	78	The flows proposed in the Voluntary Agreements are utterly inadequate to achieve the project purposes. The State Water Board should reject the Voluntary Agreements because they violate Porter-Cologne, the public trust, and the federal Clean Water Act.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	79	There is no substantial evidence that the purported additions of flow under the VAs will actually result in additions of flow. The Draft Staff Report acknowledges: “[S]ome components [of the VAs] are currently under development.” [Footnote 82: Draft Staff Report, p. 9-1.] It also states: “[A]ccounting methods for the proposed VAs are under development that will ensure that the expected increases in flows under the VAs are provided.” [Footnote 83: Id., p. 9-14.] VA proponents promised a number of these components by the end of 2023. They have not been produced. This makes it particularly vexing in that these key missing elements, when produced, will likely require still	Please see Common Response 1.3, Revised Proposed Plan Amendments, regarding the VA pathway and the revised proposed Plan amendments.

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		another set of comments. More specifically, VA proponents have not proposed mechanisms by which VA inflows will be calculated as “additive” to baseline flows and by which VA “additive” inflows will be protected in order to become “additive” outflows. CSPA et al. commented extensively on these issues in February 8, 2024 comments on the Draft Scientific Basis Report Supplement for the Voluntary Agreements. CSPA et al.’s Comments on Draft Scientific Basis Report Supplement described the absence of such mechanisms in the VA proposal and the consequent total lack of reliability of the purported “additive” VA. [Footnote 84: CSPA et al.’s Comments on Draft Scientific Basis Report Supplement, op. cit., pp. 3-8. As noted above, incorporated by reference. We strongly recommend that the State Water Board staff and members review these prior comments.] We noted that the proposed “additive” flows described in the VA Term Sheet do not describe the rules and mechanisms for their implementation and are too vaguely defined to quantify or otherwise understand in terms of timing and amount. There are no clear rules and mechanisms for additive flows in rivers and for additive Delta inflow. There are no clear rules and mechanisms for additive Delta outflow: there is no accounting for unregulated flow already passing through the Delta, for how flow will be additive to salinity requirements, or for how flow will be additive due to “exports foregone.”	
228	80	The flows proposed in the VAs are not reasonably certain to occur. The State Water Board should reject the Voluntary Agreements because they violate CEQA’s requirements for a clear project description and for mitigation measures that are reasonably certain to occur, and because the proposed flows are not supported by substantial evidence.	The flows expected to result from the VAs were presented in Section 9.5, Changes in Hydrology and Water Supply, of the 2023 draft Staff Report and updated estimates are available in Chapter 13, Revised Proposed Plan Amendments, of the final Staff Report. The revised proposed Plan amendments include consequences for not providing sufficient water to meet the flow commitments. Specifically, the revised proposed Plan amendments include a process to pivot to the regulatory pathway if VA commitments are not met or the intended benefits are not realized. The benefits of the proposed flows are evaluated in the Scientific Basis Report Supplement. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on the proposed VAs, including enforceability, and for responses to

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			comments about the project description; Common Response 3.1, Fish Protection, for more information about the benefit analyses; and Common Response 7.1, General CEQA and Approach to the Analysis, for information on the mitigation measures.
228	81	The SacWAM modeling of the Voluntary Agreements is not supported by substantial evidence. In broad terms, the SacWAM modeling of the Voluntary Agreements in the staff report appears to have been performed as follows: - Modelers ran baseline scenarios. There are several baselines evaluated, and Chapter 9 explains them. - Using perfect foresight, modelers established what flows at given locations would have been in the absence of the Vas. - Modelers chunked the “additive” flows on top of the already modeled baseline flows that would have been present at various locations. - Modelers did not account for how operators of the dynamically-operated Bay- Delta and Sacramento River systems would have changed operations in response to the changes in flow and salinity that the additions of VA flow would have caused. - Modelers did not account for how operators would have attempted to recover some of the lost diversions or water in storage “lost” to increased Delta outflow, or what the constraints (both actual and mandated) would have been to limit such recovery of diversions. The modelers of the Vas thus added flow on top of a model output that was static, when in practice the operations underlying that output would not have been static. The SacWAM model output for the VA Alternative is thus a crude approximation of what is likely at, or close to, the outside bounds of the flow increases under the Vas. The modeling of the Vas performed to date is thus a rough approximation of what flow	The VA proposal is to add water above a hypothetical reference condition. The SacWAM modeling is approached in the same way, where first there is a simulation of the reference condition and then a second, final VA, simulation where the VA flows are added to the reference condition. In the final VA simulation, the model attempts to minimize outflow whenever possible just as the Project operators would. For example, to the extent that there is a reduction in storage in the VA at the beginning of flood control season, there will be less spill the following year. Changes in salinity due to the additional VA flows were not included in the modeling to best represent the proposed implementation of the VA which includes water quality “offsets” described in Appendix B.1 of the revised proposed Plan amendments. For more information about the Sacramento Water Allocation Model, please refer to Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply.

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		changes might occur if the VA flows were implemented. It cannot be used to evaluate purported benefits of proposed VA flows. Its limited value is that it shows that the general puny order of magnitude of proposed VA flows. If the State Water Board persists in entertaining the Voluntary Agreements as a project alternative, it should insist on SacWAM modeling of VA flows based on an analysis of the rules and mechanisms for VA flow contributions. The State Water Board should not allow modeling that is not supported by substantial evidence that flows represented would be additive flows in fact. A better choice would be for the State Water Board to reject the Voluntary Agreements for the reasons described in sections above and below.	
228	82	The proponents of the VAs are supporting major water developments whose diversion would further reduce or even zero out the proposed flow additions under the VAs. Proponents of the VAs include DWR and its contractors as well as Reclamation and its contractors. DWR and its contractors are proponents and in some cases financial supporters of the Delta Conveyance Project, which if built would increase Delta diversions by an admitted 10%. DWR, Reclamation, and many of their contractors are also proponents and investors in the proposed Sites Reservoir, which proponents would like to have on line about the time the eight- year term of the VAs would end. Diversions by these two projects would in some years overwhelm the purported additive flow offered by the VAs. Thus, not only is the actual value of the VAs diminished by water already lost to the Trump BiOps and to potential reoperation of existing reservoirs, it is also threatened by new facilities proposed by many of the same entities offering new flows under the VAs. DWR has already acknowledged regarding the proposed Delta Conveyance Project: "Regarding the comment regarding an	Please see Common Response 1.1, General Comments, for the relationship to other projects and for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. As described in Common Response 1.3, Revised Proposed Plan Amendments, a provision is included in the revised proposed Plan amendments to protect the flow base from new water supply projects. Please also see Common Response 1.3, Revised Proposed Plan Amendments, for a description of the proposed Voluntary Agreement Pathway and regarding comments on other water supply projects.

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		alternative with increased unimpaired flow, such an alternative was determined to not be consistent with the project purpose nor would it meet most of the stated basic project objectives in Chapter 2, Purpose and Project Objectives.” [Footnote 85: Final Environmental Impact Report for the Delta Conveyance Project, Response to Comments, Table 4-4, p. 354.] Implementation of a percent-of-unimpaired-flow requirement would also make the cost of water for the proposed Sites Reservoir Project too expensive for the project to pencil out. In a very real sense, a vote for the VAs is a vote for the Delta tunnel and Sites Reservoir. [Footnote 86: Alternative 6a is a potential but highly uncertain backstop, since Sites is proposed under assignment of a state- filed water right application and the Delta Conveyance Project would if allowed be permitted under existing water rights.]	
228	83	A vote for the VAs is also a vote for future large water developments, digging the hole of the state’s overallocation of water ever deeper. The State Water Board should reject the Voluntary Agreements in order to support a policy of sustainable allocation of California’s water resources, consistent with the reasonable use doctrine.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.2, Water Quality Control Planning Process, regarding the State Water Board’s authority under Article X, Section 2 of the California Constitution.
228	84	The absence of foundational elements of the VA project description is particularly inadequate in that the VAs are proposed as a program of implementation. The VAs are supposed to be a program of implementation to implement existing objectives and the revised narrative viability objective. “The flow and non-flow habitat actions are proposed as implementation measures for an existing and proposed new water quality objective in the Bay-Delta Plan.” [Footnote 87: Draft Staff Report, p. 9-1.] But there is no definition of how the VAs will be implemented. Porter-Cologne (Water Code § 13242) requires: The program of implementation for achieving water quality objectives shall include, but not be limited to:	Chapter 9, Proposed Voluntary Agreements, of the 2023 draft Staff Report adequately discussed the voluntary agreements as they were proposed at that time. The operative provisions of the voluntary agreements are incorporated in the VA pathway that is described and analyzed in Chapter 13, Revised Proposed Plan Amendments. Please see Chapter 13 and Common Response 1.3, Revised Proposed Plan Amendments, regarding the VA pathway and the program of implementation.

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		(a) A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private. (b) A time schedule for the actions to be taken. (c) A description of surveillance to be undertaken to determine compliance with objectives. The VA Term Sheet and the VAs as described in the Draft Staff Report do not fulfill these requirements because of the missing key elements of the project description. The State Water Board should reject the Voluntary Agreements because they violate Porter-Cologne, Water Code § 13242.	
228	85	The Voluntary Agreements lack key elements needed for the protection of fish and wildlife and other public trust resources. The Draft Staff Report makes a strong effort to be comprehensive in the scope of issues and objectives it considers in order to protect fish and wildlife and other public trust resources. The Voluntary Agreements, by contrast, are a thin layer of frosting on the stale cake of business as usual. Non-exclusively, the VAs fail to address: - Carryover storage: the VAs do not discuss. - Water temperature downstream of dams: VA proponents only discuss this in order to argue against increased Delta inflow. - Droughts and dry-year sequences: the VAs offer virtually no additional flow in Critically Dry water years. VAs apparently assume the continuing use of temporary urgency change petitions (TUCPs) and only voluntary diversion reductions by CVP and SWP settlement and exchange contractors during droughts. - Reverse flows in the Delta (OMR): the VAs do not address reverse flows.	Please refer to Common Response 1.2, Water Quality Control Planning Process, for information on the reasonable protection of fish and wildlife, the consideration of beneficial uses, public trust, and other applicable Porter-Cologne and Clean Water Act requirements. Please also refer to Common Response 1.3, Revised Proposed Plan Amendments, for details on the VA pathway.

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		- Export restrictions: the Vas offer no general export restrictions, only a small amount of “exports foregone.” The State Water Board should reject the Voluntary Agreements because their missing key elements fail to reasonably protect beneficial uses, fail to protect public trust resources, and fail to protect water temperatures, thus violating Porter-Cologne, the public trust doctrine, and the federal Clean Water Act.	
228	86	The messaging of the Voluntary Agreements is misleading. In both the hearings on the Draft Staff Report and in the broader press and blog world, some of the messaging of the VAs has been misleading. CSPA et al. notes some of the more excessive examples here. The entire branding and marketing construct (“Healthy habitats and landscapes”) is vapid and annoying. “Healthy” in this context has no content. It is just something that plays well in focus groups. “Early implementation” of physical habitat improvements is a happy way to credit the VA product for something that has already happened or was already going happen without the VA product. It double counts projects already undertaken or committed to, sometimes as required mitigation, sometimes funded by others. More broadly, it is a preemptive effort to buy the proponents’ way out of flow increases. There is a general false representation that the Vas are ready to implement. As discussed above, the most critical elements of how the proponents would make the flows work are absent. The physical habitat improvements that are ready now were ready anyway, without the Vas. Many of the remaining proposed physical habitat improvements will take years to permit and construct. Many of those will also have to wait for wet years to implement, because without high flows (only scantily offered by the Vas), they are mostly terrestrial habitat.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	87	One of the proponents of the VAs at the December 1 hearing argued that the 2008-2009 BiOps were examples of “flow only”	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not

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		requirements that did not work. First, the characterization is not accurate; for example, the salmon Biop also included requirements relating to facilities management (for entrainment, temperature management, etc.), fish passage, decision making, monitoring, and studies. But more importantly, the flow requirements were not adequate to restore fish populations. This is a familiar pattern and refrain: one devotes too little water to a problem, then announces the futility of flow when too little water is not sufficient. This also does not take into account the crushing impacts of droughts, as discussed above.	raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	88	The messaging of the Voluntary Agreements is misleading. In both the hearings on the Draft Staff Report and in the broader press and blog world, some of the messaging of the VAs has been misleading. CSPA et al. notes some of the more excessive examples here. And there are buzzwords, an onslaught of (mostly) adjectives that are simply branding, beginning with “healthy” but also including: holistic, integrated, transformative, new [science], rethinking old assumptions, not binary, local, collaborative, not simplistic. A good illustration of the lack of content to the branding is the repetition of the term “holistic.” Given all the missing key elements in the Vas as described in the immediately preceding section, the Vas are anything but holistic. “Holistic” is simply a code word that means the Vas seek to substitute physical habitat for flow.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	89	The State Water Board should ignore the messaging of the proponents of Voluntary Agreements and reject the Voluntary Agreements for the legal and policy reasons stated above.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
228	90	The State Water Board must correct or improve additional shortcomings with the SacWAM modeling and the presentation of model output. In addition to issues with the SacWAM modeling and with the presentation of model output stated above and stated in CSPA's presentation at the December 1 hearing on the Draft Staff Report, there are some additional issues the State Water Board must address.	Please refer to the responses to comments 228-34, 228-35, 228-58, and 228-81. Also please see the responses to Comment Letter 543, which is CSPA's presentation. Please refer to Common Response 4.2, Drought and Climate Change, regarding consistency with regulatory requirements and other policies and the consideration of climate change in Staff Report modeling.

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		There is no modeling of conditions under climate change hydrology. This will not pass muster in evaluating water supply impacts or benefits to public trust resources. CSPA et al. recognizes that evaluating proposed amendments under climate change hydrology is technically a large job. It is essential. The reporting of modeled water supply impacts needs to be much more granular as the Board and staff further define and model the Proposed Project. At minimum, there need to be breakouts of water supply impacts upstream and downstream of rim dams. Preferably, there should be individual assessments for water agencies, irrigation districts, and other large water users, particularly those that use a large portion of the consumptive water in major watersheds. There should also be output that evaluates water supply impacts of export users (e.g., EBMUD, North Bay Aqueduct, South Bay Aqueduct) based on source of water, not just on location of use. There needs to be sufficient granularity to evaluate tradeoffs in allocating water from each watershed.	Also refer to Common Response 6.1, Sacramento Water Allocation Model and Changes in Hydrology and Water Supply, regarding SacWAM scope, scale, and application and Common Response 7.1, General CEQA and Approach to the Analysis, regarding general methods and modeling approach.
228	91	The baseline modeling of the Trinity River must be reworked. Appendix A1 reports: "Trinity imports were limited to baseline conditions in each of the scenarios by constraining flows through the Clear Creek Tunnel. This assumption is a simplified representation that the proposed Plan amendments will not have any redirected effects on Trinity River fisheries." [Footnote 88: Id., p. A1-14.] The approach as stated here is legally and technically unjustifiable. One cannot simply model away impacts on the assumption that the intent is to avoid impacts. One must analyze the reasonably foreseeable changes to Trinity operations and then analyze the impacts. Based on the reasonably foreseeable impacts, one must write rules to protect the fish and wildlife uses and generally the public trust uses. As shown in Appendix A1, there are no impacts to Trinity River flow and storage. Figure A1-41, "Trinity River Flow," assumes that there is no difference from baseline, so it shows no difference. [Footnote 89: Id., p. A1-134.] Figure A1-163, "Trinity Reservoir Storage," assumes that there is no difference from baseline, so it shows no difference. [Footnote 90: Id., p. A1-314.]	The modeling for Chapter 9, Proposed Voluntary Agreements, did not include a constraint on Trinity imports beyond the model's intrinsic Shasta/Trinity balancing. It was modeled this way because the VA proposal did not include any constraint to prevent redirected impacts on the Trinity River. In response to public comments, a provision has been added to the revised Plan that prevents redirected impacts on the Trinity River for both regulatory and VA pathways that is reflected in the updated modeling produced for Chapter 13, Revised Proposed Plan Amendments. Please see Common Response 1.5, Trinity River, on consideration of the Trinity River watershed.

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		Tables A1-337 through 340, showing the values for end of April and end of September carryover storage, show no difference from baseline. [Footnote 91: Id., p. A1-315.] By contrast, the VA modeling admits to slight reductions in Trinity Reservoir carryover (see e.g., Figure G3a-72), [Footnote 92: Id., p. G3a-180.] presumably because total VA flow increases downstream of Keswick Reservoir on the Sacramento River would not be offset by reductions in deliveries, and some of the water to meet the VAs would come from, or be backfilled by, exports from the Trinity. This is more honest.	
228	92	The Trinity River is already impaired by failure to meet water temperature objectives in most years. Moreover, there are several ongoing regulatory challenges in several venues to the adequacy of existing Trinity River water temperature objectives. Trinity Reservoir storage has also been slow to recover in many recent years, notably 2023. Impacts to the Trinity River make a difference. The impacts of the update of the Bay-Delta Plan on the Trinity River and its fishery resources, and on Trinity Reservoir, must be disclosed and mitigated.	Please see Common Response 1.5, Trinity River, on consideration of the Trinity River watershed. Water quality objectives contained in the North Coast Basin Plan still apply and have not been waived. The State Water Board will evaluate whether any additional actions are needed to address any redirected impacts on the Trinity River or to ensure that beneficial uses are protected on the Trinity River, in consultation with the North Coast Regional Water Quality Control Board. The U.S. Bureau of Reclamation is obligated to comply with the temperature objectives of both Water Right Order 90-5 and the North Coast Regional Water Quality Control Board Basin Plan. The State Water Board could consider recommendations from tribes and other interested parties on whether existing objectives on the Trinity River are adequately protective or whether new objectives are needed, including temperature targets for Trinity Lake. It would be helpful if Trinity River parties collaborate on proposed recommendations.
228	93	Conclusion CSPA et al. thanks staff for the work done to date and for the opportunity to comment. A final staff report should correct the errors and omissions identified above, perform the necessary analyses described above, and develop proposed plan amendments that protect beneficial uses and the public trust, consistent with CEQA, Porter-Cologne, the public trust and reasonable use doctrines, and the federal Clean Water Act. Respectfully submitted,	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. To the extent that this comment summarizes other comments, please see the substantive responses to those comments.

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229	1	Please protect the Salmon. It is just simply the right choice!	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
230	1	Interwoven in all my engagement with the people and places of California, is my fundamental belief that science is the most effective tool for making sound public policy. Deeply embedded in ecological science is adaptive management. Meaning, as we live in and learn from the natural environment and social fabrics we inhabit, we must assimilate new information and allow it to guide our decisions. Sadly, I see the SWRCB, ensnared by political interference (Governor Newsom), embedded in outmoded ways of thinking (voluntary agreements) and ignoring the scientific analyses (increased freshwater flows are essential to protecting the bay delta ecosystem) flowing past you like Lyell creek rushing to the Bay.	The Staff Report includes scientific analysis supporting the need for increased freshwater flow in Chapter 3, Scientific Knowledge to Inform Fish and Wildlife Flow Recommendations. Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
230	2	Rather than re-iterating the numerous, well-founded, objections to the voluntary agreements and the evidence provided by numerous scientific analyses, I respectfully request that you consider the following. Adaptive management is about changing one's mind based on a fresh look at the data. You seem to have become entrenched in your thinking and perhaps believe that adopting a new approach to this old problem would tarnish your agency's image. Quite the contrary, embracing the science and new ideas would demonstrate your commitment to the ecosystems and people you represent. Thus, all of us working for a better Bay Delta plan encourage you to set aside your trepidation about abandoning voluntary agreements and work with all interested parties to create a plan that truly addresses the critical needs of the Bay Delta ecosystem. There is no shame in changing course, rivers do it all the time. We all look forward to you taking a cold plunge into Lyell creek	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		and emerging with a refreshing new plan for our irreplaceable bay delta!	
231	1	The Company encompasses approximately 58,000 acres and is uniquely situated among water contractors in the Sacramento Valley. In 1961, the US Bureau of Reclamation ("Reclamation") protested several water right applications filed along the Colusa Basin Drain [Footnote 1: The Colusa Drain is also referred to as the Colusa Basin Drain, the RD 2047 Drainage Canal, and the 2047 Drain.]. The State Water Resources Control Board ("SWRCB") concluded, in its Decision 1045 ("D-1045") adopted November 13, 1961, that although water is generally physically available within the Colusa Basin Drain, at certain times those flows are needed to satisfy senior water rights along the Sacramento River and the Sacramento-San Joaquin Delta below Knights Landing, and that diversions from the Colusa Basin Drain could be made during those times provided an alternative source of water is made available to satisfy the senior water rights. The SWRCB suggested stored water from the Central Valley Project ("CVP") as a possible alternate source. In response, the Company was formed to "acquire, preserve and administer contractual and appropriative rights and confirming existing rights for water to be used" within the Company's service area. In 1988 the Company executed Contract No. 8-07-20-W0693 with Reclamation. The Contract is intended to assure that an alternative source of water from the CVP will be released into the Sacramento River to meet senior water rights along the River and in the Delta, in order to offset the impact of diversions from the Colusa Basin Drain by the shareholders of the Company. It is in that context that the Company joins and hereby incorporates by reference the separate written comments on the DSR submitted by the Northern California Water Association and Sacramento Valley Water Users, and the technical report of MBK Engineers enclosed therewith. The Unimpaired Flow approach detailed in the DSR would have disastrous impacts on the Company's shareholders, the Colusa Basin Drain, and the Sacramento Valley as a whole. While the Company appreciates the Board's urgency toward responding to declining fisheries, the Unimpaired Flow alternative does not serve the environment	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also refer to Comment Letter 260 to review responses to the comments incorporated by reference.

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		or the users, and jeopardizes the health of the entire interdependent system of users, fisheries and wildlife needs, environment, and local economics that are so precariously balanced in the Sacramento Valley.	
231	2	The Company also recognizes and supports the unique opportunity presented by the Agreements to Support Healthy Rivers and Landscapes [Footnote 2: The Agreements to Support Healthy Rivers and Landscapes are also referred to as the Voluntary Agreement (VA) Program, as described in Chapter 9 and Appendix G of the DSR.] ("Healthy Rivers Agreements") to implement sophisticated, thoughtfully crafted, and locally focused projects in the Sacramento Valley---projects that will inure to the benefit of fisheries, the environment, flood control, and water users alike. In recognition of that potential, CDMWC is actively meeting with the Department of Water Resources (DWR) and other stakeholders to identify opportunities for the Company to contribute to the Healthy Rivers proposal. CDMWC applauds the work of those stakeholders to date, and looks forward to future opportunities to support this effort in the Sacramento Valley. The Company appreciates the opportunity to offer comments on this important issue, and urges the Board to support the Healthy Rivers alternative in its update to the Bay-Delta Plan.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
232	1	The Project's stated purpose is to comply with federal and state mandates to reasonably protect fish and wildlife beneficial uses (emphasis added). This purpose does not comport with federal numerical standards that require a doubling salmon populations [Footnote 1: Set by the Central Valley Project Improvement Act (CVPIA), the baseline is the 1967-1991 Central Valley Chinook salmon natural production annual average of 497,054 for all Central Valley runs (fall, late fall, spring, and winter). The 15-year rolling annual average of natural production for all Central Valley Chinook salmon runs is 990,000 by 2065, nearly doubling the baseline of 497,054.] and specifically with regard to the Trinity River where federal statute (P.L. 98-541, as amended by P.L. 104-143) requires fisheries to be restored to pre-dam levels and Section 2 of the 1955 Trinity Act P.L. 84-386 where Congress directs the U.S. Department of Interior to "adopt appropriate measures to insure the preservation and propagation of fish and	Section 7.1.3, Purpose and Goals of the Sacramento/Delta Update to the Bay-Delta Plan, of the Staff Report lists the purposes and goals of the project. The State Water Board is responsible for adopting and updating the Bay-Delta Water Quality Control Plan (Bay-Delta Plan), which establishes water quality control measures and flow requirements needed to provide reasonable protection of beneficial uses in the Bay-Delta watershed, particularly for fish and wildlife beneficial uses in the Sacramento River watershed, Delta eastside tributaries, and Delta regions (Sacramento/Delta). The Trinity River is not in the Bay-Delta watershed and therefore is not included in the plan area, and the new flow requirements would not apply to the Trinity River. The Bay-Delta Plan does contain provisions to prevent redirected impacts on the Trinity River from implementing the Plan.

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		wildlife.” The proposed much weaker objective “to reasonably protect fish and wildlife beneficial uses” appears inconsistent with Congressional directives both with regard to the Central Valley Project Improvement Act and the 1955 Trinity Act P.L 84-386 §2.	The salmon doubling goal under the Central Valley Project Improvement Act (CVPIA) exists independently under federal statute and is also a water quality objective in the existing Bay-Delta Plan for the Bay Delta watershed, which the updates to the Bay-Delta Plan retain. The CVPIA, section 3406, subdivision (b)(23) contains distinct mandates for the Trinity River, including programs for the restoration of Trinity River fisheries to pre-dam levels. This is a federal trust responsibility. Implementation, compliance and effectiveness of CVPIA provisions on the Trinity River occurs within that construct, not the Bay-Delta Plan. The same is true for other federal law concerning the Trinity River. Please see also Common Response 1.5, Trinity River, on the consideration of the Trinity River watershed and on the continued inclusion of salmon protection provisions in the Plan.
232	2	The Project SED relies upon an inaccurate baseline that artificially inflates flows: 1) The Project uses baselines for Sacramento surface waters, flows and likely temperatures that are not accurate: [Footnote 2: The Sacramento Water Allocation Model (SacWAM) is a hydrologic and system operations model developed by the Stockholm Environment Institute (SEI) and State Water Board to assess the potential effects of revisions to instream flow and other requirements in the Bay-Delta watershed, including potential changes to the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento—San Joaquin Delta Estuary (2006 Bay-Delta Plan) resulting from the Sacramento/Delta update of the Bay-Delta Plan. SacWAM is a monthly time-step model developed for long-term planning-level analyses. The model is run for a 94-year (from water year 1922 to water year 2015) historical hydrologic period at existing levels of land use, population, and water demands and under an assumed framework of regulations. See A1-1 to A1-2 https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf] a) Reliance on the assumed Trinity River exports in the baseline flows (from water year 1922 to water year 2015) to meet	This comment misconstrues the modeling period of record of 1922-2015 as a historical baseline rather than an unimpaired hydrological record that is simulated at a fixed level of development with baseline regulations. Section 7.7.9 of the SacWAM Documentation describes the flow requirements on the Trinity below Lewiston which includes the 2000 ROD and the 2017 fall flow augmentation. It does not include the 50,000 AF for Humboldt County however because that water has never been actually delivered or kept in the stream. Please refer to Common Response 6.2, Baseline and No Project Alternative, regarding the baseline assumptions. Please see Common Response 1.5, Trinity River, on consideration of the Trinity River watershed.

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		Sacramento and Delta Flow objectives inflates the amount of currently available water to meet flows objectives. The time frame used to estimate exports from the Trinity River fails to recognize more recent legal limits on the exports and overestimates amounts of water available to the Sacramento River basin due to federal and state constraints, including but not limited to the: i) 1955 Trinity Act, which authorized the construction and operation of the TRD (P.L. 84-386) and constrained diversions to the CVP; ii) Trinity River Record of Decision (2000 ROD); iii) California Endangered Species Act and the Federal Endangered Species Act; iv) Central Valley Project Improvement Act (Public Law 102-575, Title 34); v) SWRCB Public Trust obligations to the Trinity River; vi) Ca. Fish and Game Code § 5937. These state and federal laws and regulations set temperatures, minimum flows and releases that are guaranteed, and Section 3406(b)(23) (now 21) of the CVPIA provides the monies and performance goals for the restoration and preservation of the Trinity River fishery. More recently, the 2017 Record of Decision (ROD) [Footnote 3: https://mavensnotebook.com/2017/04/21/announcement-record-of-decision-for-the-long-term-plan-to-protect-adult-salmon-in-the-lower-klamath-river-project/] provides an additional 35,000 AF to augment downstream flows to assist in the Trinity River watershed and Klamath River. The Project fails to analyze and provide information regarding these constraints and protections for the Trinity River with regard to flow and temperature assumptions for the Sacramento River and Delta flows.	

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232	3	The Project modeling analysis suggests roughly 700,000 AF available for export from the TRD, but which fails to adjust exports to meet federal requirements and flow requirements that have been in place since 2005. Utilizing any portion of the 1991-2003 time-period would result in an inflated average flow because roughly two thirds of the annual inflow was then diverted from the Trinity River and Trinity Lake to the Sacramento River Basin via Lewiston Dam, Carr, Tunnel, Whiskeytown Reservoir, and Spring Creek Tunnel. These diversions are now flowing into Keswick Reservoir where they are combined with Sacramento River water released from both the Shasta Dam and Spring Creek Debris Dam, but are not available for export due to legal constraints.	Please refer to the response to comment 232-2.
232	4	Even within The Project's distorted time frame, there is no analysis provided of the impact of assumed diversions upon the Trinity River watershed of approximately 720 square miles, or fish and wildlife requirements for the Trinity River Main-stem Fishery Restoration ROD, dated December 19, 2000. This ROD requires 368,00-to-815,000 acre-feet (AF) annually for Trinity River flows to meet habitat, temperature, and sediment transport objectives.	Please refer to the response to comment 232-2. The SacWAM modeling appropriately includes the 2000 ROD and the 2017 fall flow augmentation flow requirements on the Trinity below Lewiston.
232	5	Subordination of the duty to protect and restore the Trinity River fishery to the operations of the CVP and State Water Project (SWP) as presented in The Project is arbitrary and not supported in either state or federal law.	Please see Common Response 1.5, Trinity River, on consideration of the Trinity River watershed.
232	6	The Project uses flows from the Trinity River to the Sacramento River that are not accurate. Chapter 2, Hydrology and Water Supply, page 2-20, states "Annual imports from the Trinity River into Keswick Reservoir averaged 694 TAF/yr. from water years 1986 through 2021 (Figure 2.2-2)." But flow estimates derived from conditions pre-2005 which no longer exists is problematic at best. The average should be determined from the years 2005-2021 because 2005 is the first full year of the Trinity ROD implementation. A recalculation of the actual diversions during the reduce flow diversion would be 605,000 AF. Even this flow figure for the Sacramento River is inflated and needs to be further reduced throughout the entire project analysis due to (1) the Trinity River 2017 flow augmentation ROD of 35,000 AF, and (2) the TRD Act Proviso 2, in which 50,000 AF dedicated to	Chapter 2, Hydrology and Water Supply, referenced by the commenter presents background setting information explaining that water is imported to the Sacramento watershed from the Trinity River. It is not intended to describe any modeling. An additional edit has been added for average imports from 2005-2021 following implementation of the 2000 Trinity Record of Decision. This edit does not affect any of the analyses. SacWAM documentation for the Trinity ROD implementation, and Appendix A1, Sacramento Water Allocation Model Methods and Results (Table A1-134) shows that long-term average Trinity imports as modeled are lower than that 1986-2021 average at 456 TAF/yr. Please refer to Common Response 6.2, Baseline and No Project Alternative, regarding the baseline assumptions. Please also see Common Response 1.5, Trinity River, on consideration of the Trinity River watershed.

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		Humboldt County can no longer be assumed available for diversion.	
232	7	The Project Range of Alternatives fails to describe a range of reasonable alternatives to the proposed Project which could feasibly avoid or lessen any significant environmental impacts while substantially attaining the basic objectives of The Project. Any alternative discussion and consideration of the Voluntary Agreement implementation proposals must be measured against overarching federal requirements to meet (a) the Hoopa Valley Tribal trust needs as a priority while balancing other uses [Footnote 4: See 1993 Solicitor's Opinion on Tribal Fishing Rights, Page B13. Accessed at https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/PC_FFA&IGFR/part2/pcffa_94.pdf], and (b) the fish and wildlife needs of the Trinity River. All water needed for preservation and propagation of the Trinity River fishery has legal priority over exports to the CVP and SWP. [Footnote 5: See the Krulitz Opinion: Memorandum from Interior Solicitor to Assistant Secretary Land and Water Resources, regarding proposed contract with Grasslands Water District, 12/7/1979, Page B-13, accessed at https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/exhibits/docs/PC_FFA&IGFR/part2/pcffa_96.pdf and Section 2 of the 1955 Trinity Act P.L. 84-386]	Please see the response to comment 232-1. The Bay-Delta Plan is developed for the Bay-Delta watershed and not the Trinity River. The U.S. Bureau of Reclamation is responsible for independent federal statutory obligations for the Trinity River and should comply with those obligations. The State Water Board may consider this record of compliance in the future as part of the annual and periodic review process.
232	8	Also the analysis of alternatives needs to include impacts on interstate commerce due to the fishery health of the Trinity River and Klamath Basin because the watershed determines sport, commercial and tribal fishing take from California to the Washington border, and as such the inflated flows taken from the Trinity River to serve CVP and SWP contractors would need to address adherence to conservation measures required to implement the Magnuson-Stevens Fishery Conservation and Management Act (MSA) rather than limiting the analysis to merely the operations of the CVP and SWP and the demands of artificially high contracts for paper water.	The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Pub. L. No. 104-297), requires that all federal agencies consult with the National Marine Fisheries Service on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH) for commercially managed marine and anadromous fish species. EFH includes specifically identified waters and substrate necessary for fish spawning, breeding, feeding, or growing to maturity. EFH also includes all habitats necessary to allow the production of commercially valuable aquatic species, support a long-term sustainable fishery, and contribute to a healthy ecosystem. (16 U.S.C. § 1802(10).)

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			Please see the response to comment 232-1. The Bay-Delta Plan is developed for the Bay-Delta watershed and not the Trinity River. The U.S. Bureau of Reclamation is responsible for compliance with the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act.
232	9	Violations of the Public Trust Doctrine, Porter Cologne Act, the Clean Water Act the Public Trust Doctrine and California Fish and Game Code § 5937. The Proposed Project fails to define biological outcomes and protection of fish and wildlife beneficial uses and specifically fails to analyze and define how continued exports of Trinity River water will preserve Tribal fishing and property rights, existing fish, and wildlife beneficial uses, and established numerical water quality objectives.	The Bay-Delta Plan is developed for the Bay-Delta watershed and not the Trinity River. The revised proposed Plan amendments contain a provision to ensure that implementation of the Bay-Delta Plan, including the VA pathway, does not result in redirected impacts on native fish and wildlife resources in the Trinity River watershed, including temperature and instream flow impacts. The State Water Board may consider this record of compliance in the future as part of the annual and periodic review process.
232	10	Trinity River diversions have consistently resulted in the failure to meet State Water Resources Control Board (SWRCB) WRO Order 90-05 [Footnote 6: This information and a request for a notice of violation was provided to the State Water Resources Control Board by Mike Palmer October 25, 2023.] and Ca Fish and Game Code § 5937. The Project mitigation measures and water right changes must address these existing violations: USBR water management of the Trinity River Watershed has led to routine exceedances of temperature requirements that are a significant contributor to increased fish mortality and poor fish returns. For the 11 years that data are available SWRCB WRO 90-05 was met only 4 times or 36% of the time. North Coast Regional Water Quality Control Board Basin Plan for the North Coast Region set temperature targets at Douglas City for the period July 1 - September 30 that have yet to be implemented through water rights.	The Bay-Delta Plan is complementary to the other water quality control plans adopted by the State and regional water quality control boards (regional water boards) and state policies for water quality control adopted by the State Water Board. Water quality objectives, including Trinity River temperature objectives contained in the North Coast Basin Plan still apply and have not been waived. The Bay-Delta Plan's program of implementation describes actions necessary to achieve the water quality objectives in the Bay-Delta Plan. Generally, if requirements contained in the Bay-Delta Plan differ from those contained in any water right order or water quality certification, the more stringent requirement would control. Nothing in the Bay-Delta Plan precludes the State Water Board from identifying or requiring other actions in order to achieve the objectives in the North Coast Regional Water Quality Control Board's Basin Plan or other plans and policies. The State Water Board retains its authority to carry out its responsibilities under the Water Code, article X, section 2 of the California Constitution, the Public Trust Doctrine, or other legal obligations, through other water right or quality proceedings, including through regulation, water quality certifications, adjudicative water right proceedings, or other actions. Please see Common Response 1.5, Trinity River, for a discussion

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			of state law, including Order 90-5, as comments on compliance with Order 90-5 are outside the scope of the Bay-Delta Plan updates. The revised proposed Plan amendments contain a provision to ensure that implementation of the Bay-Delta Plan, including the VA pathway, does not result in redirected impacts on native fish and wildlife resources in the Trinity River watershed, including temperature and instream flow impacts. The U.S. Bureau of Reclamation will be required to report at least annually to confirm there are no redirected impacts on the Trinity River from implementation of the current updates to the Bay-Delta Plan. As part of the annual and periodic review processes, and more often if needed, the State Water Board will evaluate whether any additional actions are needed to address any redirected impacts on the Trinity River or to ensure that beneficial uses are protected on the Trinity River, in consultation with the North Coast Regional Water Quality Control Board. While the Trinity River is not specifically mentioned in the Governor's Salmon Strategy, it cites the removal of four dams on the Klamath River as the largest river restoration project in American history. Dam removal on the Klamath River, which once hosted many of the most prodigious salmon runs in California, will improve river health for salmon by improving water quality and restoring access to over 420 miles of habitat for the first time in a century. (State of California 2024) The Trinity River is the largest tributary of the Klamath River and would likely be a priority to maximize the benefits of significant State and federal resources that have gone toward restoring the Klamath River.
232	11	Under WRO 90-05, if temperature compliance is exceeded in the Trinity River, USBR is required to immediately file with the Chief of the Division of Water Rights a report "containing project operational data sufficient to demonstrate that the exceedance was not due to modifications of Trinity River operations for water temperature control on the Sacramento River." According to records this has never happened, and no enforcement action has been taken to ensure compliance. The Project provides no relief or mitigation measures to remedy these violations that	Please see Common Response, 1.5, Trinity River, for a discussion of state law, including Order 90-5, as comments about compliance with Order 90-5 are outside the scope of the Bay-Delta Plan updates.

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		have significant impacts on the Trinity River fisheries. These impacts have not been analyzed or disclosed.	
232	12	For the years 2010-2022, there are 11 years of temperature data accessible (See the 2019 - TRRP Annual Report [see Exhibit 1]: Data is not available for 2019, because the equipment failed during the hottest part of the season and targets likely were exceeded, and the data are not yet available for 2022). Overall, for the period 2010-2021, the temperature targets were met in only 4 of the 11 years for which data are available. (Source Michael Palmer October 25, 2023, Correspondence to SWRCB Hon. Eileen Sobeck and annual TRRP reports)	Please refer to the response to comment 232-11.
232	13	[Exhibit 1: Table titled Days Temperature Target Exceeded]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
232	14	Further, The Project fails to disclose impacts to Trinity River Coho salmon, a federal and state threatened species, which suffered nearly 100% egg mortality at Trinity River Hatchery in November 2021 due to warm water because of low Trinity Lake storage from excessive diversions to the CVP. The Project would continue these operations without further mitigation of the impacts to fish and wildlife. (See Chapter 6 Table 6.3-4. Potentially Affected Upper Watershed Interbasin Diversions Trinity to Clear Creek (no changes.)	Please refer to the response to comment 232-10.
232	15	For the first 22 years that the Trinity River Restoration Program (TRRP) has been in place, an average of 50% of natural Trinity River flow has been diverted to the CVP. However, in the Critically Dry years of 2014, 2018, 2021 and 2022, when river temperatures were especially critical for the fishery, exports from the Trinity River to the CVP were 162%, 68%, 172% and 176%, respectively, of the total river flow for that year. During those 4 Critically Dry years, 578% of the entire annual flow of the Trinity River was diverted to the CVP. This led to extremely low storage in Trinity Lake and exceedances of mandated temperatures in the Trinity River during the critical spawning and holding seasons for those years. (Source Michael Palmer letter to SWRCB July 3, 2023 and TRRP annual reports.)	Please see the response to comment 232-1. The Bay-Delta Plan is developed for the Bay-Delta watershed and not the Trinity River. The U.S. Bureau of Reclamation is responsible for independent federal statutory obligations for the Trinity River, including the TRRP, and should comply with those obligations. Interested parties should raise issues or concerns relating to TRRP implementation and effectiveness in that process. The State Water Board may consider TRRP effectiveness in the future as part of the annual and periodic review process and any subsequent decision to conduct a water right proceeding to establish temperature limitations and other controls on water quality to protect the fishery in the Trinity River. See also the response to comment 232-10.
232	16	Trinity River fishery impacts not analyzed or disclosed by The Project were provided to the SWRCB On September 12, 2022,	Please refer to the response to comment 232-11.

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		when the federal Pacific Fishery Management Council (PFMC) concerning the “Sacramento River Temperature Targets” alerted the SWRCB that existing Trinity River water temperature requirements under WRO 90-05 were not sufficient to protect incubating salmon eggs and temperature dependent egg mortality rapidly increases at daily average temperatures above 53.5°F. (= 11.94°C.).	
232	17	Trinity fishery returns are now dismal, with salmon and steelhead returns running between 7.7 and 14.9% of pre-project levels. The following chart [see Exhibit 2] documents the 2021-22 Natural-Origin Escapement v. Draft USBR EIS Goals (Best Estimate of Pre-Dam Populations) [Footnote 7: Annual Report Trinity River Salmon and Steelhead Monitoring Project, California Department of Fish and Wildlife, Table 4, pp 21]	Please refer to the response to comment 232-10.
232	18	[Exhibit 2: Table described as documenting the 2021-22 Natural-Origin Escapement v. Draft USBR EIS Goals (Best Estimate of Pre-Dam Populations)]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
232	19	For Trinity and Sacramento Chinook, the 7-day average of daily maximum water temperatures standard should be 53.5°F. (= 11.94°C.) For Trinity River Coho, however, which are more water temperature sensitive than Chinook, it should be 48°F. to 50°F.(=8.89°C. to 10.00°C.). The 56°F. (=13.61°C.) current Trinity River temperature objective kills 100% of Trinity River Coho eggs. See Figure 1 below [see Exhibit 3.]. The 56°F. temperature requirement in WRO 90-5 is also killing a very high portion of endangered Sacramento Winter-Run Chinook and threatened Spring-Run Chinook.	Please refer to the response to comment 232-11.
232	20	[Exhibit 3: Graph titled Figure 1. Coho salmon egg survival and Trinity River Hatchery water temperatures, 2021]	This exhibit was included in the comment letter. The exhibit does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing exhibits.
232	21	The Project also fails to consider impacts on Coho salmon survival in the Trinity River from continued CVP operations and exports. On April 27, 2022, NOAA Fisheries submitted comments on the Bureau of Reclamation's draft 2022 Sacramento River Temperature Management Plan to the SWRCB. Based on Coho salmon egg mortality data at Trinity River Hatchery, NOAA Fisheries recommended a water temperature objective of 50°F	Please refer to the responses to comments 232-10 and 232-11.

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		(daily average) and daily average maximum of 53.5°F at the North Fork Trinity confluence after November 1st to protect egg incubation of Coho salmon (SONNC ESU). Additionally, they recommended increasing the minimum end-of-September carryover storage in Trinity Reservoir to 1.2 million acre-feet to preserve the cold-water pool to accommodate water temperature management in the Trinity River the following water year. None of these recommended mitigation measures are considered.	
232	22	The Project instead relies upon continued existing operations of the CVP that allow banking Trinity River exports and then proceed to take them in critically dry years to serve water contractor supplies and flow requirements. The impacts of this water banking and transfer of Trinity River water during critically dry periods have not been analyzed nor disclosed. However, this export regime has led to extremely low storage in Trinity Lake and exceedances of WRO 90-05 mandated maximum temperatures in the Trinity River during the critical spawning and holding seasons. This fish and wildlife impact due to the hydrology of the Trinity Lake, which has the lowest refill rate of all the CVP reservoirs, can be extended for years or more than 22 months depending on weather condition creating significant impacts on the short rearing periods for the fishery.	Please refer to the responses to comments 232-10 and 232-11.
232	23	Water maximum temperature requirements established under WRO 90-05 in 1990, several of which apply to the Trinity River basin as well as to the Sacramento River below Keswick Dam, are badly outdated and need to be updated with contemporary information. Based on updated information concerning temperature dependent mortality of Chinook salmon and Coho salmon eggs, the current maximum water temperature requirements for the Trinity River are simply not sufficient to protect these important fishery resources. The Trinity River Act requires that water needed for the preservation and propagation of fish and wildlife of the Trinity River must be met before diversions of water to the serve CVP contractors as contemplated under the Project.	Please refer to the responses to comments 232-10 and 232-11. Please see Common Response 1.5, Trinity River, for a discussion of state law, including Order 90-5. Interested parties should raise issues or concerns relating to implementation and compliance with Water Right Order No. 90-5 in that process.
232	24	The 2002 Lower Klamath fish kill in which over 70,000 adult salmon died from poor water quality will occur again unless cold water from the Trinity is available, even when the four Klamath Dams are gone. The Trinity River provides cold, clean water to	The State Water Board agrees that the Trinity River is important for the success of the restoration efforts on the Klamath River. Please refer to the responses to comments 232-10, 232-11, and 232-23.

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		the Lower Klamath River when conditions are unfit for adult salmon to survive under a Bureau of Reclamation 2017 Record of Decision. [Footnote 8: Record of Decision for the Long-Term Plan to Protect Adult Salmon in the Lower Klamath River, U.S. Bureau of Reclamation, 2017, accessed at https://www.trrp.net/library/document/?id=2465] Failure to provide temperature protection for the Trinity River dooms the Klamath-Trinity salmon restoration efforts to failure, and impacts the cultures of the Hoopa Valley and Yurok Tribes who have federally reserved fishing rights. Commercial and sport fishing economies that depend on healthy Klamath Basin salmon runs are also known impacts. The failure to provide sufficient flow and cold waters to protect the Trinity and Sacramento Rivers is evidenced by the total shutdown of commercial and recreational salmon fishing in 2023 and the likely repeat of that closure in 2024.	
232	25	The failure of The Project to disclose and analyze the proposed amendments' impacts on the Trinity River and the legally required priorities to that watershed's flows permeates and impacts the entire analysis and assessment. This flaw results in inflated flows as can be seen in the following excerpts from The Project's discussion of Delta inflows, outflows and cold-water carryover storage and related comments: "Protection of the Bay-Delta ecosystem and its native aquatic species requires an integrated approach to effectively connect upstream suitable cold water nursery habitat, floodplains, tidal marshland, and turbid open water habitats in the Delta and Bay—and to connect those environments to the ocean. Accordingly, changes to the Bay-Delta Plan are being considered to provide for a flow regime that supports a connected and functioning ecosystem linking and integrating tributary inflow, cold water habitat, Delta outflow, and interior Delta flow measures with physical habitat restoration and other complementary ecosystem measures." "Demands in the Sacramento watershed and Delta eastside tributaries assume current land use and existing water supply infrastructure. Limitations on SWP and CVP deliveries are based on current contract amounts. Demands in export regions are	The revised proposed Plan amendments contain a provision to ensure that implementation of the Bay-Delta Plan, including the VA pathway, does not result in redirected impacts on native fish and wildlife resources in the Trinity River watershed, including temperature and instream flow impacts. As explained in the response to comment 232-2, SacWAM modeling appropriately includes the 2000 ROD and the 2017 fall flow augmentation flow requirements on the Trinity below Lewiston and therefore does not present a flaw in the overall analysis. Moreover, the model results are presented as a comparative tool rather than a prediction of precise conditions in real time.

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		based on SWP and CVP contract amounts and estimates of existing demands for non-SWP/CVP water users. SacWAM assumes the 2018 addendum to the CVP/SWP Coordinated Operations Agreement (COA)." https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf Page A1-5 Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan.	
232	26	"The same percentage of unimpaired flow was applied to all the locations listed in Table A1-2 under each of the scenarios for all months of the year. As described in Chapter 6, Changes in Hydrology and Water Supply, implementation of draft objectives may not follow this representation. Implementation of the proposed Plan amendments may differ from the model assumptions based on the ecological needs in individual tributaries and water rights priorities." https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf Page A1-7 Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan.	Please see the response to comment 232-25.
232	27	"However, proposed Plan amendments may include a requirement only at the bottom of each watershed that could require upstream users to contribute more or less than downstream users based on specific water rights priorities. Additionally, the ecology and the geography of each tributary are different and may have different needs for cold water habitat and timing of flows. This program-level analysis does not incorporate detailed local ecological needs, which may vary from the SacWAM requirements. [The Trinity River Exports and Diversions are not included Table A1-2. Locations of SWRCB Instream Flow Requirements in SacWAM." https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf Page A1-8 Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan.	Please see the response to comment 232-25.
232	28	"The new UF Delta outflow requirement in each of the scenarios is calculated based on the unimpaired Delta inflow (from Yolo	Please see the response to comment 232-25.

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		Bypass, Sacramento River, Delta eastside tributaries, and runoff entering the Delta) plus the D-1641 required San Joaquin River flow at Vernalis minus unimpaired Delta depletions.” https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf Pages A1-8 to 9. This includes inflated Trinity River exports.	
232	29	“Carryover targets were given a lower priority than other modeling goals such as meeting instream flow requirements. This resulted in the end-of-September carryover storage targets listed in Table A1-3 frequently not met in the 75 scenario for many reservoirs, occasionally not met in the 65 scenario, and rarely not met in the 55 scenario in some reservoirs. Trinity Lake is not included: Table A1-3. Assumed Reservoir Carryover Storage Targets to Maintain Downstream Cold Water Habitat. Due to hydrology carry over storage is quickly depleted and takes years to replenish.” https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf. Page A1-10 Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan.	Please see the response to comment 232-25.
232	30	“Developing a model assumption for minimum flows needed for temperature management is difficult because historically, Keswick Reservoir has been operated for temperature management in addition to meeting water supply demands, minimum flows at Wilkins Slough, and Delta needs. Additionally, real-time temperature management includes day-to-day decisions on imports from the Trinity River and the configuration of the TCD at Shasta Reservoir. Water warms as it moves downstream in the hot summer months; the rate at which it warms is a function of the release volume from Keswick Reservoir. The same temperature can be maintained at a given compliance point by a higher release of warmer water or a smaller release of colder water. When larger releases are made, it decreases the remaining volume of the hypolimnion and metalimnion to be used for temperature control in future months.” https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf	Please see the response to comment 232-25.

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		grams/bay_delta/docs/2023/staff-report/app-a1.pdf. Page A1-11 Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan. As noted, The Project provides no Trinity River impact analysis or mitigations.	
232	31	“To represent minimum releases from Keswick Reservoir for downstream Sacramento River temperature management in the SacWAM scenarios, the approach is to first set the compliance location based on water year type (WYT). Monthly minimum flows are then applied based on the annual compliance location. For wet years, the temperature compliance point historically has been Jellys Ferry; in above normal – dry year types, the compliance point is typically Balls Ferry; and in critical years, the compliance point is often at Clear Creek. Table A1-4 shows the assumed compliance location for each water year type based on historical operations over the past decade and the approximate flow required to maintain cold water at that location. This new flow requirement was not included in the existing conditions simulation because Keswick releases in this scenario are sufficiently high throughout the summer for downstream deliveries and exports that an additional flow requirement is not needed. Table A1-4. Sacramento below Keswick Flow Requirement for Temperature Control (cubic feet per second)” Again these flow assumptions rely upon Trinity River exports that are not legal or sustainable. https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf. Page A1-12. Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan.	Please see the response to comment 232-25.
232	32	“Water temperature effects associated with the proposed Plan amendments could result from changes in hydrology. Changes in hydrology for the Sacramento, Feather, and American Rivers are summarized by changes in end-of-April storage, end-of-September storage (carryover storage), and river flow as presented in figures in Chapter 6, Changes in Hydrology and Water Supply, and Appendix A1, Sacramento Water Allocation Model Methods and Results. The hydrologic effects represent reservoir operations that strive to maintain adequate cold-water supply while simultaneously meeting the goals of the proposed Plan amendments. In general, April storage is lower under the	Please see the response to comment 232-25.

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		proposed Plan amendments than under baseline conditions, but subsequent reductions in reservoir releases help carryover storage recover relative to baseline. Future operations could be optimized through further evaluation.” These carryover assumptions and cold-water predictions failed to consider the specific hydrology of Trinity Lake which has low refill potential taking years to refill causing years of elevated temperatures depending on weather conditions. https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2023/staff-report/app-a1.pdf. Page A6-15. Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan.	
233	1	I remember spending time in the Delta at a friend’s gun club. It was for fishing and hunting. It is now long gone. It was a cherished memory to be so far from the thick of it we all partook of the bounty of fish and wild boar. Most of that is gone now and I would have hoped it continue through generations. You can be a part of setting things right!	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
233	2	Phase 2 focuses on the Sacramento River and its tributaries, the three tributaries east of the Delta (Mokelumne, Cosumnes and Calaveras), and Delta inflow and outflow into the bay. Our goal is to empower the State Water Board to make decisions based on science, not political expediency. This is a legacy vote that will impact everyone, including disadvantaged communities, tribes, the fishing community, our children and all future generations that already have so much to worry about. Let’s give our youth hope for the future – an outcome we can all be proud of. We expect the Board to represent all of the State’s interests, protect all beneficial uses, and follow through on their legal mandate to restore the Bay-Delta ecosystem.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
234	1	The Bay-Delta Is an ecosystem in crisis. Everyone acknowledges this and water agencies' belief to produce more fish with less water / the Voluntary Agreement, is destined to fail. The State Water Board is charged with restoring the Bay-Delta ecosystem, so decisions must be made based on legitimate science, not wishful thinking.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		We expect the Board to represent all of the State's interests, protect all beneficial uses, and follow through on your legal mandate to restore the Bay-Delta ecosystem.	
235	1	The SWB's Flow Criteria Report demonstrated that 75% of unimpaired flows of the Sacramento and 75% of the Delta outflow were what was needed for protection of the Bay Delta ecosystem. I am very aware of the importance and value of habitat and river restoration as a component of improving the system's health, but these projects are only part of what is needed to truly steward our river systems. A river ecosystem can have habitat improvement work all down its length but the system can't thrive without the water flow and pulses that the system has evolved with over millions of years. The time is now to step in and do what is right and what is needed for our systems to survive into the future.	Please see Common Response 1.1, General Comments, for information on the Delta Flow Criteria Report and for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. Also see Common Response 1.2, Water Quality Control Planning Process, for information on the reasonable protection of fish and wildlife beneficial uses.
235	2	Please use science and not political pressure as your guide in your decision-making process, for the future of our rivers and the species (including humans!) [see Attachment 1 and Attachment 2] that depend on them.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.
235	3	[Attachment 1: Photo of a hiker and dog in front of a lake]	This attachment was included with the comment letter. The attachment does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing attachments to comments.
235	4	[Attachment 2: Photo of a canoer on a river]	This attachment was included with the comment letter. The attachment does not raise a specific environmental impact or economic effect of the project. Refer to Common Response 1.1, General Comments, for the approach to addressing attachments to comments.
236	1	I have seen the Delta become clogged with hyacinth and ripped by new orchards and tract home development. The rotting and derelict marinas in the Delta is a scandal. Salinity increases. Salmon decline. Newsom continues to push for tunnel construction. Despite this, sandhill cranes still yodel overhead and white-fronted and snow geese continue to congregate in shallow water. The Delta is an ecosystem in crisis.	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project.

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		The voluntary agreements have failed. We need action--and unimpaired flow--not more meetings. Decisions should be based on science, not wishful thinking. I therefore write in support of greater flow requirements than that proposed in the Draft Staff Report.	
237	1	Comments: • The destruction of the Bear River watershed began with the 1849 Gold Rush. The Bear River Canal was built in 1852 along with the onset of hydraulic mining. Van Giesen Dam was constructed in 1928 creating Combie Reservoir which has lost 50% of storage capacity and is nearly 100 years old. Camp Far West dam was built in 1963, and Rollins Reservoir dam was built in 1965 further diverting instream flow and diminishing fishery habitat on Bear River. • Since that time, NID has treated Bear River as an industrial water storage and conveyance facility. In fact, NID Director Chris Bierwagen described Bear River as “a low-level drainage ditch”. • Unlike the Yuba, the Bear River has not had stewardship and restoration until 2021 when River Partners completed a levy move back and floodplain restoration project to protect Marysville from floodwaters. This was accomplished on the last 2 miles of Bear River prior to its confluence with the Feather River. Requests: • Prioritize the Bear River watershed for restoration and research. • Declare Bear River fully allocated all year (cancel water right application #5634) and require (55%) restorative unimpaired instream flows along with functional flows. • Require fish passage on Camp Far West (CFW) canal dam, CFW	Please see Common Response 1.1, General Comments, regarding comments about other projects. As described in Section 5.4.2.3, Proposed Inflow Objective, of the 2023 draft Staff Report, new inflows are proposed for the Sacramento/Delta tributaries, including the Bear River, to improve ecosystem functions, including by providing appropriate habitat conditions for adult salmonid immigration and holding and juvenile rearing and outmigration, and to connect flows from throughout the watershed with the Delta to support native estuarine species. The program of implementation provides an adaptive range between 45 and 65 percent unimpaired flow and allows for two or more tributaries to work together to meet the flow requirements downstream, so long as narrative objectives are met on the upstream reaches. The numeric inflow requirements would be implemented by limiting water diversions to ensure that the applicable flow requirements remain instream. In recognition that, for some tributaries, actions to achieve reasonable protection of fish and wildlife might be best developed between groups of tributaries, the proposed program of implementation would allow two or more tributaries to work together to meet the numeric objective. The new inflow objective would be integrated with the cold water habitat protection, which could be implemented in part through measures to provide passage above reservoirs or other impediments to allow access to cold water refugia. Chapter 5, Proposed Changes to the Bay-Delta Plan for the Sacramento/Delta, of the 2023 draft Staff Report also describes how the program of implementation would include provisions for the consideration of updating the Fully Appropriated Stream Systems (FASS) Declaration. The revised proposed Plan

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		dam, Combie dam, and Rollins dam. - Any water sent down the Bear River system for Delta Water Quality must flow down Bear River, not around it in canals. The priority for water in a functioning ecosystem is in the river. - Water from the Bear River watershed destined for Delta ecosystem services must remain in Bear River for the functionality of interrelated dynamic interactions. For all components to be present in the watershed, higher level organisms and on down the food chain to the aquatic microorganisms, the presence of water is primary to initiate the process for nature-based solutions. This carries downstream for a functioning estuary. - Degraded fishery habitat must be restored as restitution and compensation for the devastating exploitation of the past.	amendments identify that the Board will update the FASS declaration to include additional FASS determinations for the Sacramento/Delta tributaries. In October 2024, the State Water Board released a revised draft of the Bay-Delta Plan for public review and comment, and based on those comments, released a revised draft of the Bay-Delta Plan in 2025. The revised proposed Plan amendments include a regulatory pathway based on the proposed Plan amendments with water supply adjustments for existing water right holders at the outset of plan implementation to reduce water supply impacts and allow more water to be stored in reservoirs. The revised proposed Plan amendments also provide a VA pathway, in addition to the regulatory pathway that would apply in the absence of a VA. The State Water Board has received term sheets for additional VAs from Nevada Irrigation District (NID) and South Sutter Water District (SSWD) specific to the Bear River, Yuba River, and Auburn Ravine that were made available to the public. Under the VA pathway, VA parties are responsible for specific flow commitments that are described further in Common Response 1.3, Revised Proposed Plan Amendments. The regulatory and VA pathways both provide opportunities for habitat restoration. Please see Common Response 1.3, Revised Proposed Plan Amendments, for more information on local cooperative solutions and the VA habitat commitments.
237	2	Statement from Nevada Irrigation District's legal representation, 1-10-24 NID Board Meeting, agenda item 4b regarding the Delta Water Quality Update: "At page 2-122, the Staff Report critiques "a large volume of water [] reserved for future use under unassigned state filed water rights." It is clear from the context that the State Water Board (perhaps legislatively) will pursue discontinuation of these state filed water rights to prevent additional diversions that, it is claimed, exacerbate already declining fishery conditions. It is unclear how the AHO would consider NID's pending application for assignment of the state-filed Bear River water right, (#5634) but the hearing process does vest the State Water Board with considerable discretion in deciding whether	Please see Common Response 1.1, General Comments, for responses to comments that make general comments, do not raise specific environmental impacts of the project, or do not raise specific economic effects of the project. See also Common Response 1.3, Revised Proposed Plan Amendments, for additional information on the VA pathway, and Common Response 4.2, Drought and Climate Change, for responses related to climate change. For an extensive discussion on how the face value of water rights in the Sacramento River-San Francisco Bay Delta exceeds the available supply, see Chapter 2, Hydrology and Water Supply, specifically Section 2.7, Existing and Future Water Rights in the Sacramento/Delta Watershed. As discussed in Chapter 2,

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		the assignment is in the public interest. Should NID abandon the petition for assignment, it is likely that legislation or other State Water Board fiat could extinguish state filed water rights.” NID seems to be faced with possible cancellation of their water right application. During the subsequent Board meeting, the Minasian Lawyer stated that a 55% instream flow made new surface water storage untenable. NID has held onto this “paper” water right illusion for nearly 100 years. Meanwhile their neglect has degraded the Bear River fishery. The lawyer went on to state that any voluntary agreement would contribute canal water to Auburn Ravine instead, as the Bear River was not “good habitat”. NID and CFW Water District caused the problem, and then used it as an excuse for further neglect of Bear River. From 2-122 Delta Water Quality Update: Existing flows include unprotected Delta outflows that are not currently regulatorily required and as such could be diminished in the future as a result of (1) exercising existing water rights more fully, since many water rights are not currently fully exercised; or (2) new water rights in the absence of additional regulatory requirements. Currently, a large volume of water is reserved for future use under unassigned state filed water rights. To provide for growth and development in areas that were not yet built out in the Bay-Delta watershed and other areas of the state, soon after post-1914 appropriative water rights were established, the legislature enacted Water Code section 10500 that sets aside reservations of post-1914 water rights (referred to as state filed water rights or state filings) for future assignment. These state filings maintain the water right priority of the date they were established, which date back to as early as 1927. In addition, multiple pending water right applications in the Bay-Delta watershed for new appropriations of water could place further demands on flows from the watershed if approved in the future. Overall, in the Sacramento/Delta watershed, there are currently approximately 130 pending appropriative water right applications and approximately 70 unassigned state filings with a total face value of over 10 MAF. Given these potential future	pending appropriative water right applications and unassigned state filings could lead to Sacramento/Delta inflows and Delta outflows being diminished in the future as a result of additional diversions and water demands in the absence of regulatory flow requirements. Further, as noted elsewhere in Section 2.6, Climate Change and Drought, many studies indicate that future hydrologic conditions in the plan area are likely to be very different than the conditions studied, due to climate change. Exactly how the hydrology of the Sacramento/Delta watershed will be affected is uncertain, but it is likely that California could experience more extreme winter floods and longer, more severe droughts, which in turn could diminish Delta outflows further.

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		demands and limited existing flow requirements in the Bay-Delta watershed, Sacramento/Delta inflows and Delta outflows could be diminished in the future as a result of additional diversions and water demands in the absence of additional regulatory flow requirements. This statement does not account for the pre-1914 water rights that consume large amounts of water that are unmeasured. It also does not account for diminished flows due to climate change. This is from the California Water Impact Network: It's Called "Paper Water" Water that exists as water rights claims in legal documents but not in the real world is known as "paper water". There is far more water promised "on paper" to stakeholders than there is in California's waterways. In fact, the State of California has given away 5.3 times more water than exists. In September 2008, the State Water Resources Control Board reported to the Delta Vision Blue Ribbon Task Force that while the Central Valley watershed of California has an average annual runoff of 29 million acre-feet, the face value of water rights granted by the state to appropriative water right holders amounted to 153.7 million acre-feet. When C-WIN and UC Davis performed separate studies comparing the amount of available water to water allocations, the results were similar: 5.3 times more water is promised than is available in the State Water Project system. More information here: https://mavensnotebook.com/2024/01/10/c-win-coming-clean-state-water-resources-control-board-finally-acknowledges-paperwater/?Fbclid=IwAR123XGsnLxIU3ao87zDaNmyjcoN1qyt46llg8IMNTEQ4yyS8amfKa txCrY	

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237	3	My main concern here is the Bear River Watershed, tributary to Feather River. The Bear River is the “First in Time, First in Right” entity that requires restorative flowing water. K’umim Seyu, Bear River is the Originator of the Water! This River has been cut out of the water rights process which relates back to State Water Resources Control Board (SWRCB) Resolution No. 2021-0050. The systematic and systemic neglect of the living ecosystem in the Bear River has been ongoing for decades. Additionally, the latest FERC license (2013) has been conveniently disregarded for nearly a decade while annual permits have been used to continue the extraction of hydroelectric energy and consumptive use of water without the benefits of any modern mitigations. The environmental requirements in the current FERC license are from the 1960’s, prior to the Clean Water Act, the Clean Air Act, the Endangered Species Act, the California Environmental Quality Act, and the National Environmental Policy Act! In fact, NID is trying to further delay mitigations by filing a lawsuit against the SWRCB to fight their future environmental responsibilities in a decade old pending FERC license. Meanwhile, life stands still for all of us who cannot move on because the water rights application stops all our best restoration efforts for a positive future in Bear River Canyon. This delay tactic is a death knell for our communities! Please cancel Application 5634x01!!! Bear River needs the water!!! The Delta needs the water!!!	Please see Common Response 1.1, General Comments, regarding comments about other projects and Common Response 1.2, Water Quality Control Planning Process, for information on the interaction with other regulatory requirements such as FERC licensing.